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2 UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

3 Case No. IPR2013-00087

Docket No. 0100157-00240

4 ---------------------------------x

EMC CORPORATION,

5

Petitioner,

6

7   - v -

8

PATENT OWNER OF U.S. PATENT NO. 8,001,096

9 TO FARBER ET AL.

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11   September 25, 2013

12   8:57 a.m.

13

14   Deposition of ROBERT B.K. DEWAR,

15 Ph.D., taken by Petitioner, pursuant to

16 Notice, held at the offices of Wilmer

17 Cutler Pickering Hale and Dorr LLP, 7

18 World Trade Center, New York, New York,

19 before Todd DeSimone, a Registered

20 Professional Reporter and Notary Public of

21 the State of New York.

22

23   EMC/VMware v. PersonalWeb

24   IPR2013-00083

                                EMCVMW 1074

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2   R O B E R T   B.K.   D E W A R, Ph.D.,

3   called as a witness, having been first

4   duly sworn, was examined and testified

5   as follows:

6   EXAMINATION BY MR. DICHIARA:

7   Q.   Good morning, Dr. Dewar.

8   A.   Good morning.

9   Q.   You understand why you are here

10   today, correct?

11   A.   I do.

12   Q.   And that is in connection with

13   six IPR review proceedings. They are

14   officially labeled I think IPR 2013-82

15   through 87 inclusive. Each one of those

16   has a separate patent associated with it,

17   and I will try today to mostly use the

18   patent numbers. I think it is a little

19   bit more familiar than the IPR numbers.

20   A.   Right. Certainly to me that is

21   true.

22   Q.   And you have been deposed

23   before, correct?

24   A.   Yes, I have.

25   Q.   And just as some basic kind of

1   R. DEWAR

2   ground rules for the deposition, your

3   testimony today is just like as if you

4   were in court giving trial testimony,

5   right?

6   A.   Yes.

7   Q.   And if I ask a question and it

8   is in any way unclear, please let me know

9   and I will do my best to try and rectify

10   the situation.

11   A.   Okay.

12   Q.   And as I mentioned before, if

13   at any point you want a break, just let me

14   know. The only thing I'm going to ask is

15   that it not be while there is a question

16   pending.

17   A.   Fair enough.

18   Q.   And I'm here today to represent

19   EMC and VMware on two of the IPRs and EMC

20   solely on the other four, so EMC across

21   six, VMware across the first two. With me

22   is Cindy Vreeland as well.

23   MR. RHOA: Dr. Dewar, the only

24   time you are allowed to ask for a break

25   while a question is pending is if you have

                        R. DEWAR

1

2   a concern that your answer would divulge

3   privileged information, attorney-client

4   privileged information, or even

5   confidential information, something like

6   that, you can ask for a break while a

7   question is pending. Otherwise you can't

8   ask for breaks.

9   THE WITNESS: I understand.

10   Q.   So, Dr. Dewar, just for the

11 record, could you identify your name,

12 address, that kind of stuff.

13   A.   Robert Dewar, D-e-w-a-r. Do

14 you need middle initials? It is B.K. And

15 my address is 1591 Carpenter Hill Road,

16 Bennington, Vermont 05201. That's the

17 mailing address which is I think what we

18 need for this.

19   Q.   And, Dr. Dewar, what is your

20 area of expertise?

21   A.   I'm a computer scientist. My

22 main areas of expertise have been

23 operating systems, programming languages,

24 compilers, but in 40 years of being a

25 professor I have taught very widely, but

1   R. DEWAR

2   those are my main research areas. But I

3   have publications in algorithms. I have

4   publications in other areas too.

5   Then more recently I retired

6   from the university, I guess it has got to

7   be six years ago, so I devote all my

8   attention to the company I founded of

9   which I'm still president, although no

10   longer CEO.

11   Q.   And which company is that?

12   A.   That is AdaCore Technologies.

13   I founded that about 20 years ago with two

14   colleagues and we specialize in tools for

15   building high integrity software,

16   avionics, air traffic control, that kind

17   of thing.

18   Q.   And if you were to be

19   introduced at a technical conference, how

20   would a speaker characterize your

21   expertise if they were introducing you?

22   A.   I think I'm best known for

23   compilers and programming languages in

24   recent years, partly because of my

25   association with the company, because

R. DEWAR

that's where the company's technology

lies. But I would say in recent years I

would often be more so introduced as an

expert in safety and security because a

lot of the high integrity aspects of the

software we are involved with involve

safety critical and security critical

applications.

Q.   So a number of the documents we

are going to use today have already been

marked in this proceeding which I think

will make things more smooth. So what I'm

handing you now is a binder that has all

of the board decisions for the six IPRs we

talked about. They are tabbed.

You have reviewed the board

decisions, correct?

A.   Yes. I haven't concentrated on

them, but I have gone through those.

Maybe I have seen these.

Q.   And so you will see that on the

front page of each of the decisions they

identify the relevant IPR. So if you take

a look at the first tab, there is IPR

1   R. DEWAR

2   2013-00082, and each one is just the next

3   number. All right?

4   A.   Right.

5   Q.   You said you had reviewed them,

6   right?

7   A.   Yes. It has not been a major

8   focus. My major focus has been on the

9   alleged prior art documents and the

10   patents themselves.

11   MR. RHOA: I will say now just

12   for the record any questions about these

13   decisions I will probably object to as

14   outside the scope.

15   MR. DICHIARA: Okay.

16   Q.   So I'm going to ask you to turn

17   to pages, on the first one, on the IPR for

18   the '791 patent, you can see that on the

19   front page, if you can turn to pages 7

20   through 12.

21   A.   Yes.

22   Q.   And this is where the board is

23   discussing the Woodhill prior art patent,

24   right?

25   A.   Yes, right.

1   R. DEWAR

2   Q.   And then if you go starting

3   from the middle of page 12 through I think

4   it is page 26, that's where the board is

5   discussing its analysis of the claim

6   construction, right?

7   A.   Right.

8   Q.   And then from 26 through 32 is

9   where the board is discussing its analysis

10   of the Woodhill prior art in view of its

11   claim construction?

12   A.   Okay.

13   Q.   And I just want to start with

14   the first portion, the 7 through 12, where

15   they are discussing Woodhill. And I just

16   want to confirm, I think you said this

17   earlier, but you did consider the

18   decisions in forming your opinions in your

19   expert report, correct?

20   MR. RHOA: Objection, outside

21   the scope of his declaration.

22   A.   More I was really asked to

23   focus on the claims and how the prior art

24   reflected on the claims. My attorney did

25   I think inform me of all the relevant

1   R. DEWAR

2 decisions that might affect that.

3   Q.   Let me ask you this: Did you

4 consider the board's claims constructions

5 in forming your opinion?

6   A.   Yes, I did. I was aware of all

7 the claims constructions. I think in fact

8 most of them are quoted in my

9 declarations. So I was aware of those

10 because I understand that those are

11 important.

12   Q.   And did you look at the way the

13 board had analyzed the claims in forming

14 your opinions in your expert reports?

15   A.   I was aware of that. I didn't

16 analyze it closely from this document.

17   Q.   Did you consider the board's

18 analysis important in forming your

19 opinions in --

20   A.   I --

21   MR. RHOA: Objection, outside

22 the scope of his declaration.

23   Q.   Just so that we can keep the

24 court reporter sane, we have to finish the

25 question. I know where you are going, but

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1                    R. DEWAR
2   you have to let me finish my question.
3        A.         That is perfectly fine.
4        Q.         So let me take that question
5   back and start from the top.
6                    In forming your opinions that
7   you expressed in your declarations, did
8   you consider the board's analysis
9   important in forming those opinions?
10       A.         I believe that my attorney had
11  informed me of anything that would have
12  been relevant, but it certainly was not a
13  major source.  My major source for my
14  declarations was the patents and the
15  actual prior art documents.  I mean, I was
16  asked really to give my analysis of
17  whether the prior art documents really
18  reflected prior art with respect to the
19  patent claims.  That was my primary task.
20       Q.         And was one of your tasks to
21  consider the board's claim constructions
22  in forming those opinions?
23       A.         Not specifically, no.
24       Q.         Did you read the decisions
25  before forming your opinions?
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R. DEWAR

A.   I can't remember, because we did discuss them, but they were not the focus certainly of my study and work. But as I say, I believe that my attorney informed me of the critical information and in particular the claim constructions which I have adhered to those claim constructions in my declarations.

Q.   So in forming your opinions, as you expressed them in your declarations, I take it, then, you didn't try and identify whether the board had analyzed -- technically analyzed Woodhill correctly or not?

A.   No.

Q.   You didn't think that was important?

A.   I was asked to really directly look at Woodhill and the claims and give my independent objective opinion on how Woodhill reflected on those claims.

Q.   So you have no opinion whether the board analyzed Woodhill correctly or incorrectly? And by that, just so I'm

1   R. DEWAR

2   clear, I'm talking about pages 7 through

3   12, just their understanding of the facts

4   of Woodhill, not the analysis with the

5   claims just yet.

6   A.   No, not specifically, no.

7   Q.   So let's turn to the next

8   section which was the claim construction

9   section starting on page 12, and you might

10   want to spend just a minute or two just

11   seeing the kind of claims that they did

12   construe, the claim terms they did

13   construe, and let me know when you've had

14   a chance to take a look at that.

15   (Witness perusing document.)

16   A.   All this is familiar to me or

17   makes sense. Do you have a specific

18   question?

19   Q.   Yes. The first question is,

20   are these the claim constructions you

21   considered in forming your opinions

22   contained --

23   A.   Yes, they are.

24   Q.   Again, we just have to finish

25   the Q&A.

1   R. DEWAR

2   A.   If I can add to that, I believe

3   there are one or two cases, in fact there

4   are one or two cases in my declarations

5   where I addressed specifically claim

6   construction issues and say if the claim

7   construction says this, if it said that,

8   then I would have a different opinion.

9   But that's very clear in the declarations.

10   Q.   We will get to that.

11   So just focusing on the IPR for

12 the moment that's in front of you for the

13 '791 patent, were the board's

14 constructions wrong?

15   MR. RHOA: Objection, beyond

16 the scope of the declarations.

17   A.   The only issue I see with the

18 claim constructions is the claim

19 construction of true name, and we did

20 discuss this, so this is a familiar issue

21 to me, that we are working, as I

22 understand it, with a construction that

23 ignores point 4 in the patent

24 specification, which relates to it being

25 cryptographic, nonreversible hash.

1   R. DEWAR

2   Q.   Where are you pointing to so I

3 can follow where you are at?

4   A.   I'm really looking at true name

5 data -- I'm looking at the construction of

6 true name on page 16.

7   Q.   So other than that, do you

8 think the board's constructions were

9 correct?

10   MR. RHOA: Objection, beyond

11 the scope of his declarations.

12   A.   As far as I can tell, yes.

13   Q.   And for all of the

14 constructions, including the construction

15 of true name, which I understand from what

16 you just said you have some dispute with,

17 and realizing that you have a disagreement

18 with their construction, do you think the

19 board's constructions were reasonable?

20   MR. RHOA: Objection, beyond

21 the scope of the declarations.

22   A.   I'm not sure what "reasonable"

23 means.

24   Q.   Reasoned.

25   MR. RHOA: Same objection.

1   R. DEWAR

2   Q.   Two people can have reasonable

3 views on a matter and disagree about the

4 outcome, can't they?

5   A.   Well, there isn't any dispute,

6 question, or confusion over whether --

7 over the meaning of true name in the '791

8 patent. It is important that it be a

9 cryptographic hash and it definitely must

10 be a cryptographic hash for the approach

11 to fully work of that particular patent.

12   But I understand -- my attorney

13 explained to me that the board attempts to

14 interpret terms as broadly as possible.

15 So I don't have a big problem with the

16 fact that they say well, we would like to

17 extend the notion of true name to

18 non-cryptographic hashes.

19   Q.   I guess that's the point I'm

20 trying to get at is you might have a

21 reasoned view about why it means

22 cryptographic and the board might have a

23 view that their interpretation is within

24 the broadest reasonable construction, and

25 you understand that, right?

1   R. DEWAR

2   MR. RHOA: Objection, beyond

3   the scope of the declaration.

4   A.   I understand that.

5   Q.   And when you were doing your

6   analysis, did you consider the board's

7   constructions or only your own?

8   A.   Only the board's constructions.

9   If I could just repeat, to clarify that, I

10   used the board's constructions only, and

11   this doesn't apply to the true name

12   situation, but only in certain cases did I

13   comment if the construction had been

14   differently, then my opinion would have

15   been affected in a different way. But I

16   used the board's constructions, I didn't

17   invent my own.

18   Q.   That is exactly the point I'm

19   getting at.

20   A.   I used the board's

21   constructions.

22   Q.   And just to confirm, when

23   talking about the '791, you thought that

24   the board's constructions were at least

25   within the broadest reasonable

1   R. DEWAR

2   construction?

3   MR. RHOA: Objection, beyond

4   the scope of the declarations.

5   A.   I did, yes.

6   Q.   And then if you focus on the

7   IPR starting at page 26 through 32, it is

8   the analysis section --

9   A.   Can I add a little bit of

10   clarification to the previous thing?

11   Q.   Yes, sir.

12   A.   My source of information on the

13   board's constructions were what my

14   attorney told me the board constructions

15   were. I've looked through this and as far

16   as I can tell, you know, without wasting a

17   lot of our time studying it in great

18   detail, the constructions I see here

19   correspond to what I was told. So as far

20   as I know, and consistent with looking

21   through this material right now, I believe

22   that I followed the board's constructions

23   at all points.

24   Q.   And then for the portion of the

25   IPR starting at page 26 through 32, that's

1   R. DEWAR

2   the portion of the decision where the

3   board analyzes Woodhill in view of their

4   construction, right?

5   MR. RHOA: Objection, beyond

6   the scope of the declarations.

7   A.   Yes.

8   Q.   Do you have any opinion one way

9   or the other whether the board's analysis

10 was correct or incorrect?

11   MR. RHOA: Objection, form,

12 also beyond the scope of the declarations.

13   A.   No.

14   Q.   So we are going to go through

15 this, I apologize, but we have to go

16 through each of the IPRs, so if you go to

17 the next tab.

18   So did you read this decision

19 in forming your opinions that you provided

20 in your expert declarations?

21   A.   Ask that again.

22   Q.   So we are now looking --

23   A.   Because you broke it down into

24 sections before and now you are asking

25 about the whole document.

1   R. DEWAR

2   Q.   One of the things I'm going to

3   try and establish is what were the

4   materials you considered in forming your

5   declarations, because that sort of goes to

6   whether you considered whatever materials

7   in forming your decisions, so I can ask

8   you the basis for your opinions that you

9   put in your declaration. Do you

10   understand that?

11   A.   I understand that.

12   Q.   So I just need to confirm on

13   the record whether you have considered at

14   all, not at all, some level, for each of

15   the IPRs as we dive into the prior art and

16   so forth. Just so you know why I'm going

17   through this. It is not meant to be --

18   A.   I understand completely.

19   Q.   So for this second IPR which is

20   for the '280 patent, have you read this

21   before?

22   A.   I believe I've looked through

23   it, but it certainly wasn't the focus of

24   my declarations or the work I did on the

25   declarations.

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1                    R.  DEWAR
2       Q.          It is the same as you mentioned
3   before?
4       A.          The same as I mentioned before,
5   yes.
6       Q.          So like the situation before,
7   there is a section in here starting at
8   page 9 and going forward that deals with
9   the claim construction, it goes to the
10  middle of page 11 I believe.
11                  MR. RHOA:  Objection, beyond
12  the scope of the declarations.
13      A.          I'm turning to my declaration
14  now because in every case my declaration
15  gives a very complete statement of the
16  claim constructions that I depended on.
17      Q.          Okay.
18      A.          So if you want to ask what
19  claim constructions did I depend on, they
20  are explicitly in the declarations.
21      Q.          But just so that we are clear,
22  were they the constructions that the board
23  provided or not?
24      A.          My understanding is that they
25  were the constructions the board provided.
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1   R. DEWAR

2   Q.   And, like the former question

3   that I asked in connection with the '791

4   patent, were the board's claim

5   constructions within the broadest

6   reasonable construction in your opinion or

7   not?

8   MR. RHOA: Objection, beyond

9   the scope of the declarations.

10   A.   You are asking me to look

11   specifically at data file? That's the

12   only one I see here.

13   Q.   I think that's correct.

14   A.   The answer to your question is

15   yes.

16   Q.   And I have to ask, though I

17   think I know the answer, on pages 11

18   through the end where they analyze the

19   claims in view of the construction and in

20   view of the prior art, you don't have any

21   opinion whether that analysis was correct

22   or incorrect?

23   MR. RHOA: Objection, beyond

24   the scope of the declarations, form also.

25   A.   I guess I would answer, trying

1   R. DEWAR

2   to be as complete as possible with my

3   answer here, I don't really know because I

4   addressed many issues in my declaration.

5   Some of the issues were obvious just by

6   the form of the situation. Many of the

7   issues were things my attorney asked me to

8   address. So it may well be that the

9   declarations do in that sense consider

10   this material.

11   Q.   Maybe we can group some of the

12   stuff together to move things along. But

13   is it fair to say you read each of the

14   decisions in expressing your opinions in

15   your declarations?

16   MR. RHOA: Objection, beyond

17   the scope of the declaration.

18   A.   I'm sorry, say that again.

19   Q.   For your declarations, for each

20   of the declarations for each of the

21   patents, did you read the decisions in

22   forming your opinions?

23   A.   No. These decisions were not a

24   primary source of forming my opinions.

25   Q.   But the question was a little

1   R. DEWAR

2   simpler.   Did you just read them?

3   A.   I mean, the reason I'm

4   hesitating is early on there was huge,

5   giant piles of stuff, and so I can tell

6   you what I studied carefully for the

7   declaration, and with respect to that the

8   answer would be no.

9   Did I read through them at some

10   point? I'm not sure. Because certainly

11   in our discussions, in our discussions

12   with my attorney, these issues came up

13   sometime. My attorney would say well, the

14   board said this. That's why I used

15   "directly" in my response.

16   Q.   Is it the situation that you

17   didn't consider the decisions particularly

18   important in forming your opinions?

19   A.   I presume that if there were

20   important points in the decisions which I

21   needed to address, my attorney requested

22   that I address those.

23   Q.   So your focus was whatever --

24   by your attorney, I'm assuming you mean

25   Mr. Rhoa?

1   R. DEWAR

2   A.   Yes, and the firm.

3   Q.   And his firm?

4   A.   And Brian Siritzky too.

5   So I was asked to look at, for

6   my declarations, I was asked to look at

7   the question of whether these patents were

8   valid with respect to the prior art

9   documents and, you know, we discussed many

10   specific points in that, as discussing in

11   preparation for those declarations. But I

12   didn't specifically inform the

13   declarations independently myself by

14   reading this material.

15   Q.   So you relied on Mr. Rhoa and

16   Mr. Siritzky to point you to relevant

17   portions?

18   A.   No. We never sat down and said

19   look at this section of this document.

20   Q.   And that's your memory for all

21   six of the --

22   A.   That's my memory for all of

23   them, yes.

24   Q.   And in terms of doing your

25   declarations, who did you work with

1   R. DEWAR

2   besides Mr. Rhoa and Mr. Siritzky? Were

3   there any other attorneys, any others that

4   you remember?

5   A.   I'm not 100 percent sure, but

6   those were my two primary contacts for

7   sure.

8   Q.   Did you work with Mr. Rhoa more

9   or less than Mr. Siritzky?

10   A.   More I would say overall.

11   Q.   Did each one of those gentlemen

12   have like specific patents or specific

13   roles that you think?

14   MR. RHOA: Objection,

15   relevance, form.

16   A.   No.

17   Q.   Then just to confirm, for each

18   of the six IPRs, the board's claim

19   construction you did consider, correct?

20   A.   Yes.

21   Q.   And you thought it was within

22   the broadest reasonable construction,

23   correct?

24   MR. RHOA: Objection, beyond

25   the scope of the declarations.

1   R. DEWAR

2   A.   My attorney gave me the claim

3   constructions to follow. He did not ask

4   me to give an opinion on whether they were

5   reasonable or consistent. They were

6   material that was given to me as a

7   starting point for my declarations. I

8   don't think there is any point at which

9   there was a problem with them from my

10 point of view, but that's what I worked

11 with.

12   Q.   We will get to that. I think

13 there may have been a couple that showed

14 up in the declarations which we can talk

15 about.

16   So I'm handing you a binder.

17 Here is one that should have the patents

18 that are being challenged. These have all

19 been marked in the proceedings. Usually

20 you will see it down in the lower right

21 corner, there is some kind of marking.

22 But I think it will be saner if we just

23 refer to it by the patent number. If we

24 go to the '791 patent to begin with.

25   A.   I'm turning to my copy of it

1   R. DEWAR

2   here..

3   Q.   Okay. Just so the record is

4   clear, and I have no objection to it, but

5   those are Dr. Dewar's broad binder full

6   of -- and maybe you can describe what's in

7   the binder.

8   A.   What's in my binder here is my

9   declarations, the patents, and the

10   following documents, Woodhill, Kantor,

11   Langer, Satyanarayanan and Fischer. And

12   the ZIP standard, the CPIO standard, the

13   TAR standard, and I believe that is a

14   complete list.

15   Q.   No notes of any sort?

16   A.   There are some notes on some of

17   the -- there are minimal number of notes

18   in a couple of places tabbed for easy

19   reference.

20   Q.   Let's focus on the '791 patent.

21   You certainly reviewed the '791 patent in

22   forming your opinions, right?

23   A.   Yes.

24   Q.   Did you understand the subject

25   matter of the '791 patent?

1   R. DEWAR

2   A.   Yes.

3   Q.   Was there any part that you

4 didn't understand?

5   A.   I'm very familiar with the '791

6 patent.

7   Q.   Do you have an opinion about

8 whether the subject matter of the '791

9 patent works?

10   MR. RHOA: Objection, beyond

11 the scope of the declarations.

12   A.   Works? What exactly does that

13 mean?

14   Q.   Does the system work?

15   MR. RHOA: Objection, form.

16 Also beyond the scope of the declarations.

17   A.   Well, it is an invention that

18 can be used in the construction of a

19 system. It is not a system itself. Most

20 certainly there are systems around that

21 successfully use the invention of this

22 patent.

23   Q.   And so the reason I'm asking

24 this question is, or I should say one of

25 the reasons I'm asking this question, when

1   R. DEWAR

2   I ask you about the patent, I'm going to

3   ask you to just focus on the patent

4   itself, not on whether you have any

5   independent knowledge of whether

6   Mr. Farber and company had some software

7   product you might be familiar with or any

8   third-party products or anything like

9   that.   It is just going to be about the

10   patent.

11   Is that fair?

12   A.   That is completely fair.

13   That's why your first question surprised

14   me.

15   Q.   I have to admit, sometimes

16   people -- there is a product associated

17   with it and understanding bleeds between

18   the two and I'm going to focus on the

19   actual text, okay?

20   A.   That won't be a problem here.

21   Q.   So in talking about Woodhill, I

22   want to start out with hopefully what is a

23   simple example. Assume that you,

24   Dr. Dewar, have a really short CV and that

25   the only thing it says is "I live in

1   R. DEWAR

2   Vermont and I have extensive experience in

3   the Ada programming language." So far, so

4   good?

5   A.   Okay.

6   Q.   That is your short CV.

7   A.   Okay.

8   Q.   Assume that that file, as luck

9   would have it, that it would fit into what

10 the patent calls a simple data item. Do

11 you understand that so far?

12   A.   Yes.

13   Q.   Because the patent talks about

14 simple data items and compound data items.

15 I just want to focus on the simple for the

16 moment.

17   A.   I would like to correct a

18 possible misimpression you put on the

19 table that it is something to do with

20 size. It is something to do with

21 structure, not size.

22   Q.   Let's assume that the size of

23 the file and the structure of the system

24 is such that that CV fits in a simple data

25 item.

1   R. DEWAR

2   A.   Okay.

3   Q.   Let's just also assume that

4 your CV is unique, that no one else in the

5 system that is using the '791 technology

6 has the same CV as you do.

7   A.   Okay.

8   Q.   That's a fair assumption,

9 right?

10   A.   That's a fair assumption.

11   Q.   In fact, in file systems there

12 is a lot of unique files, right?

13   A.   Yes.

14   Q.   There could be some that are

15 duplicates and there could be some that

16 are unique?

17   A.   Yes.

18   Q.   So we are talking about a

19 unique file, your CV, short form, right?

20   A.   I mean, I don't think I could

21 guarantee it is unique. For instance, I

22 have multiple copies of my CV that are

23 absolutely identical on my PC, if you were

24 to bring it here, under different file

25 names and different directories. I don't

1   R. DEWAR

2   think I can presume uniqueness of the

3   file.

4   Q.   For this assumption, let's just

5   presume it is.

6   A.   We will presume it is unique.

7   Q.   Your first version of it.

8   So just so that we have

9   something concrete, if you could write

10   whatever you want that short CV to be. I

11   like the idea of "I live in Vermont and I

12   specialize in Ada," but just so that we

13   can refer back to it.

14   A.   To clarify, you have no

15   interest in whether this is accurate or

16   not?

17   Q.   Right. This is what we call a

18   hypothetical.

19   A.   There is a small file sitting

20   in front of me, okay.

21   Q.   This is so we have a concrete

22   example and so we can refer back to it.

23   For purposes of this hypothetical, we will

24   talk about the assimilation process in a

25   minute. Right now I just want to focus a

1   R. DEWAR

2   little bit on the internal structures of

3   the '791 patent.

4   Assume it is already in the

5   system. So it has been stored in the

6   system as a true file and all that, and I

7   just want to make sure our dots are

8   connected.

9   A.   Okay.

10   Q.   Now, with the '791 patent you,

11   Dr. Dewar, would refer to this with the

12   conventional path name, right?

13   A.   Right.

14   Q.   And if it is okay with you I

15   will suggest one and you can tell me

16   whether it is correct or incorrect. Let's

17   just assume, again, it is something simple

18   like C:// --

19   A.   One backslash, please.

20   Q.   Dewar/CV.doc. And just so we

21   have our terminology consistent, the part

22   that says C:/Dewar, that's the path name?

23   A.   Yes.

24   Q.   And CV.doc is the file name?

25   A.   Yes.

1   R. DEWAR

2   Q.   Now, in the patent, and we can

3   turn to column 8, line 19, in that area,

4   you probably remember this, they have

5   something called the local directory

6   extensions table?

7   A.   Yes.

8   Q.   You can see it again down near

9   the bottom of the page as well, around

10   line 59.

11   A.   Yes.

12   Q.   Is local directory extension

13   table, is that a term that's used in

14   industry or is that a patent term? Have

15   you ever heard of it outside of the

16   context of the patent before?

17   A.   Well, it is a plain language

18   thing. Local directory is well understood

19   and this is an extension to the local

20   directory.

21   Q.   And the local directory

22   extension table has certain directory

23   information in it, right?

24   A.   Right.

25   Q.   And some of that is shown

1   R. DEWAR

2   starting at the bottom of column 8 and

3   going on to column 9, right?

4   A.   Right.

5   Q.   And this is information about

6   the files?

7   A.   Right.

8   Q.   And if you take a look at like,

9   on column 9, or 8, on 66, that's the part

10   I want to do, so there is something called

11   the path name?

12   A.   Right.

13   Q.   And that's in the example

14   before you, your short CV, that would be

15   the C:/Dewar?

16   A.   Correct.

17   Q.   And CV.doc would be the file

18   name we said, right?

19   A.   Yes.

20   Q.   Is that part of the path name

21   here; do you know?

22   A.   CV.doc?

23   Q.   Yes.

24   A.   Casually people will sometimes

25   refer to the whole thing as a path, but

1   R. DEWAR

2   strictly I think if pressed people would

3   say no, C:/Dewar is the path, CV.doc is

4   the file name.

5   Q.   If you go to column 9, around

6   line 15, there is a field in there they

7   call time of last access, right?

8   A.   Yes.

9   Q.   As the name in the kind of

10   description suggests, this is the time the

11   file was last accessed, right?

12   A.   Right.

13   Q.   So if you opened your exemplary

14   file at 9:40 on Wednesday, that should be

15   reflected there?

16   A.   Right.

17   Q.   And then if you opened it again

18   at noon, you would expect that to be

19   updated at noon, right?

20   A.   Right.

21   Q.   And if let's say you modified

22   it at 1 o'clock, you would see that in the

23   field right below it where it says time of

24   last modification, right?

25   A.   Right.

1   R. DEWAR

2   Q.   And the LDE, local directory

3 extension table, also includes the true

4 name, right?

5   A.   Right.

6   Q.   And that's shown at around

7 column 9, line 6 or so, right?

8   A.   Yes.

9   Q.   And this is what the patent at

10 points refers to as a substantially unique

11 identifier; is that right?

12   A.   Correct.

13   MR. RHOA: The witness is

14 cautioned to pause before answering so I

15 can lodge an objection, if needed.

16   THE WITNESS: I'm sorry, yes.

17   Q.   And the true name is calculated

18 as a hash on the data of the file, right?

19   A.   Right.

20   Q.   And just so we can be sane, for

21 purposes of this hypothetical with your

22 short form of the CV, let's just assume

23 that the math happily works out that the

24 calculation is just 2468, just so we have

25 a concrete number. It might be longer

1   R. DEWAR

2   than that.

3   A.   It would have to be longer than

4   that. As long as that is understood that

5   it would have to be longer to be

6   substantially unique, which I think we all

7   agree on that as a criteria. So if 2468

8   is a stand-in for some longer

9   substantially unique identifier, that is

10 fine.

11   Q.   We can imagine it repeats or

12 something. I just want to have something

13 we can remember. You marked that on

14 there, good, this way we won't have it be

15 a memory test.

16   The patent also discusses

17 something called the true file registry,

18 right?

19   A.   Right.

20   Q.   And sometimes they refer to it

21 as just TFR, right?

22   A.   Right.

23   Q.   The true file registry also

24 includes information about the files,

25 right?

1   R. DEWAR

2   A.   Right.

3   Q.   And the true file registry also

4   includes a true name field, right?

5   A.   Right.

6   Q.   That's around line 44 or so on

7   column 9?

8   A.   Yes, correct.

9   Q.   And it also -- the TFR also

10 includes something called a true file ID,

11 right? That's around line 63.

12   A.   Right.

13   Q.   And this specifies the disk

14 location of the actual physical

15 representation of the file, right?

16   A.   Right.

17   Q.   That's what the text actually

18 says, right?

19   A.   Yes.

20   Q.   And then it continues that it

21 is sufficient to use a file name in the

22 registration directory, right?

23   A.   Right.

24   Q.   And by "this," they mean that a

25 file name is sufficient to represent the

1   R. DEWAR

2   disk location of the actual physical

3   representation of the file?

4   MR. RHOA: Objection, form.

5   A.   The reason I'm pausing on the

6   answer is I don't know whether file name

7   would include a path name or not here.

8   Q.   But the text says it is

9   sufficient to use a file name, right?

10   A.   Right.

11   Q.   So just so we have our pieces

12   together, we have the LDE, and that

13   includes an entry that had the path name

14   that we talked about, right?

15   A.   Yes.

16   Q.   C:/Dewar/CV.doc?

17   A.   Right.

18   Q.   That LDE entry would also have

19   a true name value 2468, realizing we are

20   shortening it for the sake of sanity?

21   A.   Yes.

22   Q.   And the true file registry

23   would also have an entry with the true

24   name 2468?

25   A.   Yes.

1   R. DEWAR

2   Q.   And it would include the

3   location of where it was actually stored

4   in the system, in the true name patent

5   system, in the true file ID?

6   A.   Yes.

7   Q.   And if it makes sense, we can

8   do it, for the true file ID, can you

9   propose what might be -- I'm sure it is

10   some kind of file name on the underlying

11   file system, but if you just propose one

12   that would be welcome.

13   MR. RHOA: Objection to form.

14   Beyond the scope of the declaration.

15   A.   Well, I would have assumed that

16   what I would find here is the full path

17   name of the file.

18   Q.   But it could also be someplace

19   out on the network where it might say

20   "F: User"?

21   A.   It could, yes.

22   Q.   So let's just use one,

23   whichever one you would like.

24   A.   Let's assume that the file is

25   local and that's what we see there as the

1   R. DEWAR

2   true file ID.

3   Q.   Okay, fair enough. So at some

4   later point in time when you try and read

5   this simple data item, you are going to

6   say something like "open" or "read

7   C:/Dewar" --

8   A.   Who is "you" in that situation?

9   Q.   Dr. Dewar, in front of his

10   computer, using the '791 technology. The

11   actual user is first going to say "open

12   CV.doc" and then the '791 technology is

13   going to convert that to find where it

14   actually is. That's where I'm heading.

15   A.   That's not my understanding.

16   My understanding is that I would type in

17   2468.

18   Q.   As a user?

19   A.   Well, most likely I would be

20   going through some -- I mean, I might be

21   going from some remote thing that says I'm

22   looking for Dr. Dewar's CV. I mean, the

23   point of this patent is to find things.

24   You are presuming I already know where it

25   is, so that seems odd to me.

1   R. DEWAR

2   Q.   Right. But isn't the purpose

3   of the system to augment conventional

4   operating systems?

5   A.   Well, the purpose of the system

6   is to find files using their true name

7   without knowing where they are or what

8   they are called.

9   Q.   So as a user, Dr. Dewar, not a

10   piece of software just yet, if you wanted

11   to open your CV using this technology, how

12   would you do it?

13   MR. RHOA: Objection, form.

14   A.   So the reason this is difficult

15   is it is a little odd use of the

16   technology.

17   Q.   Let me see if I can sort of

18   propose something. You can tell me

19   whether it is incorrect or correct.

20   A.   Okay.

21   Q.   If a user or a piece of

22   software or something like that said "open

23   C:/Dewar/CV.doc," the LDE would provide

24   the true name for that, right? It has an

25   entry that says for that path name here is

1   R. DEWAR

2   the true name, right?

3   A.   Right.

4   Q.   And the TFR will say for that

5   true name, here is the true file ID,

6   right?

7   A.   Right.

8   Q.   So if someone said --

9   A.   All you said is true, but

10   that's not somehow the normal use of the

11   patent.

12   Q.   And if someone said "open

13   C:/Dewar/CV.doc," the LDE would provide

14   the true name, right?

15   A.   But, again, that's not -- I

16   mean, a very odd interpretation of the

17   patent.

18   Q.   Okay, we will get back to that

19   then. Your understanding is a person

20   actually says "open 2468"?

21   A.   Well, a more realistic view of

22   how the patent would operate in this case,

23   it says hey, you should find out about

24   this guy named Dewar. You should go look

25   up his CV. I say well, where can I find

1   R. DEWAR

2   it? I don't know, but use this software

3   and use this identifier, and by searching

4   using the true name, God knows where, not

5   only will I find the file that might or

6   might not have this name, but I will find

7   the particular version of the CV that I

8   was looking for.

9   I mean, it is very important

10   that we are looking up by content and not

11   by name. That's what the patent is about,

12   is looking up by known content and not by

13   name. So that's why you confused me by

14   talking about looking at things by file

15   name. The whole point of this is not to

16   do that.

17   Q.   And the question that I was

18   having, is I realized at least in some

19   point in the technology they are using the

20   true names and to do precisely what you

21   are saying, to look up by content, but the

22   question was, the users of the system, do

23   they even know that there is a true name

24   or is that hidden from them and the system

25   does that under the covers?

1   R. DEWAR

2   MR. RHOA: Objection, form.

3   A.   That typically would be -- I

4   mean, I would not expect that someone

5   would type in the 16-digit MD5 code. It

6   might happen, but it is not -- remember,

7   you asked me not to think of systems

8   outside the patent. So I'm doing that

9   right now.

10   Q.   We will circle back to this

11   later.

12   A.   You are asking me to tell you

13   what systems outside the patent do and you

14   instructed me not to think about that, so

15   I'm stuck.

16   Q.   Okay. We will move on to the

17   next. So now we are going to talk about

18   the true names and kind of how they are

19   calculated.

20   A.   Okay.

21   Q.   So we had mentioned before that

22   the true name uses a hash function to get

23   that 2468 value, right?

24   A.   Right. I would prefer -- I

25   mean, I'm going to ask every time you say

1   R. DEWAR

2   hash, do you mean substantially unique

3   hash?

4   Q.   Right now I just mean hash.

5   A.   In that case, that's

6   incomplete, seriously incomplete

7   specification you gave.

8   Q.   If we turn to column 13, around

9   line 16, it refers to SHA, right?

10   A.   Yes.

11   Q.   And the H in there is hash?

12   A.   Yes.

13   Q.   Secure hash algorithm?

14   A.   Yes.

15   Q.   So is it a hash or is it not a

16   hash?

17   A.   All these substantially unique

18   hash mechanisms are hashes. All hashes

19   are not substantially unique. You see the

20   Venn diagram, so...

21   Q.   And the input to that

22   algorithm, secure hash, hash, whatever the

23   debate is, but the input to that function

24   is the file contents?

25   A.   Right.

1   R. DEWAR

2   Q.   So in the example that you have

3   before you, is that I live in Vermont, I

4   have extensive experience in the Ada --

5   A.   I actually said "specialized"

6   here.

7   Q.   But it would be that that goes

8   into the algorithm?

9   A.   That is a little too vague. It

10   be would every bit of that file, including

11   the spaces, the end of line characters,

12   the file character.

13   Q.   The text, including the spaces

14   and punctuation and so forth?

15   A.   Well, I wouldn't have called

16   the end of file mark text. Every bit in

17   the file.

18   Q.   And under our hypothetical, the

19   spaces, the end of -- did you say --

20   A.   End of file.

21   Q.   End of file marker, the

22   algorithm churns out 2468?

23   A.   Right.

24   Q.   And it doesn't consider any of

25   the information in the LDE, right?

1   R. DEWAR

2   A.   No.

3   Q.   And it doesn't consider any of

4 the information in the TFR?

5   A.   Right.

6   Q.   So it doesn't use the

7 C:/Dewar/CV.doc, it doesn't put that into

8 the algorithm?

9   A.   Definitely not.

10   Q.   And that includes the directory

11 part of that path name, right?

12   A.   Right.

13   Q.   Or the file name part of that

14 path name?

15   A.   The file name.

16   Q.   And realistically it wouldn't

17 make any sense in the patent to do so, it

18 would defeat the purpose?

19   A.   Right. It is fundamental to

20 the patent that it is all the bits in the

21 file and nothing but the bits in the file.

22   Q.   And it is also true that it

23 wouldn't, for the same reason, it wouldn't

24 use things like time of last access,

25 right, that would be silly?

1   R. DEWAR

2   A.   Right. Unless the time of

3   access is part of the bits of the file,

4   which you can imagine it might be, but it

5   isn't in our example, so it wouldn't be

6   there.

7   Q.   It is not taking it out of the

8   LDE for certain?

9   A.   Right, for sure.

10   Q.   And it is not using the true

11 file ID as part of that input to that file

12 either?

13   A.   Right.

14   Q.   And that wouldn't make sense

15 either, because if you moved the file from

16 one spot to another, you still want it to

17 have the same hash, it is the same file,

18 right?

19   A.   Right.

20   Q.   So let's turn to column 3 and

21 lines 32 through 35. That says, just so

22 we are all synced up, "Thus, the identity

23 of a data item is independent of its name,

24 origin, location, address, or other

25 information not derivable directly from

1   R. DEWAR

2   the data and depends only on the data

3   itself," right?

4   A.   Right.

5   Q.   And that's what you were

6   referring to as the fundamental; is that

7   right?

8   A.   Right.

9   Q.   The fundamental property.

10   And it is talking about the

11   invention that's showing up on line 29,

12   right?

13   A.   Right.

14   Q.   And by the identity of the data

15   item, they are referring to the true name?

16   A.   Right.

17   Q.   So this is just what we were

18   referring to, none of this kind of

19   information would go into the hash

20   algorithm?

21   MR. RHOA: Objection, form.

22   A.   This kind of information?

23   Q.   The name, origin, location,

24   address, or other information not directly

25   derivable from the data.   That wouldn't go

1   R. DEWAR

2   into the --

3   A.   That would not be part --

4   MR. RHOA: Objection to form.

5   A.   That would not be part of the

6   calculation.

7   Q.   Now, if you turn back a column,

8   column 2, and you go right around from 47

9   through 57, and you can read that to

10   yourself and then I will ask you.

11   The part that says "However,

12   when a processor or some location obtains

13   data from another location," this is the

14   background of the patent.

15   A.   Yes.

16   Q.   And if you look at 47 through

17   57, just that paragraph, I'm going to ask

18   you a question about that.

19   A.   Okay.

20   Q.   Have you read it?

21   A.   Yes, I have read it.

22   Q.   This is talking about the

23   problem I think you were referring to

24   before about that there might be

25   duplicates in the system, same file, but

1   R. DEWAR

2   really different names, let me make that

3   clearer, same file, same identical

4   contents, but they happen to have

5   different names --

6   A.   Different names or different

7   paths or different both.

8   Q.   And it wastes storage and

9   whatnot, right?

10   A.   Right.

11   Q.   And they are criticizing this

12   approach, right?

13   A.   I don't see anything critical

14   in 47 through 58. It just is noting that

15   this is the case.

16   Q.   So do you think that the patent

17   is saying this is a good way to manage

18   storage or that they are trying to set it

19   up as the problem that they are trying to

20   solve?

21   A.   It is certainly not the problem

22   they are trying to solve.

23   Q.   A problem?

24   A.   I don't see removing duplicates

25   as a major focus of this patent. It is

1   R. DEWAR

2   true that the technology -- parts of the

3   technology, just parts of it, impinge on

4   that issue, but it is not a focus.

5   Q.   Did you say remove duplicates?

6   I have to take a look at your answer.

7   A.   I mean, if you want to

8   interpret 47 through 58 as some kind of

9   problem, that paragraph does not do so,

10   then you might deduce that the solution to

11   that problem would be to remove those

12   duplicates, but they might be there for a

13   good reason.

14   I just don't see -- I mean,

15   this is a comment that different files in

16   the system will have the same true name.

17   It is just a comment to that effect.

18   Q.   But instead of focusing on

19   remove, it at least wants to be able to

20   identify that there are duplicates, right?

21   A.   It is not central to this

22   patent to identify duplicates. It may

23   fall out, but it is not central to this

24   patent.

25   Q.   So let's turn to what we had at

1   R. DEWAR

2   least mentioned earlier, the process of

3   assimilating a data item. Are you

4   familiar with that term as it is used in

5   the patent?

6   A.   Yes.

7   Q.   And that shows up in column 14

8   starting around line 40 and I think it

9   goes on to column 15 just near the top,

10   around line 4 or so.

11   (Witness perusing document.)

12   A.   Okay, I think I'm clear on

13   that.

14   Q.   You are familiar with that

15   technology?

16   A.   Yes.

17   Q.   If I could ask you a favor, so

18   I don't confuse it, if I could get your

19   short CV, and I'm just going to ask the

20   reporter to mark that as Dewar Deposition

21   Exhibit 1, which might make our life

22   easier.

23   (Dewar Exhibit 1 marked for

24   identification.)

25   Q.   You can keep that to the side.

1   R. DEWAR

2   I'm going to ask you about a different

3   hypothetical. Now we are going to talk

4   about assimilate.

5   So for the purpose of this

6   hypothetical, it is the '791 system,

7   assume that there is 1,000 files in the

8   system, a relatively small system, and

9   that one of those files is a PDF document,

10   and let's assume it is like a very short

11   portion of a deposition transcript.

12   So far, so good?

13   A.   Yes.

14   Q.   And someone already has that in

15   the system, they have got it, all the LDE

16   and TFR technology has the necessary

17   information, it has been recorded in the

18   system.

19   So far, so good?

20   A.   So it is already in the true

21   file registry?

22   Q.   Yes. I want the situation

23   where a particular document, the short

24   version, is already in the system.

25   A.   Okay.

1   R. DEWAR

2   Q.   And in this hypothetical, we

3 are going to give it a different true name

4 so we have a different set of numbers.

5   Let's assume, shortened

6 version, I realize it needs to be longer,

7 it is the odd numbers, 1357. Okay?

8   A.   Okay.

9   Q.   And you don't know about that

10 in the system. Somebody else at your

11 company or something like that already has

12 it there.

13   A.   Right.

14   Q.   And assume that Mr. Rhoa or

15 Mr. Siritzky just happens to e-mail you

16 the same identical PDF.

17   A.   Okay.

18   Q.   Then you want to upload it or

19 assimilate it into the system, right?

20   A.   Assimilate it into the true

21 name system, yes.

22   Q.   Just starting out at 14-41 and

23 42, the first thing that is going to

24 happen as part of your assimilation

25 process, is that it is initially going to

1   R. DEWAR

2   exist as a scratch file, right?

3   A.   Correct.

4   Q.   The next thing it is going to

5   do is going to try and calculate a true

6   name for that scratch file, that is what

7   it is saying at 51 through 53, right?

8   A.   Right.

9   Q.   And under our hypothetical,

10   since it is the same document, it should

11   get 13579?

12   A.   Correct.

13   Q.   Even if the other user --

14   A.   You didn't have a 9 the first

15   time, but I don't think it is critical.

16   Q.   I'm sorry. You are better at

17   this than me. I'm trying to make this

18   simple and it is still not simple enough.

19   So if the first person who had

20   that document called it deposition

21   transcript and you received it, and it was

22   Clark deposition transcript, even though

23   it has different file names, it is going

24   to get the same hash, 1357 or 13579,

25   whatever the right numbers are?

1   R. DEWAR

2   A.   Yes.

3   Q.   That's the way it is going to

4   work. And that, as we are just talking

5   about, that is the fundamental idea of the

6   patent, that you are going to get that

7   same number, even if it has a different

8   file name, different other information

9   about the file, the time of access,

10   anything like that, right?

11   A.   Correct.

12   Q.   And just as an aside, the same

13   contents should yield the same true name

14   value for any hash function -- strike

15   that. I'm going to reask the question.

16   Even if you had what you would

17   consider a trivial hash function, not a

18   cryptographic hash, if you put the same

19   contents in, you should get the same hash

20   value out?

21   A.   All hash functions have that

22   property.

23   Q.   And even if you had the most

24   sophisticated cryptographic hash, you

25   could have different files go into it and

1   R. DEWAR

2 get the same value, right? That's called

3 a collision?

4   A.   There is always some finite

5 probability of a collision.

6   Q.   And the patent actually says it

7 is impossible to avoid, right?

8   A.   It is impossible to avoid a

9 finite probability of a collision.

10   Q.   So in our hypothetical, there

11 is the one file that has already been

12 uploaded by somebody else, unknown to you,

13 they had 13579.

14   You are trying to upload it,

15 calculate the true name on that, it is

16 13579, and in calculating that you just

17 looked at the contents of the PDF file,

18 right?

19   A.   Right.

20   Q.   Just the bits inside, right?

21   A.   Yes.

22   Q.   None of the information about

23 that file?

24   A.   Right.

25   Q.   And just to be clear, when we

1   R. DEWAR

2   are talking about that it is not -- when

3   it is calculating the true name and it is

4   using the contents of the file, right, it

5   is not using the LDE information or the

6   TFR information, right?

7   A.   No, it is not using that

8   information.

9   Q.   And that information is what

10   people would call metadata; is that right?

11   A.   Well, can we go back one step?

12   That information doesn't even exist for

13   the scratch file.

14   Q.   Correct.

15   A.   Because it is not assimilated

16   yet.

17   Q.   Okay. So as just a matter of

18   fact, when it is calculating the true

19   name, it doesn't even use the metadata

20   because it doesn't even have the metadata

21   yet, right?

22   A.   You will have to define how you

23   are using the word "metadata." I don't

24   consider it a standard term of art.

25   Q.   It is not using any of the

1   R. DEWAR

2   information not directly derivable from

3   the data itself, we are in agreement?

4   A.   We are in agreement with that

5   definition.

6   Q.   So we have calculated the true

7   name on the one that you were trying to

8   upload, right?

9   A.   Right.

10   Q.   And then starting at around

11 line 51, on column 14, the patent then

12 goes on, it says "determine the true

13 name," and then the next thing it says, is

14 it says "next, look for an entry for the

15 true name in the true file" --

16   A.   Wait. Where are you? You are

17 too far. We skipped. We have to look at

18 line 45 first.

19   Q.   Okay. What's in 45?

20   A.   "If the data item already

21 exists in the true file registry," which

22 in your hypothetical it does. So you

23 can't skip that.

24   Q.   Okay. So this is describing

25 what is going to happen in the

1   R. DEWAR

2 assimilation process, that paragraph

3 starting at 41 through 47, right?

4   A.   Right. You started to read

5 beyond that, and we don't get that far in

6 your hypothetical.

7   Q.   Let me start on 51.

8   A.   Then you have to change your

9 hypothetical.

10   Q.   I will. So let's just start on

11 14-51. It says "First, determine the true

12 name of the data item" --

13   A.   But I must stop. Do we have a

14 hypothetical on the table or not?

15   Q.   Yes. You have the PDF file

16 Mr. Rhoa has e-mailed you and you are

17 trying to upload it. That is the

18 hypothetical.

19   A.   But then we will not get to

20 line 51.

21   Q.   Let's see if that's true or

22 not. I think what we are going to see is

23 this is the mechanism about how it does

24 exactly what goes on in that opening

25 paragraph, and you can tell me whether you

1   R. DEWAR

2   disagree.

3   But I think that opening

4   paragraph, 41 through 47, is saying what

5   is going to happen, and 51 onwards is

6   saying how it will happen.

7   A.   Okay, fair enough.

8   Q.   So starting at 51, I think we

9   were saying this before, that the first

10   thing it is going to do, and it says it,

11   "First, determine the true name of the

12   data item corresponding to the given

13   scratch file using the calculate true name

14   primitive mechanism." That's what we

15   talked about before?

16   A.   Yes.

17   Q.   And happily it turns out 13579,

18   right?

19   A.   Right.

20   Q.   Then it says, next sentence,

21   "Next, look for an entry for the true name

22   in the true file registry 126" -- that's

23   the true file registry we talked about

24   before, right?

25   A.   Yes.

1   R. DEWAR

2   Q.   "And determine whether the true

3 name entry record exists in the true file

4 registry."

5   A.   Right.

6   Q.   So this one sentence where it

7 is saying "look for an entry in the TFR,"

8 is that sufficient to tell someone how to

9 implement that step, that lookup step?

10   A.   Well, the true file registry is

11 indexed in some manner by the true name.

12 There is a statement to that effect. I

13 don't believe, memory now, but I don't

14 believe the patent specifies a particular

15 mechanism or specification for how that

16 indexing be done, but we have a million

17 ways to do it and it is familiar.

18   Q.   That is exactly what I'm

19 getting at. This is a basic operation,

20 right, looking up an entry in a database,

21 right?

22   A.   Right.

23   Q.   And you don't really need a big

24 discourse for that, right?

25   A.   Right.

1   R. DEWAR

2   Q.   One sentence will enable

3   someone skilled in the art how to do this?

4   A.   Yes.

5   Q.   And I think you had mentioned,

6   and I think I agree with it, that the

7   patent really doesn't say how to do the

8   lookup, it just says look it up?

9   A.   Looking up data by key has been

10 around for 60 years.

11   Q.   And do you know how the true

12 file registry is organized structurally or

13 how it is implemented?

14   MR. RHOA: Objection, form.

15   A.   You mean in this embodiment?

16   Q.   Yeah.

17   A.   I don't think it is clearly

18 specified, and there could be any number

19 of ways that are completely familiar for

20 doing that.

21   Q.   Would it be okay to just

22 consider it as a list of entries?

23   MR. RHOA: Same objection.

24   A.   Well, that would imply a serial

25 search to find the entry, which is not a

1   R. DEWAR

2   structure that I think any half-competent

3   programmer would use.

4   Q.   And why is that?

5   A.   Because it would be slow.

6   Q.   I agree with that, too.

7   So when this entry -- this

8   sentence is saying look for the entry for

9   the true name in the TFR, in our

10 hypothetical it is saying does 13579 exist

11 in the TFR, right?

12   A.   Right.

13   Q.   And in our situation, it does,

14 right?

15   A.   Right.

16   Q.   And in finding that, it is

17 going to, with whatever the database

18 technology is, it is going to find it, and

19 when it finds it, it determines that it is

20 there, right?

21   A.   Right.

22   Q.   And it stops, right?

23   A.   Well, actually --

24   MR. RHOA: Objection, form.

25   Q.   I mean, as far as this step is

1   R. DEWAR

2   concerned, it would stop as soon as it

3   found it?

4   A.   As soon as it found the entry,

5   I mean, "stop" sort of implies a serial

6   search, and that's not the way it would be

7   done.

8   You use most typically a

9   hashing, a separate level of hashing on

10   the true names to find the entry in the

11   true name table and that determines

12   whether it is present. It says yes, it is

13   present; no, it isn't.

14   Q.   In the technology you were just

15   describing, I want to know if I'm on the

16   same page with you, is that a hash table?

17   A.   Yes, a conventional hash table.

18   Q.   And in a hash table, if you

19   were given the true name, you would look

20   in one spot and you would see is it there,

21   right?

22   A.   Well, hashing isn't quite that

23   simple.

24   Q.   It could be that simple, right?

25   MR. RHOA: Objection to form.

1   R. DEWAR

2   A.   No, because this would never be

3 a unique hash. So you need some chaining

4 mechanism or some collision search

5 mechanism. But this is textbook stuff

6 that has been around for 50 years. It is

7 nothing new.

8   Q.   And I agree with that. But the

9 point I'm trying to make is, with the

10 technology that people would use, you

11 would look in a spot to see if the hash

12 exists, right?

13   MR. RHOA: Objection, form.

14   Q.   For the record, I need a verbal

15 agree or disagree.

16   A.   "Look in a spot" is hardly

17 technical.

18   Q.   Sorry. You would look in the

19 hash table --

20   A.   Are you speaking of a linear

21 hash table or a chained bucket hash table?

22   Q.   Would you prefer one over the

23 other?

24   A.   Two different ways of doing the

25 same thing.

1   R. DEWAR

2   Q.   In the patent you would look

3   for a spot in the registry to see if that

4   true name existed?

5   MR. RHOA: Objection, form.

6   A.   One way or another I look in

7   the TFR and find the entry, if it is

8   there, or determine that it isn't there.

9   Q.   Correct. And that's what I'm

10   trying to probe, is when it says look --

11   let me put it in a different way. And I

12   think you were saying this when you were

13   talking about why it would be probably

14   silly to do a list, a sequential list.

15   If you look into the TFR and

16   you find an entry with that true name, you

17   don't continue on looking to see whether

18   there are other entries with that true

19   name?

20   A.   No.

21   Q.   It wouldn't make any sense?

22   A.   There can't be other entries

23   with the true name. We know that.

24   Q.   And then likewise if you were

25   looking for the true name in the TFR, the

1   R. DEWAR

2   technology isn't that you would have to

3   look through each and every entry?

4   A.   Right.

5   Q.   There is mechanisms that could

6   confine that so you can only look at one

7   or a small number of entries --

8   A.   A million such mechanisms exist

9   and are familiar.

10   Q.   Just to use an everyday

11   example, I'm sorry it took so long to get

12   to this point, if I gave you a dictionary

13   and I said what's the definition of Ada,

14   you would turn to some specific pages and

15   you would either see the definition of Ada

16   or you wouldn't?

17   A.   Right. I would roughly use an

18   address calculation hash.

19   Q.   In the dictionary, you wouldn't

20   go through every page of the dictionary?

21   A.   No. I know it is Ada. As I

22   said, I'm roughly doing an address

23   calculation search.

24   I say okay, the A's are in the

25   beginning of the dictionary. I take my

1   R. DEWAR

2   Oxford English Dictionary, I take the A

3   volume, and I flip to, and then I'm

4   roughly doing a binary search within some

5   region. I'm looking at the headings at

6   the top doing a binary search to get close

7   enough. When I get really close, I'm

8   doing a serial search on a small part of

9   the dictionary.

10   Q.   That is just everybody is

11   familiar with from just looking at the

12   dictionary.

13   A.   Yes, it is a pretty incompetent

14   way of searching.

15   Incidentally, I would not

16   search that way if I have the dictionary

17   on CD-ROM. I would type in Ada and it

18   would have the kind of mechanisms we are

19   talking about to go there, boom, without

20   all that nonsense.

21   Q.   So for both cases, to see if

22   Ada is in the dictionary or to see whether

23   it is not in the dictionary, you are never

24   flipping through every page?

25   MR. RHOA: Objection, form.

```
1                    R. DEWAR
2       Q.         Either with a computer or a
3  human being?
4       A.         There is nothing -- I don't
5  find anything in the patent that I
6  remember, that I recall, that forbids a
7  serial search there.  And it may be that
8  if you analyze your system, you decide,
9  not a focus of efficiency, a serial search
10 would be okay.
11                 That is an implementation
12 detail, an implementation efficiency
13 detail that I think is below the level of
14 what we are considering in the patent.
15      Q.         I agree with that.  And it
16 certainly wouldn't require you to look --
17 the patent doesn't demand or require you
18 to look at every entry in the database?
19                 MR. RHOA:  Objection, form.
20      A.         It certainly does not demand
21 that and it strongly implies that that
22 isn't the case.
23      Q.         I agree with that, okay.
24                 So then just continuing, it
25 says "Next look for the entry," and we
```

1   R. DEWAR

2   just said that, and it says, right around

3   line 56, I think it says -- it says "If

4   the entry record includes a corresponding

5   true file ID or compressed file ID";

6   right, are you with me?

7   A.   Yes.

8   Q.   That is indicating that hey,

9   this already exists in the system and

10   there is actually a true file ID, right?

11   A.   Right.

12   Q.   It says "then delete the file

13   with the scratch file ID," right?

14   A.   Right.

15   Q.   So this is where we were

16   talking about in that opening paragraph,

17   if it is a duplicate, then you go in to

18   delete the scratch file, right?

19   A.   Right.

20   Q.   And then it continues,

21   "otherwise store the given true file ID in

22   the record," right? That means if it is

23   not in the system, then you would store it

24   somehow?

25   A.   Right.

1   R. DEWAR

2   Q.   So with regard to that first

3   thing where it is talking about deleting

4   the file with the scratch ID, that's the

5   part where the assimilation process avoids

6   duplicates, right?

7   A.   Right. In this embodiment you

8   present a file as a scratch file with the

9   understanding that that scratch file will

10 be deleted if it is not needed. If we go

11 back to your hypothetical, it doesn't mean

12 that after this process, oh, dear, the

13 file that my attorney just sent me has

14 been lost, because if I don't want that to

15 happen, I can make a copy of it as a

16 scratch file and then present the scratch

17 file to the system.

18   Q.   Or there is many ways that the

19 patent says you can make that other copy,

20 mirroring?

21   A.   Right. I'm just making the

22 point here that deleting duplicates is

23 somehow not fundamental to this, it is

24 just a particular aspect of this

25 particular embodiment.

1   R. DEWAR

2   Q.   So the way the patent works is

3   you can avoid unwanted duplicates, right?

4   A.   Yes.

5   Q.   And there are some times you

6   might want duplicates for reliability

7   reasons or the like?

8   A.   Many reasons you might want

9   duplicates. Your hypothetical presents a

10 very good example, because I think in your

11 hypothetical you would typically want to

12 retain all files that were sent to you.

13   If you ask me at a deposition,

14 did you receive a duplicate of this file,

15 I haven't the faintest idea. My system

16 gets rid of them. That would be proper.

17   Q.   So in this step that we were

18 just talking about where it said if the

19 entry record includes the true file ID,

20 delete the file with the scratch file ID,

21 right, that's the process where you are

22 trying to upload this PDF file?

23   A.   Right.

24   Q.   Do you have any sense about how

25 long that scratch file is going to -- that

1   R. DEWAR

2   scratch file is going to exist in the

3   system during this assimilation process?

4   A.   During the assimilation

5   process?

6   Q.   Yeah, the scratch file.

7   A.   In the case where it is

8   deleted?

9   Q.   Yeah.

10   A.   I mean, there is nothing -- I

11   can't look to the patent for an answer to

12   that question. I have to look to the

13   particular program, the size of the

14   system, but I would assume it is a rapid

15   process.

16   Q.   And I guess what I'm getting at

17   is that the amount of time, for purposes

18   of the patent, the amount of time it

19   exists as a scratch file isn't important,

20   is it?

21   A.   Once you have started the

22   assimilation process?

23   Q.   Correct.

24   A.   No, I don't think it is

25   important.

1   R. DEWAR

2   Q.   What is important is it is

3 trying to avoid unwanted duplicates in the

4 situation?

5   A.   Unwanted duplicates in the TFR.

6   Q.   Right.

7   A.   I want to make that

8 distinction.

9   Q.   I appreciate it. I have a

10 habit, unfortunately, of using pronouns

11 sometimes and saying "it," but I do

12 appreciate the clarification.

13   Now I want to switch gears a

14 little bit and make a bigger file. Before

15 we were talking about CV.doc, it was the

16 world's shortest CV. Now we are going to

17 assume that you have more of a real-world

18 CV and given the way the system is

19 arranged it is not going to be a simple

20 data item within the '791 technology, it

21 is going to be a compound data item.

22   So far, so good?

23   A.   Forced example, but fine. We

24 have a compound data item of some kind.

25   Q.   Right. Because I just want to

1   R. DEWAR

2   walk through the mechanisms in that case.

3   A.   Yes.

4   Q.   So let's assume that, as we

5   said, the way the system is set up, the

6   file is now large enough, that it is not a

7   simple, it is past the threshold to be a

8   compound data item, right?

9   A.   Right.

10   Q.   Just so that we have something

11   somewhat connected to what we said before,

12   let's just refer to it as BigCV.doc. So

13   same path name, but now it is called

14   BigCV.doc. So far, so good?

15   So I want to turn towards

16   column 14, I think it is up near line 13,

17   if I'm counting right, where it says "a

18   compound data item is one whose size is

19   greater than," blah blah blah, a

20   particular given size.

21   So it is past that threshold?

22   A.   Right.

23   Q.   And then it says, in the next

24   sentence, paraphrasing a little bit,

25   determine if it is simple or compound, and

1   R. DEWAR

2   you said that determination is that it is

3   compound?

4   A.   Right.

5   Q.   And then when you start at

6   around 17, it says "if the data item is

7   simple," it says some stuff, and then it

8   says "otherwise," and by "otherwise" they

9   are talking about compound, right?

10   A.   Right.

11   Q.   It says "otherwise partition

12   the data item into segments and assimilate

13   each segment," right?

14   A.   Right.

15   Q.   And then in the same sentence,

16   after the parenthetical, it says

17   "computing the true name of the segment,"

18   right?

19   A.   Right.

20   Q.   So each segment is going to

21   have its own true name?

22   A.   Yes.

23   Q.   And each one is going to be

24   assimilated?

25   A.   Right.

1   R. DEWAR

2   Q.   Is it okay if I ask us to try

3 and draw out this situation? Is this

4 something that would be okay?

5   A.   Okay.

6   Q.   So we are going to assume it is

7 BigCV.doc. You don't have to write the

8 example. Let's say it is your CV. But

9 what I'm trying to get at is what these

10 data structures are going to look like.

11   So you have some big -- if it

12 makes sense to you, some big block to

13 identify your BigCV.doc file.

14   A.   Big block where?

15   Q.   I shouldn't be dictating this

16 to you. If you could depict however you

17 would to a classroom that you have this

18 big file, and what I want to get into is

19 the idea of the partitioning and the true

20 names for each of the segments.

21   A.   So what do you want me to put

22 now? I have put this much so far.

23   Q.   That is good. So we will do

24 two segments. So what happens in this

25 case, if I understand correctly, is that

1   R. DEWAR

2   segment 1 will get its own true name. So

3   can we say like true name subscript 1 or

4   something like that?

5   A.   True name of segment 1 and a

6   true name of segment 2.

7   Q.   Okay. So that's the

8   partitioning.

9   Then it says, it is also

10   correct, because it is assimilated,

11   segment 1 and segment 2 are going to get

12   all the stuff we just talked about before

13   for assimilation, right? It says that in

14   the patent. It says assimilate each step,

15   step S22.

16   A.   Right.

17   Q.   And by that, when we were

18   talking about the assimilation process, it

19   is actually going to get its own true file

20   IDs, etc.?

21   A.   I mean, we have otherwise

22   partitioned the data into segments, and

23   there is quite a bit, I mean, there is a

24   lot of unstated detail, but I think we

25   understand completely what the unstated

1   R. DEWAR

2   detail is.

3   Q.   I think I agree with that. But

4   that's what I'm trying to confirm. So you

5   have the one big file. It has been

6   partitioned into segments and each of

7   those segments has a true name?

8   A.   Right. Furthermore, each of

9   these segments is now a scratch file.

10   Q.   Because of the assimilation

11   process?

12   A.   Well, in preparation for the

13   assimilation process. I'm saying that

14   that is part of partition the data into

15   segments. You have partition the data

16   into segments and assimilate each segment.

17   So you can only assimilate

18   things if they are scratch files, so we

19   can deduce that part of the first sentence

20   there is converting these segments into

21   scratch files.

22   Actually, not quite, because in

23   line 41, it says "assimilating a data

24   item, scratch file or segment." So it is

25   unclear. The details of that are unclear,

1   R. DEWAR

2   but I don't think it matters. If you

3   think it matters, you ask questions.

4   Q.   Well, let me ask this: As far

5   as those segments are concerned, segment 1

6   and segment 2, are they going to be right

7   next to each other as a continuous set of

8   bits, or can they be disjoint?

9   A.   I see different embodiments

10   possible. So the answer to that is when

11   you ask in computer science, is it A or B,

12   and we say yes.

13   Q.   Meaning it could be continuous?

14   A.   It could be a single thing. A

15   segment, for instance, could be a pointer

16   to the original file with an offset or it

17   could be a separate scratch file.

18   Probably the first.

19   Q.   But it could be a data item in

20   either case, right?

21   A.   Right. It is a contiguous

22   sequence. Each segment for sure is a

23   contiguous sequence of bits, logically

24   contiguous.

25   Q.   But each segment 1 and segment

1   R. DEWAR

2   2 need not be contiguous?

3   A.   Need not be contiguous, right.

4   Q.   Then on lines 23 through 25, it

5   refers to saying -- this is right after

6   you compute the true name of each segment

7   -- it says "then create an indirect block

8   consisting of the computed segment true

9   names," they use plural, "an indirect

10 block is a data item which consists of the

11 sequence of true names of the segments."

12   A.   Okay.

13   Q.   So the piece of paper you have

14 marked right there has the indirect block,

15 one true name right next to the other?

16   A.   Yes.

17   Q.   And then in line 26, it says

18 "Then in step 226 assimilate the indirect

19 block and compute its true name," right?

20   A.   Right.

21   Q.   So the indirect block is

22 likewise going to become a file, right?

23   A.   Presumably it must become a

24 scratch file.

25   Q.   Right. And it is going to have

1   R. DEWAR

2   its own true name?

3   A.   Correct.

4   Q.   If you wouldn't mind marking

5   the piece of paper, and I will let you

6   choose whatever true name value you want

7   for that, realizing that we are going to

8   be fairly liberal on the math.

9   So could we just, for this, if

10   you wouldn't mind, for the true name 1, if

11   we could put in any kind of an example,

12   for segment 2 and the indirect block, just

13   some numbers so we have examples.

14   A.   We will call the first one 41

15   and the second one 102 -- 410, I will use

16   three digits. And the true name of the

17   indirect block, there is a detail here,

18   789 isn't quite the true name of the

19   indirect block. We have to fiddle a bit.

20   Q.   That is exactly what I was

21   going to ask. It then says you assimilate

22   the indirect block, which makes the

23   indirect block a file, right?

24   A.   Yes.

25   Q.   And then I think the part you

1   R. DEWAR

2   were referring to is the final sentence of

3   the paragraph where it says it does some

4   fiddling with the length, right?

5   A.   Yeah.

6   Q.   Is that what you are referring

7   to?

8   A.   There is an obvious typo in

9   that sentence.

10   Q.   What is the typo? This is the

11   one that starts with "Finally" on line 27?

12   A.   It should be modular 2 to the

13   32.

14   Q.   Okay, right, got you.

15   So what it is doing here is it

16   is putting in the length of all of the

17   segments as opposed to the length of the

18   indirect block?

19   A.   Right.

20   Q.   So the true name calculation

21   for the indirect block is done a little

22   differently than the true name calculation

23   for the segments or the files, because of

24   this length manipulation, right?

25   A.   I will signify that on our

1   R. DEWAR

2 example by crossing out the 9 and making

3 it 782, where the 2 is the 2.

4   Q.   Would you mind just marking

5 that 2 to say that the mark of 2 is to

6 deal with the length manipulation.

7   A.   "Equals length of indirect

8 block."

9   MR. DICHIARA: I'm just going

10 to ask the reporter to mark that as Dewar

11 Deposition 2.

12   (Dewar Exhibit 2 marked for

13 identification.)

14   Q.   So as we were saying in that

15 example, you are computing the true name

16 of each segment, right?

17   A.   Right.

18   Q.   And each of those segments is a

19 portion of the original BigCV data, right,

20 data item?

21   A.   Right.

22   MR. DICHIARA: Do you want to

23 take a break? We have been going over an

24 hour.

25   THE WITNESS: You know best

1   R. DEWAR

2   where the breaks are.

3   MR. DICHIARA: Let's do one

4   now.

5   (Recess taken.)

6   BY MR. DICHIARA:

7   Q.   So we are still on the '791,

8   continuing the discussion about the '791

9   patent, and I don't know if I had asked

10   this earlier, but if I have, pardon me for

11   being redundant, you understand that each

12   of the patents has the same detailed

13   description, the same technical

14   description?

15   A.   Yes.

16   Q.   In the patent world, we say

17   they are continuations of one another.

18   A.   Yes, I understand that.

19   Q.   If we turn to column 15, we

20   talked about this obliquely, about things

21   like renaming a patent, right?

22   So if you had your file CV.doc

23   and you wanted to call it MyCV.doc, it is

24   still the same document, and the system

25   has some mechanisms to try and handle that

1   R. DEWAR

2   properly?

3   A.   Right.

4   Q.   So that's what I want to ask

5   about now.

6   And in column 15, starting

7   around line 46 or 47 of the '791 patent,

8   it is talking about the link path to true

9   name, and it says "The mechanism to link a

10 path to a true name provides a way of

11 creating a new directory entry record

12 identifying an existing assimilated item.

13 This basic process may be used to copy,

14 move and rename files without a need to

15 copy their contents."

16   A.   A mighty odd sentence. I mean,

17 copy without the need to copy -- but I

18 think we know what the intention is.

19   Q.   It is going to copy by

20 reference or rename by reference, right?

21   A.   Yes.

22   Q.   If it is making another copy,

23 it is just making another reference --

24   A.   Another logical copy.

25   Q.   It is another reference to the

1   R. DEWAR

2   same true file?

3   A.   Yes.

4   Q.   And if it is renaming, it is

5   going to make some new path name to the

6   same true file?

7   A.   Right.

8   Q.   And you are familiar with that

9   terminology, copy by reference, move by

10   reference, stuff like that?

11   A.   Yes.

12   Q.   So as we were just saying as a

13   hypothetical, this could be the situation

14   where you just change CV.doc to MyCV.doc,

15   right?

16   A.   Right.

17   Q.   And similarly to what we were

18   talking about with the assimilate process,

19   it includes a paragraph about what it

20   wants to do and then it goes into a

21   discussion about how to do it, right?

22   A.   Yes.

23   Q.   So the first paragraph around

24   47 through 54 is what it wants to do with

25   this mechanism, and starting around 54 it

1   R. DEWAR

2   is starting to say how to do it, right?

3   A.   Yeah.

4   Q.   And it says "First, if desired,

5   confirm that the true name exists locally

6   by searching for in the true file

7   registry" --

8   A.   "True name registry."

9   Q.   I'm sorry, "the true name

10   registry," which that is a typo probably,

11   right? There is a true file registry.

12   A.   It has got to be a typo.

13   Q.   "Or local directory extensions

14   table 135."

15   A.   Yes.

16   Q.   And by this, it is checking to

17   see whether that true name -- whether

18   there is a true name for the file that you

19   are trying to move or copy or rename,

20   right?

21   A.   Right.

22   Q.   So if it was you are trying to

23   rename CV.doc, it wants to see do I even

24   know a true name for that?

25   A.   Right.

1   R. DEWAR

2   Q.   The patent is trying to see if

3   there is a true name for that.

4   And it is confirming whether

5   the local directory extension table or the

6   true file registry has a true name for

7   that file name you provided, right?

8   I'm not sure if I got an

9   answer. We spoke over each other.

10   I had asked, we might have

11   talked over each other, I might have

12   missed it, but it is trying to confirm

13   that there is a true name in either the

14   local directory extension table or the

15   true file registry for that true name?

16   A.   Yes.

17   MR. RHOA: Objection, form.

18   Q.   Let me restate that. I keep on

19   screwing up the file and the registry and

20   so forth. It is probably because of the

21   patent typo.

22   But this step is trying to see

23   whether the local directory extension

24   table or the true file registry has a true

25   name for the file name you provided?

1   R. DEWAR

2   MR. RHOA: Objection, form.

3   A.   Say it once more.

4   Q.   How about instead of restating

5   it, let me just try and break it down a

6   little bit.

7   So we have the situation with

8   CV.doc, and that's the file you are trying

9   to let's say rename. What this step is

10 doing is trying to determine whether the

11 local directory extension table or the

12 true file registry has a true name for

13 CV.doc?

14   MR. RHOA: Objection, form.

15   A.   Yes.

16   Q.   And then if you take a look at

17 the next paragraph, so it says "First,

18 confirm," that's what we just talked

19 about.

20   Then the next paragraph says

21 "Then create an entry record in the local

22 directory extension with the specified

23 path and update the entry record and other

24 structures as follows."

25   Then it continues on to the

1   R. DEWAR

2 next column, right?

3   A.   Right.

4   Q.   This is the part where it is

5 going to create an entry for MyCV.doc,

6 right?

7   A.   Right.

8   Q.   And populate it with the

9 necessary information to point to the

10 file?

11   A.   Right.

12   Q.   So if you renamed the file

13 CV.doc to MyCV.doc, that new path name

14 would now be reflected in the local

15 directory extension table?

16   A.   Correct.

17   Q.   And like we were saying

18 earlier, if we go back to that paragraph

19 that says "First, if desired, confirm that

20 the true name exists locally by searching

21 for it in the registry"; do you see that?

22   A.   Right.

23   Q.   That's the same situation as we

24 discussed before with database technology,

25 right? The patent is talking about you

1   R. DEWAR

2   are going to look in the database to see

3   if a true name is there, right?

4   A.   I mean, you might or might not

5   be using a database, probably not in such

6   a simple case, but who knows.

7   Q.   And it is the same situation,

8   though, that if you find it, it doesn't

9   make any sense to keep on looking for it

10   again and again and again, right?

11   A.   Right, because it can only

12   occur once.

13   Q.   In the patent, right?

14   A.   The structure is defined so

15   that it has unique entries.

16   Q.   I agree with that.

17   And for this particular

18   operation, the one that is talking in

19   column 15, line 54 or so, it is only

20   looking locally, right?

21   A.   Right.

22   Q.   So it is not going to look at

23   every TFR in the system, it is just

24   looking at the local TFR, right?

25   A.   Right.

1   R. DEWAR

2   Q.   And as the sentence suggests,

3   this step isn't even mandatory, right, it

4   is if desired, it is optional?

5   A.   Right.

6   Q.   So there is no need to look at

7   all the files in the whole system?

8   MR. RHOA: Objection, form.

9   A.   Certainly you don't -- for the

10   purposes of this sentence, confirming the

11   true name exists locally, you are

12   searching only locally.

13   Q.   Correct, okay. I think we are

14   in agreement on that. You can shift gears

15   a little bit to column 22. I'm going to

16   ask a little bit about how the patent

17   talks about deleting a file.

18   So column 22 starts out

19   deleting a file to a directory. I'm going

20   to focus on the deleting a file. Okay?

21   A.   Okay.

22   Q.   So a similar structure, it

23   starts out saying what it wants to do in

24   this column and then it says how to do it,

25   right?

1   R. DEWAR

2   A.   Okay.

3   Q.   And over here at line 2, it is

4   talking about the process of deleting a

5   file for a given path name, right?

6   A.   Where are we exactly?

7   Q.   22 --

8   A.   Right at the top of the column,

9   okay, yes.

10   Q.   So this is a situation where

11   somehow the system, and it kind of gets

12   back to one of the things we were talking

13   about before, someone or something is

14   saying delete CV.doc?

15   A.   Right.

16   Q.   It is not saying delete 2468?

17   A.   Right.

18   Q.   And if it was more formalized,

19   they would be saying delete

20   C:/Dewar/CV.doc?

21   A.   That's the given path name.

22   Q.   Let's just for this line of

23   question assume that we are talking about

24   CV.doc and it is a unique file, there is

25   not multiple versions of it, no one

1   R. DEWAR

2   happened to have the same CV as you.

3   So far, so good?

4   A.   Right.

5   Q.   So around line 4 it is starting

6   out how to do it, and it says "First

7   determine the local directory extension

8   table entry record and region table,"

9   etc., "for the file," right?

10   A.   Okay.

11   Q.   So this is the part where it is

12   going into the LDE and it is trying to

13   find the entry for CV.doc?

14   A.   Right.

15   Q.   And then the next -- as part of

16   this, what it is doing is it is trying to

17   get the true name for the path name you

18   provided with your delete command, right?

19   A.   Right.

20   Q.   It is trying to get the true

21   name for CV.doc? I'm not sure if you said

22   yes. Okay, you did.

23   A.   Yes.

24   Q.   And these true names are true

25   names that were calculated earlier, right?

1   R. DEWAR

2   A.   Yes.

3   Q.   They are not calculated as part

4 of this process, they exist in the LDE?

5   A.   Right.

6   Q.   And then around, the next

7 paragraph, it says "Identify the

8 corresponding true file given the true

9 name of the file being deleted using the

10 true file registry."

11   A.   Yes.

12   Q.   So that's the part that says

13 now that I have the true name, I can map

14 it over to the true file?

15   A.   Right.

16   Q.   So over here you are getting

17 the true file ID that corresponds to the

18 true name you obtained in the prior

19 paragraph, right?

20   A.   Right.

21   Q.   And that true name in turn

22 corresponds to the path name you provided,

23 CV.doc?

24   A.   Right.

25   Q.   So this is the mechanism where

1   R. DEWAR

2   if you give CV.doc, you now know the true

3   file that actually has those contents?

4   A.   Right.

5   Q.   And then around 15 and 16 it

6   says "If the file has a true name and the

7   true file's use count is 1," and that's a

8   situation we are talking about, it is a

9   unique file?

10   A.   Right.

11   Q.   So this would be true in this

12   case, right, use count is 1, right?

13   A.   I'm not clear on that because I

14   would have thought that if someone was

15   accessing the file remotely, that it's use

16   count would be incremented in that case.

17   I'm just not sure without

18   rumbling all around what it says exactly

19   about use counts or exactly how they are

20   manipulated. I'm not sure I'm ready to

21   agree in our case the use count is

22   necessarily 1.

23   Q.   Okay. Maybe the next sentence

24   or so will clear it up.

25   So it says "If the file has a

```
1                    R. DEWAR
2     true name and the true file's use count is
3     1, then delete the true file and continue
4     with the next step."
5          A.        Right.
6          Q.        So this is the situation where
7     if it is CV.doc and it is unique and you
8     are the only one who is accessing it or
9     has a reference to it in any way and you
10    are deleting it, it is saying it is okay
11    to delete the true file?
12         A.        Yes.
13         Q.        And in a situation like we had
14    before where there were two references to
15    it, we had the situation with the
16    deposition transcript, you have a
17    reference to it, someone else had a
18    reference to it, you wouldn't delete the
19    true file just yet, you would just delete
20    your reference to it?
21         A.        You are giving an
22    interpretation of use counts, which I'm
23    not sure I agree with without research.
24         Q.        We will move on on that.
25                   Then in line 21 or 22, it is
```

1   R. DEWAR

2   talking about this situation, and it says,

3   in step 428, which we just mentioned, the

4   patent says "Delete the local directory

5   extensions table entry record and add an

6   entry to audit file 132 indicating the

7   time and the operation performed

8   (delete)."

9   A.   Yes.

10   Q.   So if you deleted CV.doc, and

11   whatever use count means, if it was 1, it

12   is going to delete the true file, right?

13   A.   Right.

14   Q.   And then the patent is going to

15   delete the entry in the local directory

16   extensions table, right?

17   A.   Right. When you say "the

18   patent," you mean this specification?

19   Q.   Correct, the part we are

20   talking about.

21   A.   Yes.

22   Q.   And then it is going to add an

23   entry to the audit file 132 indicating the

24   time and the operation performed, in this

25   case (delete)?

1   R. DEWAR

2   A.   Yes.

3   Q.   And the audit file 132, is that

4 a log file?

5   A.   Explain to me what you

6 understand to be a log file.

7   Q.   Let's flip it around so maybe

8 it will be a better question.

9   Have you heard of a log file

10 before?

11   A.   A log file is presumably a file

12 that logs some information, but that is

13 rather broad and general and it is used in

14 all kinds of situations.

15   Q.   So broadly speaking, is the

16 audit file a log file?

17   A.   Broadly speaking, I would say

18 the audit file is a log file, yes.

19   Q.   Does the audit file indicate

20 the status of files?

21   A.   Again, I would have to look and

22 see everything that it says about audit

23 files because the answer could be yes or

24 no.

25   I'm not sure whether everything

1   R. DEWAR

2   relates -- first of all, it certainly

3   doesn't indicate the status of files that

4   have never been assimilated. I'm not sure

5   what -- I just don't know off the top of

6   my head if everything, all the

7   information, is in the audit file to be

8   able to say yes to the question you just

9   asked. I would have to look at every

10   mention of audit file.

11   Q.   I understand. Let's turn to

12   one such mention at least.

13   If we turn to column 19, around

14   line 20, there is a description that talks

15   about processing audit file entries.

16   A.   Sorry, give me the exact

17   reference again.

18   Q.   This is the '791 patent, column

19   19, starting around line 20, and it goes

20   to about line 52.

21   A.   Yes. Okay, I have read it all.

22   Q.   In that first paragraph, which

23   is the one that starts "This mechanism,"

24   it says "This mechanism performs tasks

25   which are required to maintain information

1   R. DEWAR

2   in the local directory extensions table

3   and true file registry," and then it says

4   "but which can be delayed while the

5   processor is busy doing more time-critical

6   tasks," right?

7   A.   Right.

8   Q.   Then it continues, the patent

9   continues, "entries in the audit file

10   should be processed at a background

11   priority as long as there are entries to

12   be processed," right?

13   A.   Right.

14   Q.   And this is referring to audit

15   file 132, the same audit file we were just

16   talking about, right?

17   A.   Right.

18   Q.   And around line 38, it is

19   talking about, you can read that to

20   yourself, 38 through whatever, it is

21   talking about at least in this case doing

22   some form of deletion again, deleting

23   compound items?

24   A.   Right.

25   Q.   And how that process works,

1   R. DEWAR

2   right?

3   A.   Can we look -- well --

4   Q.   Tell me if you want to look at

5   something else. I'm just trying to tie

6   together --

7   A.   It is a little unclear to me

8   where the deletion take place. Also I

9   don't think it matters.

10   Q.   Let me ask you this:

11   Particularly focusing on that first

12   paragraph, we talked about the audit file

13   deleting the file and it said you can add

14   an entry to that effect, right, when we

15   were just talking about deleting a file a

16   moment ago?

17   A.   Right.

18   Q.   And now we are talking about

19   processing the audit file, right?

20   A.   Right.

21   Q.   And it is saying that the thing

22   in that audit file can be done in the

23   future, it can be delayed as a background

24   task?

25   A.   Right.

1   R. DEWAR

2   Q.   So if you put something in that

3   audit file, it could be reflecting

4   something that you expect to happen in the

5   future?

6   A.   Right.

7   Q.   I'm going to switch gears a

8   little bit, the same patent. We talked a

9   little about files, and in that

10   conversation I think we had also mentioned

11   directories.

12   "Directories" is a well-known

13   computer term, right?

14   A.   Right.

15   Q.   When you create a directory, it

16   has no files in it, right? It is empty

17   when you create a directory?

18   MR. RHOA: Objection to form.

19   Beyond the scope of the declaration.

20   A.   I mean, on some systems there

21   are always files present. In some systems

22   there are no files present. So I can't

23   answer that question.

24   Q.   But it is at least possible you

25   create a directory, there is no files in

1   R. DEWAR

2 it?

3   MR. RHOA: Objection to form

4 and beyond the scope of the declaration.

5   A.   That is not always true.

6   Q.   Can you have a directory with

7 one file in it?

8   MR. RHOA: Same objection.

9   A.   There are systems in which it

10 is impossible to have a directory with one

11 file in it.

12   Q.   And there are systems where it

13 is possible?

14   A.   And there are systems where it

15 is possible.

16   Q.   And the patent refers to a

17 directory, I'm not going to give you a

18 memory test, one line out of a patent of

19 this size, at line 46 at column 5.

20   A.   Oh, column 5?

21   Q.   Column 5.

22   A.   Line 46?

23   Q.   Right. Just at 46 it says a

24 directory is a collection of named files,

25 right?

1   R. DEWAR

2   A.   Right.

3   Q.   And I think we agreed that a

4 directory in some systems can have one

5 file?

6   A.   In some systems, that's true.

7   Q.   And in some systems it can even

8 have zero files?

9   A.   In some systems it can have

10 zero files.

11   Q.   I'm going to jump over, and

12 that all sounds right to me, if we jump to

13 column 32, I'm hoping to ask some

14 questions about the system in operation.

15   A.   I would just like to -- you

16 asked me not to consider anything external

17 to the patents. But then you ask me

18 questions continually that require me to

19 think of things external to the patents.

20 I just want to make that comment. Perhaps

21 what I will do is identify all those

22 occurrences.

23   Q.   I think you are doing a great

24 job with that.

25   A.   For instance, the question of

1   R. DEWAR

2   whether a directory can have zero or one

3   files cannot be answered from this patent.

4   Q.   Why is that?

5   A.   Because it is an intensive

6   property of all kinds of operating systems

7   that I know about, which external

8   knowledge I have to bring into play to

9   answer that question.

10   Q.   I think we are fine with the

11 patent, because I think you said you don't

12 know of any -- let me phrase this right.

13   You don't know of any code

14 that -- let me totally back up.

15   When I'm talking about the '791

16 technology, I don't want you to be

17 referring to this technology by any code

18 that was written by Mr. Farber or

19 Mr. Lachman or any company they had. It

20 is this patented technology as described.

21   A.   Okay.

22   Q.   That's really all I was after.

23   A.   Okay. But I can bring in my

24 knowledge of whatever?

25   Q.   Yes, yes.

1   R. DEWAR

2   A.   That is independent of this

3   patent and these inventors?

4   Q.   That's right. And if I'm

5   asking about a computer term, I think you

6   were giving excellent caveats to say a

7   directory can mean this or that. That is

8   all well.

9   A.   Okay.

10   Q.   So when we talk about the

11 system in operation, the prior number of

12 columns, we are talking about all these

13 various mechanisms that the patent

14 describes and they are talking about how

15 some of the pieces work together, right?

16   A.   Right.

17   Q.   And I want to get to the part

18 that starts around line 65. You can look

19 at the preceding paragraph.

20   A.   I'm sorry, column?

21   Q.   32, about line 49, they talk

22 about the system in operation, and they

23 are trying to get the forest for the

24 trees, if you will. And I'm going to ask

25 about some stuff that we touched on

1   R. DEWAR

2   earlier actually that starts around line

3   65.

4   It says "Further, in operation

5   of a DP system incorporating the present

6   invention, multiple copies of data items

7   are avoided (unless they are required for

8   some reason such as backups or mirror

9   copies in a fault-tolerant system)."

10   I think that's what you were

11   referring to earlier that sometimes you

12   want copies, sometimes you don't?

13   A.   Right.

14   Q.   And that's all that's saying,

15   right?

16   A.   Right.

17   Q.   And when it is talking about

18   mirror copies, that's a technology that

19   you are familiar with; is that right?

20   A.   Yes.

21   Q.   And I'm assuming you have

22   taught that in school, it is a well-known

23   technique?

24   A.   Well-known technique.

25   Q.   Is it true that that technique

1   R. DEWAR
2   even predates this patent?
3   A.   Yes.
4   Q.   As a general technique?
5   A.   As a general technique, yes.
6   Q.   And that's a situation where
7   you are keeping another copy of the data
8   essentially for reliability reasons, or
9   that's at least one goal of it?
10   A.   That's one of many goals. I
11   would say not the primary goal.
12   Q.   What would be some other goals?
13   A.   Accessibility.
14   Q.   And in that case that's a
15   situation where the system actually
16   desires those copies?
17   A.   Right.
18   Q.   We are going to switch gears to
19   take a look at one of the prior art
20   patents. It is going to be the Woodhill
21   patent, and I feel obligated, since we
22   made all these copies, to give you a
23   binder that has this prior art in it.
24   Do you want a copy or do you
25   want to just look off of your own?

1   R. DEWAR

2   A.   I have my own.

3   Q.   It is up to you whether I put

4   this in front of you or not.

5   A.   I have it.

6   Q.   Let me know if you would like

7   another copy.

8   A.   I have a complete copy here.

9   Again, it may have a couple of notes on

10 it, although it is not extensively

11 annotated.

12   Q.   Okay, it is the same form.

13   So we are now referring to what

14 we refer to as the Woodhill patent. The

15 official identification for the IPR

16 proceedings is EMC VMWare 1005. I don't

17 know if you have that on your copy.

18   A.   It is not on my copy.

19   Q.   It is the same thing, but --

20   A.   I assume that this is the right

21 patent number?

22   Q.   Yes. So when I refer to it, we

23 will refer to column and line numbers.

24 That looks identical.

25   A.   If we run into trouble -- I

1   R. DEWAR

2   think it must be identical.

3   Q.   And this is one of the patents

4   that you reviewed in connection with your

5   reports, right?

6   A.   Yes.

7   Q.   Maybe we can just short-circuit

8   some of the questions. If I say BOB when

9   talking about the Woodhill patent, you

10   know that is a binary object?

11   A.   Yes.

12   Q.   If I say BOBID, that's a binary

13   object identifier?

14   A.   Okay.

15   Q.   I think that's going to be it.

16   I might fall into the short form with some

17   of these terms.

18   A.   Okay.

19   Q.   I want to use a similar

20   hypothetical to what we had before. I'm

21   going to go back to CV.doc, which is Dewar

22   Exhibit 1. That is just there for

23   reference. It is not going to be too

24   tricky.

25   As we mentioned before, that is

1   R. DEWAR

2   a small, simple version of your CV, right?

3   A.   Right.

4   Q.   And for purposes of this

5   hypothetical, let's just assume that the

6   way the bits, the file work out, that the

7   file is going to have two BOBs. You

8   understand that a file can have multiple

9   BOBs, right?

10   A.   Yes. Fine, it has two BOBs, no

11   problem.

12   Q.   Let's assume the first BOB is

13   the one which says "I live in Vermont."

14   A.   Okay.

15   Q.   And the second BOB is the one

16   that says --

17   A.   "I specialize in Ada

18   technology."

19   Q.   So it is a nice, simple

20   hypothetical.

21   A.   Right.

22   Q.   We will assume like before that

23   is just a unique -- it is the first time

24   that you have that CV, you haven't had a

25   chance to do multiple versions yet, no one

1   R. DEWAR

2   else has the same CV, it is a unique file,

3   right? Is that clear? I'm just making

4   sure that that hypothetical is clear.

5   A.   I guess it is clear. I don't

6   understand the relevance. But it is

7   clear.

8   Q.   I'm just trying to create a

9   very simple hypothetical. I want to make

10   sure I understand the way the ankle bone

11   is connected to the leg bone for the

12   Woodhill patent, and we have a simple

13   file, two BOBs, the first one corresponds

14   to the first sentence, the second BOB

15   corresponds to the second sentence, just

16   through sheer luck it works out that

17   simply.

18   A.   Yeah.

19   Q.   And let's assume that this CV

20   is stored on one of the local computers at

21   Woodhill, so that if you look at Figure 1,

22   it is going to be one of the local

23   computers 21 and the disk 19, right?

24   A.   Yes.

25   Q.   And you are going to -- at some

1   R. DEWAR

2   point in time the system is going to

3   initiate a backup procedure using the

4   Woodhill backup procedure?

5   A.   Right.

6   Q.   If we turn to -- it starts a

7   little bit on 8, but the stuff I'm going

8   to ask about is mostly in column 9. For

9   me, I think it starts on column 8, line

10   66, but that doesn't really say much.

11   A.   "Program control then

12   continues"?

13   Q.   Yeah. You have reviewed that

14   portion of Woodhill in detail, right?

15   A.   Right.

16   Q.   So let's assume that this is

17   the new CV, it is the first time it is

18   being ever backed up.

19   A.   Right.

20   Q.   So the first time through,

21   since it is a new file, all of the BOBs

22   are backed up, right?

23   A.   Right.

24   Q.   And the patent, Woodhill

25   patent, actually makes that clear around

1   R. DEWAR

2   lines 3 through 6, it says if it is a new

3   file, then all binary objects are backed

4   up, right?

5   A.   Yes.

6   Q.   And then for this hypothetical,

7   assume that you modify your CV and you

8   change "I live in Vermont" to just simply

9   say "I love Vermont."

10   A.   Okay.

11   Q.   It is still two BOBs, the first

12   BOB is on the first sentence, the second

13   BOB is on the second sentence, just to

14   keep the hypothetical clear.

15   So in this case the file will

16   have been deemed as a modified file,

17   right?

18   A.   Right. I have a little bit of

19   a problem with that hypothetical. Let me

20   ask you, because we have to restructure

21   this in the terms of Woodhill, is this one

22   data stream?

23   Q.   Yes, let's just assume that.

24   A.   So data streams are chopped

25   into BOBs arbitrarily based on the size.

1   R. DEWAR

2 So I think you better make it "I love in

3 Vermont" so you don't switch sizes so we

4 don't have a problem with your

5 hypothetical.

6   Q.   That is because of the

7 fixed-size BOB?

8   A.   Fixed-size BOBs, yes.

9   Q.   Let's say "I love in Vermont."

10 To keep the hypothetical simple, the first

11 sentence is the first BOB and the --

12   A.   Yeah. I just don't want to

13 introduce that confusion.

14   Q.   The only point I'm trying to

15 get here is in whatever way the

16 modification is going to be isolated to

17 one of the BOBs and not the other.

18   A.   Yeah.

19   Q.   So for going forward, we will

20 say that the first sentence has been

21 modified to say "I love in Vermont," the

22 second sentence hasn't been changed one

23 iota. The file is considered modified.

24   And I want to talk through what

25 will happen as a result of that on the

1   R. DEWAR

2   next backup cycle.

3   A.   Right.

4   Q.   On the next backup cycle,

5   Woodhill is going to realize that the file

6   is modified and it is now going to try and

7   identify those BOBs which have changed by

8   comparing BOBID values, right?

9   A.   Right.

10   Q.   And the way it does this is

11   that Woodhill is going to calculate the

12   BOBIDs based on the contents of the BOBs?

13   A.   Right.

14   Q.   There is no dispute about that,

15   right?

16   A.   Right.

17   Q.   So under this hypothetical, the

18   BOBID for the first BOB should be

19   different than the BOBID the first time

20   around?

21   A.   Right, subject always to what

22   we know is a low finite probability --

23   Q.   Of a collision.

24   A.   But I think we have clearly

25   agreed we are talking about substantially

1   R. DEWAR

2   unique hash functions. Anyway, so that is

3   not an issue.

4   So the answer to the question

5   is yes, not worrying about that corner

6   case.

7   Q.   Keep it simple, avoid the

8   corner case.

9   And the second BOBID should be

10   identical to the prior time because it

11   hasn't changed?

12   A.   That's for sure.

13   Q.   There is no issue of

14   collisions?

15   A.   There is no issue of collisions

16   there.

17   Q.   So in this situation when the

18   comparison of BOBIDs is made, it sees that

19   for the first BOB that they are going to

20   differ, right?

21   A.   Right.

22   Q.   And the system knows that the

23   modified first BOB exists on the local

24   computer?

25   A.   Yes.

1   R. DEWAR

2   Q.   I mean, that's a simple case,

3   there is no doubt about that?

4   A.   Yes.

5   Q.   It definitely exists there,

6   right?

7   A.   Right.

8   Q.   And therefore, since it exists

9   on the local computer, it exists in the

10 system?

11   A.   Yes.

12   Q.   There is no doubt about that?

13   A.   There is no doubt about that.

14   Q.   Now, it happens to be the case

15 that this new modified first BOB doesn't

16 exist on the remote file server because it

17 is a unique file in our example, right?

18   A.   Okay.

19   Q.   So in that case --

20   A.   I don't think the uniqueness

21 has anything to do with the answer to your

22 question.

23   Q.   I agree with that.

24   A.   Okay.

25   Q.   But I needed to confirm that,

1   R. DEWAR

2   that we were on the same page for that.

3   A.   I mean, "unique" is a confusing

4   and unnecessary term in your question

5   there, in my view.

6   Q.   Just to be clear, when we were

7   talking about file systems earlier, we

8   said that you could have files that are

9   totally unique and you could have files

10   that end up being highly duplicated,

11   right?

12   A.   Right.

13   Q.   And I was using CV thinking

14   that that might be an example where your

15   CV should be different, assuming you only

16   have one version of it, that your CV in

17   all likelihood is going to be different

18   than everybody else's, right?

19   A.   Again, yes, but I don't see

20   what possible relevance it has in the

21   context of Woodhill.

22   Q.   I'm just trying to get across

23   the idea that systems are going to have

24   unique files and there are going to be

25   some files that are highly duplicated?

1   R. DEWAR

2   A.   Yes.

3   Q.   Something like operating system

4   code is highly duplicated, if every

5   workstation on a network might have the

6   same identical operating system, right?

7   A.   Okay.

8   Q.   I think that's one of the

9   examples in the patent, actually.

10   A.   Okay.

11   Q.   So in this situation Woodhill

12   will transmit the first BOB to the backup

13   server to be stored there, right?

14   A.   Right.

15   Q.   So it is only going to transmit

16   because the BOBIDs differ?

17   A.   Right.

18   Q.   And it wouldn't transmit if the

19   BOBIDs were the same?

20   A.   Right.

21   Q.   And Woodhill actually says that

22   it only backs up change data?

23   A.   Right.

24   Q.   That's at I think line 25.

25   A.   Right.

1   R. DEWAR

2   Q.   "This procedure allows the

3   distributed storage program manager to

4   determine which parts of a file have

5   changed and only back up the changed data

6   instead of backing up all the data

7   associated with the file when only a small

8   portion of the file has been modified."

9   A.   Right.

10   Q.   So if you get to right around

11   line 14, column 9, it says "The binary

12   object identifiers calculated in step 138

13   are compared against their counterparts in

14   the file database 25."

15   A.   Right.

16   Q.   Then there is a long

17   parenthetical, right?

18   A.   Well, you mean the "as

19   determined by"?

20   Q.   It says "as calculated" --

21   A.   That starts a long

22   parenthetical.

23   Q.   The point I want to get at is

24   the binary object identifiers calculated

25   in step 138 are compared against their

1   R. DEWAR

2   counterparts in the file database 25, then

3   it says, parenthetically, "(e.g. the

4   binary object identifier 74 (as calculated

5   in step 138)," right?

6   A.   Right.

7   Q.   "That identifies the first,"

8   blah blah blah, right?

9   A.   Right.

10   Q.   This sentence is saying that it

11   is comparing the BOBIDs that were just

12   calculated against their counterparts in

13   the database, right?

14   A.   Yes. The corresponding BOBID

15   for the corresponding file.

16   Q.   And it is how it determines if

17   a BOB changed compared to its counterpart?

18   A.   Right.

19   Q.   And if something has changed,

20   like in the case of the first BOB, this is

21   how Woodhill identifies that the BOB

22   should be transmitted from the local

23   computer to the remote computer?

24   A.   Right.

25   MR. RHOA: Objection to form.

1   R. DEWAR

2   Q.   And the local computer to the

3   backup server?

4   MR. RHOA: Objection to form.

5   Incomplete hypothetical.

6   A.   Say the question again, then.

7   Q.   This is the step where Woodhill

8   is identifying that the BOB should be

9   transmitted from the local computer to the

10 backup server?

11   A.   Yes, at the conceptual level.

12 It doesn't mean that all bits of that BOB

13 will be transmitted, but that is a further

14 detail later on.

15   Q.   But I just want to get the

16 direction of information correct.

17   This is how it determines

18 whether to transfer something from the

19 local to the remote?

20   A.   Yes.

21   Q.   And that's what is meant by

22 backup?

23   A.   Right.

24   Q.   And it has nothing to do with

25 getting a BOB from the remote to the

1   R. DEWAR

2   local, right?

3   A.   The backup has nothing to do

4   with that, right.

5   Q.   That would be a restore?

6   A.   That would be a restore.

7   Q.   So now we are on the second BOB

8   of the file, right?

9   A.   Right.

10   Q.   The one that hasn't changed at

11   all, that talks about your specializing in

12   Ada technology, okay?

13   A.   Okay.

14   Q.   And when Woodhill is processing

15   that BOB, the comparison is going to

16   determine that the BOBIDs are the same,

17   right?

18   A.   Right.

19   Q.   And it is going to determine

20   that the remote already has that BOB

21   because the BOBIDs are equal, right?

22   A.   Right.

23   Q.   In this situation, the system

24   knows that the second BOB exists on the

25   local computer, right?

1   R. DEWAR

2   A.   Right.

3   Q.   And there is no doubt about

4   that because that's where it is, right?

5   A.   Right.

6   Q.   And it also knows that that

7   second BOB exists in the backup file

8   server?

9   A.   Right.

10   Q.   And there is no doubt about

11 that, right?

12   A.   I never quite know what it

13 means to say no doubt about. If there was

14 no doubt about anything, there wouldn't be

15 an audit procedure here. Everything is

16 potentially in doubt all the time.

17   Q.   The BOBIDs were identical --

18   A.   It is assuming -- rather than

19 say there is no doubt, let's just say it

20 assumes in this situation that. I prefer

21 that rather than saying there is no doubt,

22 because no doubt raises other issues.

23   Q.   Let me see if I can rephrase it

24 in a way that makes sense.

25   In this situation we are

1   R. DEWAR

2   talking about the second BOB which hasn't

3   changed, right?

4   A.   Right.

5   Q.   And when Woodhill is comparing

6   the BOBIDs, it says that they are equal,

7   right?

8   A.   Right.

9   Q.   And at that point Woodhill has

10   determined that that second BOB already

11   exists on the backup server, rightly or

12   wrongly?

13   A.   It is determined that it can

14   assume that. I think if we say that, then

15   we are more comfortable.

16   Q.   So let's move to some other

17   part of Woodhill that concerns the

18   self-audit. I think you had just

19   mentioned the audit.

20   A.   Okay.

21   Q.   That starts around column 18.

22   Around line 10 it says "auditing and

23   reporting," right?

24   A.   Yes.

25   Q.   And I think it goes down to

```
1                    R. DEWAR
2   about line 38?
3        A.        Right.
4        Q.        And I think, let me check,
5   there is a figure for this as well.
6                  Around line 11, it says "The
7   distributed storage program manager is
8   able to perform self-audits on a periodic
9   basis to ensure that the binary objects
10  that have been backed up can be restored,"
11  right?
12       A.        Right.
13       Q.        So over here it is trying to
14  see whether the restore procedure seems to
15  be working?
16       A.        Or would work.
17       Q.        Would work, okay.
18                 And around 19, line 19, it says
19  "Program control continues with step 502
20  where the selected binary object is
21  restored from either a compressed file,
22  compressed storage file 32 residing on one
23  of the disk drives 19 of one of the local
24  computers 20, or from the remote backup
25  file server 12."
```

1   R. DEWAR

2   Do you see that?

3   A.   Yes.

4   Q.   So in this case I want us just

5   to focus on that second part, that it is

6   coming from a remote file backup server.

7   A.   Yes.

8   Q.   We are not going to talk about

9   any self-audits to another local computer,

10   just from the remote file server.

11   A.   Okay.

12   Q.   So in this case we are talking

13   about a restore, and we just said this

14   before, I believe, where you are going to

15   get data from the remote file server and

16   bring it to the local computer?

17   A.   Okay.

18   Q.   And in this situation, since we

19   are talking about the remote file server,

20   you don't dispute that you need some kind

21   of a request to get the data from the

22   remote file server, right?

23   A.   That's correct.

24   Q.   And if we turn to lines 16 and

25   19 of that same column, it says "The

1   R. DEWAR

2   distributed storage manager program

3   initiates a restore of a randomly selected

4   binary object identified by a binary

5   object identification record stored in the

6   file database."

7   A.   Yes.

8   Q.   So Woodhill is explicit that

9   the BOB being restored is identified by

10   record 58?

11   A.   That's correct.

12   Q.   And if we turn to Figure 3 --

13   do you have Figure 3 handy?

14   A.   Yes, I do.

15   Q.   You see there is a record 58

16   depicted there, right?

17   A.   Right.

18   Q.   And it includes something

19   called a binary object identifier 74?

20   A.   Right.

21   Q.   And that includes a hash 70?

22   A.   Right.

23   Q.   Now, in looking at this section

24   of Woodhill on the auditing and the

25   reporting, which, as we said, is like line

1   R. DEWAR

2   11 through line 38 maybe, there is nothing

3   else in this section suggesting that the

4   BOB is identified in any other way, is

5   there?

6   A.   Than from the information in

7   the binary object identification record.

8   Q.   Correct. It is identified by

9   that record?

10   A.   Right.

11   Q.   And it doesn't suggest that it

12 is identified in any other way?

13   A.   That's correct.

14   Q.   So I want to turn to some of

15 the backup and restore operations of

16 Woodhill.

17   A.   Okay.

18   Q.   And that's one of the things

19 Woodhill is concerned about, right?

20   A.   Right.

21   Q.   I think it is all the way back

22 in column 1, and I don't think this is

23 controversial, but you will have to tell

24 me if you disagree.

25   It says, around line 23,

1   R. DEWAR

2   "backup/restore systems have a long

3   history on all types of computer systems,

4   from mainframes to minicomputers, local

5   area network file servers and desktop

6   workstations," right?

7   A.   Right.   I couldn't quite agree

8   with -- well, who knows what "long" means,

9   but anyway...

10   Q.   But the reason --

11   A.   A long history is fair.

12   Q.   The reason you perform a backup

13   is in case there is some kind of a

14   failure, you want a backup copy that you

15   can use to restore data?

16   A.   Right.

17   Q.   And that could be a site

18   disaster, right?

19   A.   Right.

20   Q.   And it could be something like

21   a disk failure, something like that?

22   A.   Right.   Other reasons, too, but

23   those are two examples.

24   Q.   Those are easy examples, right?

25   A.   Yeah, those are examples.

1   R. DEWAR

2   Q.   And Woodhill, when it is doing

3   this backup procedure we just talked about

4   earlier in column 8 and 9, is trying to

5   back up data on the remote file server for

6   such a situation, right?

7   A.   Right.

8   Q.   So let's assume the situation

9   where there is a media failure.

10   A.   Okay.

11   Q.   And you are using the Woodhill

12   technology and you try to access your

13   file, CV.doc, on the local computer, and

14   you get some kind of error indicating the

15   disk is broken, fried, corrupt, whatever

16   it is, right?

17   A.   Okay.

18   Q.   There is no dispute that even

19   by the time of Woodhill there was

20   technology around that would determine

21   that on the local computer, if your disk

22   was fried or your file was corrupted, that

23   it would say I can't get this file?

24   A.   Right.

25   Q.   And in that case, you would,

```
1                    R. DEWAR
2    using the Woodhill technology, you could
3    get that file from the backup file server?
4         A.        Right.
5         Q.        You could also get it from
6    another local computer potentially, but we
7    didn't talk about that?
8         A.        I mean, there might be
9    important first steps to be performed,
10   like replacing your disk.
11        Q.        That would be nice
12   housekeeping, I would agree with that.
13                  And when the Woodhill patent or
14   anybody else talks about restore, you are
15   talking about restoring a file from some
16   prior stored version, right?
17        A.        Right.
18        Q.        So we are on the same page for
19   that.
20                  And at a high level, not the
21   actual lines of code or anything like
22   that, a restore operation is essentially
23   just the flip side of a backup operation,
24   right?
25                  MR. RHOA:  Objection.
```

1   R. DEWAR

2   Q.   The backup writes to remote

3 file server, the restore reads from the

4 remote file server?

5   MR. RHOA: Objection.

6   Q.   At that level of abstraction?

7   A.   At that level of abstraction, I

8 would agree.

9   Q.   And when you were writing your

10 reports or forming your opinions for your

11 reports, did you look at all of Woodhill?

12   A.   Yes.

13   Q.   Cover to cover?

14   A.   Cover to cover.

15   Q.   And did that include the

16 claims?

17   A.   That included most certainly

18 the claims, yes.

19   Q.   So I want to --

20   A.   Wait.   Is that true? I just

21 need to be careful on that.   Because there

22 is one situation I know -- no, not

23 including the claims.

24   Q.   And why didn't you consider the

25 claims?

1   R. DEWAR

2   A.   I was told that the claims were

3   not prior art because they should be given

4   a later date than the specification. I

5   believe I'm right in recalling that.

6   Because the date on the actual patent is

7   '77, right?

8   Q.   Not that old.

9   A.   Not '77, sorry. '97. Is that

10   right?

11   Q.   Well, we can put aside the

12   dates for now. Did you consider the

13   claims or did you ignore the claims?

14   A.   I did not consider the claims,

15   only the specification.

16   Q.   I'm going to ask you to take a

17   look at the claims, because that is part

18   of Woodhill. I want you to focus on claim

19   1.

20   A.   Okay.

21   Q.   Is this claim at a high level

22   generally directed to the backup

23   procedure? If it helps any, the first

24   means for element might help with that,

25   but I don't want to tell you to limit

```
 1                      R. DEWAR
 2   yourself to that, where it says "means for
 3   selectively copying data stored on one
 4   device to another."
 5        A.        What was your question?
 6        Q.        Whether at a high level this is
 7   referring to the backup procedure.
 8                  MR. RHOA:  Objection, form.
 9        A.        Is it referring to the backup
10   procedure?  What do you mean by "the
11   backup procedure," what we have seen
12   described in the specification?
13        Q.        Yeah, at least that.
14        A.        With at least that, I'm
15   comfortable in saying yes.
16        Q.        Okay, thank you.  So if you
17   take a look around line 64 --
18        A.        64 of?
19        Q.        Of this claim 1, column 21.
20   The claim is saying that it is dividing
21   each data file into one or more binary
22   objects, right?
23        A.        Right.
24        Q.        So Woodhill was claiming that a
25   file can be one object, divided into one
```

1   R. DEWAR

2   object or into multiple objects?

3   A.   Right.

4   Q.   And is that a correct

5   description of Woodhill or not a correct

6   description of Woodhill?

7   MR. RHOA: Objection, form,

8   foundation.

9   A.   What does that mean? This is

10   Woodhill. So are you asking if it is a

11   correct description of itself?

12   Q.   Does Woodhill disclose dividing

13   a file into one or more objects or not?

14   A.   Other than in the claims?

15   Q.   Whichever way you want to

16   answer is fine by me.

17   A.   If you asked me does a claim

18   accurately represent itself, the answer is

19   always yes. I really don't understand

20   that question. If that isn't a correct

21   answer, I don't understand the question.

22   Q.   I am agreeing with you on that.

23   And that's because -- let me just ask a

24   backup question on this.

25   I should know this from your

1   R. DEWAR

2   CV, but do you have any patents of your

3   own?

4   A.   No.

5   Q.   But you have studied patents

6   before, right?

7   A.   Yes.

8   Q.   And the claims are supposed to

9   have support in the specification, right?

10   A.   Yes.

11   Q.   Otherwise it would be an

12   illegal claim, right?

13   A.   Yes.

14   Q.   And the Patent Office is

15   supposed to determine that the claims are

16   proper?

17   A.   Right.

18   Q.   So I want you to look on column

19   22 around line 13. Let me orient myself.

20   It is not 13. It is line 3, I'm sorry.

21   It says "said calculated binary

22   object identifier being saved as the name

23   of the associated binary object."

24   A.   Yes. Could I just ask a method

25   question here? When you read something

1   R. DEWAR

2   from the patent and I say yes, I'm saying

3   I read the same words that you do. Is

4   that my correct understanding of those

5   questions?

6   Q.   Some of those questions I just

7   want to make sure we are focusing on the

8   same element, and when you say yes, I

9   realize we are looking at the same stuff.

10   Obviously the document says whatever it

11   says. But I'm just trying to make sure we

12   are looking at the same material when I'm

13   asking questions.

14   A.   Okay.

15   Q.   So over on this part, the

16   Woodhill patent, column 22, line 3, the

17   claim is saying "said calculated binary

18   object identifier being saved as the name

19   of the associated binary object."

20   A.   Yes, that's what it says.

21   Q.   So what this means is that the

22   binary object identifier, what we called

23   the BOBID earlier, can be saved as a name

24   of the BOB?

25   A.   Right.

1   R. DEWAR

2   Q.   And that isn't too startling,

3   is it, it is called an identifier, an

4   identifier is a name, right?

5   MR. RHOA: Objection, form.

6   A.   In terms of the specification,

7   the use of the word "name" there, I don't

8   believe -- I mean, if you want to let me

9   sit down and read every word of this, or

10 if you want to point out to me where it

11 uses "name" in that context, fine.

12   But it doesn't make sense to me

13 and I don't recall. So to me it is a

14 little out of the blue in this patent to

15 see the word "name" here.

16   Q.   Let me ask you just a little

17 bit more generically, then. Is an

18 identifier a name or is it not a name?

19   A.   I can't answer that question

20 generically.

21   Q.   And what's the part of the

22 question that I can help focus on?

23   A.   The answer is sometimes yes,

24 sometimes no, depending on the exact

25 situation and how it is used.

1   R. DEWAR

2   I mean, to give an example in a

3   programming language, some identifiers are

4   names, some identifiers are not names.

5   Some names are identifiers, some names are

6   not identifiers. So the answer in any

7   programming language would be no for that.

8   So you have to give me a context.

9   Q.   Maybe I can just ask some

10 questions about a case where an identifier

11 isn't a name.

12   A.   Well, name, in a programming

13 language?

14   Q.   Yes. What I'm trying to get at

15 is when you hear the word "identifier,"

16 implicit is identify, right?

17   A.   Well, in technical terms, yes.

18   Q.   Let's just say broadest

19 reasonable.

20   A.   So the identifier -- let's say

21 in a programming language, an identifier

22 identifies a particular sequence of

23 characters that is identifying something

24 or other.

25   Q.   But we agree that an identifier

1   R. DEWAR

2   is identifying, that's not debatable?

3   A.   It is an odd view in a

4   programming language. I have never heard

5   anyone think of it that way and I don't

6   think it is helpful to think of it that

7   way. An identifier is an identifier.

8   Q.   In the example you gave, you

9   said it was to identify some particular --

10 I think you said bits? Identifies a

11 particular sequence of characters. It is

12 identifying something?

13   A.   I can't really understand what

14 that would mean in, say, the context of a

15 programming language, an identifier is an

16 identifier. You will nowhere find in a

17 programming language reference manual an

18 identifier is something that identifies,

19 da da da da, it won't be there.

20   It is a very peculiar notion,

21 an identifier is an identifier. It is a

22 sequence of characters that is an

23 identifier used for many different

24 purposes in a programming language.

25   Q.   Let's talk about the '791

1   R. DEWAR

2   patent for a second.

3   A.   Okay.

4   Q.   They say that the true name is

5   an identifier, right?

6   A.   Yes.

7   Q.   So at least in that case the

8   identifier is a name, right?

9   A.   You just said it the other way

10   around. A name is an identifier. Yes, a

11   true name is an identifier. That doesn't

12   mean all identifiers are true names, and

13   you don't intend to imply that.

14   Q.   I think let's just move on on

15   this.

16   A.   I'm just trying to understand.

17   I will agree, a true name is an

18   identifier.

19   Q.   But you won't agree that an

20   identifier necessarily identifies stuff?

21   A.   I have to know, are you using

22   the term of art in a programming language

23   or in an operating system or using the

24   ordinary English word?

25   Q.   Let's start with the ordinary

1   R. DEWAR

2   English word.

3   A.   I guess I would have to look it

4   up in the dictionary. I don't normally

5   think of there as being a necessary

6   correspondence. I don't suppose it

7   matters in most situations. In most

8   situations I think in ordinary English you

9   would say an identifier identifies

10   something.

11   Q.   Let me ask it this way: Do you

12   think it would be entirely unreasonable

13   for the board to find that an identifier

14   is a name?

15   A.   In general?

16   Q.   In general.

17   A.   Yes.

18   Q.   You would think it --

19   A.   I would think that is

20   definitely -- I mean, it would be a real

21   reach to go back to the specification of

22   Woodhill and say every time it uses binary

23   object identifier, it means binary object

24   name. That would be a huge change and

25   make no sense in the context.

1   R. DEWAR

2   Q.   What about in the context of

3   the claim that we were just talking about

4   where it says "said calculated binary

5   object identifier being saved as the

6   name," do you think it would be completely

7   unreasonable for the board to conclude

8   that a BOBID is a name?

9   A.   Well, a name to me has the

10 implication of access by name. You know,

11 once you have the name of something, you

12 can go find it. And that's the point of

13 contention here because there is no such

14 process in the specification.

15   So I don't know what you read

16 into "name," but I worry that I read that

17 into name, which is why I find the sudden

18 appearance of "name" there dubious;

19 dubious in terms of being supported by the

20 specification.

21   Q.   So I have two follow-up

22 questions on that.

23   The first one was my initial

24 question, which was whether you think the

25 board would be completely unreasonable in

1   R. DEWAR
2   finding that an identifier in Woodhill is
3   a name.
4   MR. RHOA: Objection.
5   Q.   Not whether you would, but
6   whether you think the board would be
7   completely unreasonable.
8   MR. RHOA: Objection, asked and
9   answered.
10   A.   Well, I will answer it again.
11   The use of "identifier" in the
12   specification here --
13   Q.   The question was really just a
14   yes or no. Do you think the board would
15   be completely unreasonable? I understand
16   your reasoning on it.
17   A.   If the board said "identifier"
18   in all contexts, everywhere, always means
19   name --
20   Q.   How about just in one context?
21   A.   Well, which context?
22   Q.   Let's start with the claim.
23   A.   Well, the claim is what the
24   claim is, it says an identifier is a name.
25   So if you ask me if the board would err in

1   R. DEWAR

2   saying that in this claim an identifier

3   is -- it says the claim that the

4   identifier is a name. It is clear in the

5   claim.

6   Q.   I agree with that. And the

7   claim was examined by a patent examiner,

8   right?

9   A.   The claim was examined by a

10   patent examiner.

11   Q.   Because it is a granted patent,

12   right?

13   A.   Right.

14   Q.   So he thought that that claim

15   had support in the spec, right?

16   MR. RHOA: Objection, beyond

17   the scope of the declaration. Calls for

18   speculation.

19   A.   I have no idea what he thought.

20   I can only give you my understanding of

21   the relationship of the claim to the

22   specification.

23   Q.   So my question was, back to not

24   your explanation, but whether you thought

25   it would be completely unreasonable for

1   R. DEWAR

2   the board to find "identifier" as a name

3   in Woodhill.

4   A.   In the specification?

5   Q.   In the whole document. Just

6   anyplace in the document does it

7   support --

8   A.   It says "identifier," it means

9   name, yes, I think that would be a

10   mistake.

11   Q.   And then the other thing that I

12   think you mentioned that was implicit in

13   your notion was that an identifier had to

14   be used for access, right?

15   A.   I said a name has that

16   implication.

17   Q.   A name has to be used for

18   access?

19   A.   I didn't say it that way. I

20   said name has the implication of

21   associated access, using the name.

22   Q.   So let's just move forward a

23   little bit to claims 3 and 4.

24   A.   Okay.

25   Q.   And the reason I'm pointing to

1   R. DEWAR

2   3 is because 4 depends from 3, but it is

3   really going to be from 4.

4   So it says, in claim 3, "a

5   means for calculating said current name

6   includes means for calculating 128-bit

7   binary value comprising four 32-bit

8   fields."

9   And then claim 4 adds to that

10 and says "four 32-bit fields include a

11 binary object identifier size field, a

12 cyclic redundancy check number field

13 calculated against the contents of the

14 binary object, a longitudinal redundancy

15 check number field calculated against the

16 contents of the binary object, and a

17 binary object hash number field calculated

18 against the contents of the binary

19 object."

20   A.   Okay, I read that with you.

21   Q.   If you turn to Figure 3, which

22 I think you had open a moment ago, that's

23 precisely the same BOBID in Figure 3,

24 right?

25   MR. RHOA: Objection to form.

1   R. DEWAR

2   A.   Right. The four fields

3 described in claim 4 correspond to the

4 four fields that appear in Figure 3.

5   Q.   So when you read claim 1 and 3

6 and 4 together, these claims are claiming

7 precisely that the BOBID in Figure 3 is

8 being claimed in Figure 4?

9   MR. RHOA: Objection, form.

10   A.   Claimed in Figure 4?

11   Q.   No, claimed in -- I'm sorry if

12 I misspoke. That claim 4 is claiming

13 precisely the BOBID of Figure 3?

14   MR. RHOA: Objection to form.

15   A.   Right, just focusing on 74 in

16 this picture, yes.

17   Q.   Just on 74?

18   A.   Yes.

19   Q.   And both in claim 4, and if you

20 turn back to claim 1, at the sentence or

21 lines that bridge column 21 and 22, there

22 is no doubt that the BOBID is calculated

23 against the contents of the BOB?

24   A.   Right.

25   Q.   And that the BOBID includes a

1   R. DEWAR

2   hash of the contents of the BOB?

3   A.   Four hashes, in fact.

4   Q.   Four hashes of that, I agree

5   with that.

6   A.   Well, I'm not sure you want to

7   say the size is a hash, but the other

8   three would be described as hashes.

9   Q.   Correct, multiple hashes.

10   And at least column 22, line 4,

11   refers to the BOB as a named data item,

12   right?

13   A.   Column 22, line 4, calls that

14   the name of the binary object, yes.

15   Q.   The identifier being saved as

16   the name of the binary object. And we

17   have some disagreement about whether it

18   would be reasonable or unreasonable to

19   call the BOBID a name.

20   I think that's what we were --

21   A.   I don't know if we have a

22   disagreement. You didn't give your

23   opinion. I told you what my opinion was.

24   Q.   That's actually correct, I

25   didn't state my opinion.

1   R. DEWAR

2   Let's look at the declaration.

3   Let me suggest this, if in any of the

4   questions there is a natural point where

5   you want to say the declaration should

6   have said X instead of saying Y, raise

7   your hand on that. If there is anything

8   of substance, you know, not an easily

9   identifiable typographical, grammatical

10   thing, let me know that, too.

11   A.   Just let me ask, are you

12   referring to just changes in substance? I

13   assume this is not an invitation to add

14   completely new stuff?

15   Q.   That is absolutely the case,

16   because we haven't had a chance to

17   consider that.

18   A.   I just want to have the ground

19   rules clear on that.

20   Q.   How about if we propose this,

21   that I'm going to ask some questions, and

22   if I turn to a section in your declaration

23   and you say well, before I answer that, I

24   just want to let you know that there is a

25   typographical error or some other error

1   R. DEWAR

2   here, you do it.

3   Then if we have time at the end

4   of the deposition, I will invite you to

5   make any other --

6   A.   That is fine. If you feel that

7   in answering that question, I'm trying to

8   extend the thing, you can tell me that.

9   Q.   Well, I will ask you --

10   A.   But I think I understand the

11   ground rules.

12   Q.   I will ask you on any of those

13   changes, is this cosmetic or are you

14   changing the substance of your opinion,

15   and if the answer is you are changing the

16   substance of your opinion, we will explore

17   that. If it is just inarticulate

18   language, then it will be clear on its

19   face.

20   A.   Fair enough.

21   Q.   Anyway, we just talked about

22   the patent, and I think that you confirmed

23   multiple times that the BOBID is a hash of

24   the contents, and I think you said there

25   is three hashes of the contents?

```
1                    R. DEWAR
2      A.        Right.
3      Q.        Do you have your first
4  declaration there, the one in IPR 82 and
5  83?
6      A.        Yes.
7      Q.        I want you to turn to paragraph
8  106.
9                In the second sentence, you say
10 "Woodhill fails to disclose applying a
11 hash to the contents of a named file"?
12     A.        Right.
13     Q.        That's not a correct sentence,
14 is it?
15     A.        That's a correct sentence.
16     Q.        I thought you just said
17 Woodhill has three hashes.
18     A.        Of binary objects.
19     Q.        Okay.  So that's the
20 distinction in there?
21     A.        That's the substantive and
22 important distinction that is being drawn
23 here.
24     Q.        So now a BOB is the contents of
25 a named file, right?
```

1   R. DEWAR

2   A.   It is part of the contents of a

3   named file.

4   Q.   And what's the other contents?

5   A.   Other BOBs.

6   Q.   So let's assume the example

7   before, there is two BOBs.

8   A.   Right.

9   Q.   Woodhill is going to hash the

10   first BOB, right, there is no doubt about

11   that?

12   A.   Yes, hash the first BOB.

13   Q.   And hash the second BOB?

14   A.   Yes.

15   Q.   But it is not in your opinion

16   applying a hash to the contents?

17   A.   It is applying a hash to

18   pieces -- to two pieces, which is

19   different from applying it to the whole

20   file.

21   Q.   Well, it says hash to the

22   contents. Those are the contents of the

23   file?

24   A.   But it is not a hash of the

25   contents, it is multiple hashes of pieces

1   R. DEWAR

2   of the contents. There is a big

3   difference. A hash of the contents is a

4   single hash value for the whole contents

5   of the file.

6   Q.   So if we had an even shorter CV

7   that just said "I live in Vermont," is

8   this sentence correct or incorrect?

9   MR. RHOA: Objection, form.

10   A.   How many data streams are there

11   in this file?

12   Q.   One.

13   A.   There is a strong implication

14   in Woodhill, almost a statement, that

15   every file that's backed up has at least

16   two data streams. I can dig that out if

17   you want.

18   Q.   Let's just, for the time being,

19   assume one data stream.

20   A.   I don't think we can do that.

21   I don't think that's consistent with

22   Woodhill. You want to dig for that now?

23   You are making a hypothetical of a file

24   with one data stream consisting of one

25   BOB.

1   R. DEWAR

2   Q.   What would be in the other data

3   stream? Extended attribute data?

4   A.   Extended attributes is the

5   example he gives. I have to conclude that

6   the extended attributes are always being

7   regarded as a data stream because of that

8   statement in Woodhill that a file -- it

9   talks about -- actually, it talks about

10   dealing with a plurality of data segments

11   in a file. I think that's the language.

12   Q.   I think I know what you are

13   talking about. But extended attribute

14   data isn't the contents, it is attributes,

15   right?

16   A.   Well, hard to say exactly what

17   Woodhill has in mind there, frankly. It

18   is unclear what Woodhill is meaning -- I

19   mean, we are just guessing what the two

20   data streams are because it is never

21   stated.

22   Q.   You are guessing?

23   A.   No, it is you who said extended

24   attributes, not me.

25   Q.   It is what Woodhill says.

1   R. DEWAR

2   A.   He gives that as an example.

3 He does not say that every file contains a

4 data stream corresponding to extended

5 attributes.   But he does say that the data

6 stream could be extended attributes.

7   Q.   Let's assume one BOB, the other

8 stream is extended attribute data, so you

9 have the two streams that you think are

10 necessary.

11   Does it hash the contents or

12 not hash the contents?

13   A.   In the situation -- in your

14 hypothetical now, if I understand it, we

15 have one data stream that corresponds to

16 the entire data in the file and one BOB

17 that corresponds to that data stream.

18   In that situation, and that

19 situation alone, the hash of the BOB would

20 correspond to the hash of the file.

21   Q.   Okay, thank you.

22   So in that situation at least,

23 that's the only one I was able to think up

24 on the fly, this sentence is not right,

25 this one that starts, "However, Woodhill

1   R. DEWAR

2 fails to disclose applying a hash to the

3 contents of a named file"?

4   A.   Well, it is more like -- the

5 whole focus in Woodhill is applying hashes

6 to binary objects. In your hypothetical

7 you have created a situation in which it

8 just happens that the hash of the binary

9 object, to which the process is applied,

10 corresponds to the hash of the whole file.

11   It happens to have the same

12 value, but still the focus in Woodhill is

13 it is computing hashes for binary objects.

14 You happen to rig it up so that the hash

15 that it computes by that mechanism

16 corresponds to what it would have got by

17 doing a hash on the contents of the file,

18 if it did it, which it doesn't.

19   Q.   Just to be clear, in the '791

20 patent we were talking about before, I

21 think it was the Exhibit 2, that does

22 hashes of the pieces, right?

23   A.   Correct.

24   Q.   And Woodhill does hashes of the

25 pieces?

1   R. DEWAR

2   A.   Right. But --

3   Q.   I'm just pointing that fact

4   out. They each are hashing pieces, right?

5   A.   Yes. But this does a hash of

6   the full file, which is missing in

7   Woodhill.

8   Q.   I want to switch gears a little

9   bit. You can put your declaration --

10 well, it is in the binder, that is fine.

11 Just put it to the side for a moment.

12   MR. RHOA: Whenever you guys

13 want to take lunch is fine with me. If

14 you are completely switching topics, it is

15 12:20.

16   THE WITNESS: We are aiming for

17 4:30. That's a reasonable division of the

18 day, probably to take lunch now, if you

19 are switching.

20   MR. DICHIARA: I agree with

21 that.

22   (Luncheon recess: 12:23 p.m.)

23

24

25

1   R. DEWAR

2   A F T E R N O O N   S E S S I O N

3   1:18 p.m.

4   R O B E R T   B.K.   D E W A R, Ph.D.,

5   resumed.

6   CONTINUED EXAMINATION

7   BY MR. DICHIARA:

8   Q.   I just want to circle back on

9   something we started earlier with, with

10   the '791 patent, and how does it fit in a

11   larger system. I wasn't sure whether we

12   were disagreeing, kind of overlapping, or

13   whatever. But if you turn to column 6 of

14   the '791 patent, right around line 46, I'm

15   going to jump to another area. This is

16   the stuff I was thinking of and maybe you

17   could help me out.

18   It says "Operating system

19   mechanisms provide typical familiar file

20   system mechanisms while maintaining the

21   data structures required to offer the

22   mechanisms of the present invention.

23   Operating system mechanisms are designed

24   to augment existing operating systems and

25   in this way to make the present invention

1   R. DEWAR

2   compatible with and generally transparent

3   to existing applications. The following

4   operating system mechanisms are

5   described," and one of the first ones is

6   open file, right?

7   A.   Right.

8   Q.   So by this what I was trying to

9   get at earlier is the mechanisms in the

10   '791 patent are meant to augment an

11   existing operating system?

12   A.   Right.

13   Q.   And provide some extra

14   functionality that the existing one didn't

15   have, right?

16   A.   Yes, okay.

17   Q.   I have to get the answer at the

18   end, so we can't talk over each other.

19   By generally operating

20   transparently, that means that as far as

21   the users are concerned, they are dealing

22   with the operating system and they don't

23   need to know about the '791 mechanisms,

24   right, it is under the covers?

25   A.   Yes, that's under the covers.

1   R. DEWAR

2   Q.   Then I just want to jump

3   specifically if we go to column 20 for the

4   open file mechanism, which is the one I

5   had been asking about.

6   A.   Yes, I understand.

7   Q.   So right there in kind of the

8   middle of the page, column 20, line 36 or

9   37, it says "A mechanism to open a file is

10 described with reference to Figure 26.

11 This mechanism is given as input a path

12 name and the type of access required for

13 the file and produces either the file ID

14 of the file to be opened or an indication

15 that no file should be opened," right?

16   A.   Right.

17   Q.   So this is saying, in

18 substance, that if you say open

19 C:/Dewar/CV.doc, this mechanism is going

20 to give you back the true file ID we

21 talked about earlier?

22   A.   Right, yes.

23   Q.   I thought we were saying that

24 earlier but it wasn't totally clear to me.

25   A.   That's fine. We are in

1   R. DEWAR

2   agreement.

3   Q.   I'm going to ask you to put the

4   '791 patent aside and we are going to go

5   back to Woodhill. I think for Woodhill,

6   just for the record, all of the IPRs that

7   have Woodhill involved have the same

8   exhibit number, 1005. That is not really

9   a question for you, that is just for the

10   record to be clear.

11   When Woodhill backs up certain

12   large files, he uses something called the

13   granularization technique, right?

14   A.   Right.

15   Q.   And you can turn to column 14

16   of Woodhill starting around line 53 or so.

17   It makes it clear, it says "The most

18   important class of 'large' files on

19   computing systems such as networked

20   computer systems is databases."

21   A.   Right.

22   Q.   And we were saying earlier, and

23   I think it is the same answer for this for

24   large files, but that when you are backing

25   up a file, that's a situation where you

1   R. DEWAR

2   are taking data from the local computer

3   and putting it on the remote file server,

4   right, or the backup file server I think

5   Woodhill calls it?

6   A.   Yes.

7   Q.   And when performing a backup of

8   a large file using the granularization

9   technique, the local computer is going to

10   form something that the Woodhill patent

11   refers to as a shadow file?

12   MR. RHOA: Objection, form.

13   Q.   Right?

14   A.   Right.   That is part of -- the

15   formation of shadow files is part of the

16   process of granularization.

17   Q.   Just so we are on the same

18   page, even if you looked at Figure 5G,

19   element 404 --

20   A.   I always like it when being on

21   the same page is literal.   All right, we

22   are on the same page literally.

23   Q.   So 404, you are going to create

24   the shadow file?

25   A.   Right.

1   R. DEWAR

2   Q.   And the shadow file contains

3   what Woodhill refers to as contents

4   identifiers for each granule of that

5   binary object, right?

6   A.   Right.

7   Q.   And the granule content

8   identifiers are calculated as a hash of

9   the contents of the granule?

10   A.   Right.

11   Q.   Let's assume that there was

12 some change to this large file, you

13 changed a bit someplace.

14   A.   Okay.

15   Q.   The next time that the

16 computer, the local computer tries to back

17 up that file it is going to use the

18 granularization technique, because it is a

19 large file, it qualifies. The shadow file

20 is going to be updated too, right?

21   A.   Right.

22   Q.   And that's because it is

23 calculating, I think that is 406 or

24 something like that, the content

25 identifiers?

1   R. DEWAR

2   A.   Yeah.

3   Q.   So shadow files can change just

4 like any other file?

5   A.   Yes.

6   Q.   And they can be modified just

7 like any other file?

8   MR. RHOA: Objection, form.

9   A.   Well, they are modified very

10 specifically by box 416 and nothing else,

11 so not quite like any other file.

12   Q.   Noted. It is not as easy as

13 doing a Word document or something like

14 that. That I understand.

15   A.   Right.

16   Q.   And a shadow file is just one

17 of the files that the local computer is

18 going to have?

19   MR. RHOA: Objection, form,

20 foundation.

21   A.   Right. It is a little unclear,

22 maybe you can even say a lot unclear,

23 exactly what the status of these shadow

24 files is and where they reside in the file

25 system, how they are treated, is not

1   R. DEWAR

2   really addressed very clearly.

3   Q.   Let's ask about that. You

4   don't dispute that the distributed storage

5   manager program executes on the local

6   computer, do you?

7   A.   No.

8   Q.   And there is nothing in the

9   patent suggesting that the files that the

10   DSM program creates exist anyplace other

11   than the local computer, is there?

12   A.   No.

13   Q.   And I think we agree, but let's

14   see, that if you turn to column 5, line 62

15   and 63 --

16   A.   I'm sorry, column 5?

17   Q.   Down near the bottom of

18   Woodhill, around 61, it is explicit, it

19   says "However, the default operation is to

20   back up all files on all disk drives 19 on

21   the local computer."

22   A.   Right.

23   Q.   So now we know that when you

24   are doing the backup, as we said before,

25   data is going from the local computer to

1   R. DEWAR

2   the remote computer, right?

3   A.   Right.

4   MR. RHOA: Objection, form and

5   foundation.

6   Q.   And in this case it is using it

7   with the granularization technique, right?

8   A.   I would like to go back a

9   little bit. Can I go back a little bit?

10   Q.   Yes.

11   A.   Back up all files on all disk

12 drives is technically impossible in any

13 existing operating system. So we have to

14 interpret what that means.

15   Q.   Why do you say it is

16 impossible?

17   A.   Example, if you are on a

18 Windows system, which you are probably on

19 your machine there, there are thousands of

20 Windows files that are not accessible to

21 you. You don't have the privilege to read

22 which you can't just back up easily.

23   Q.   I was going to ask, even if

24 they are not accessible to you, they are

25 accessible to the operating system surely?

1   R. DEWAR

2   A.   They are not necessarily

3 accessible to programs running on the

4 operating system. I mean, there may be

5 files with locked access and which don't

6 permit them to be opened. There are in

7 fact such files. You can find them if you

8 go hunting. You will find files that you,

9 for instance, cannot delete, that you

10 cannot copy, that you cannot access

11 because they are locked by the operating

12 system.

13   So we sort of have to take the

14 all files, understanding it to mean all

15 files, which make sense.

16   Q.   Let me just ask if this is

17 fair, it is almost the case that every

18 time something seems to be an extreme, you

19 can find some exception to the extreme?

20   A.   There are thousands of files on

21 that machine that cannot be touched by a

22 backup program.

23   Q.   And probably millions that can,

24 right?

25   A.   I doubt you have millions of

1   R. DEWAR

2   files on your machine.

3   Q.   So just to --

4   A.   I will give another example.

5   Q.   No, I think we are good on

6   this.

7   A.   There are some cases of files

8   which are files in every sense, but won't

9   make sense to back up. The dot file in

10   Unix is an example. It would make no

11   sense to back up the dot directory. It is

12   the current directory. If you try to back

13   that up and you back up the dot in it, you

14   will be in trouble. So just an example.

15   Q.   But would you understand when

16   it says all files, that it would be -- it

17   is not limited to user files, is it?

18   A.   What do you mean by user file?

19   Q.   Could it include system files?

20   A.   What do you mean by system

21   file? Those are vague terms.

22   Q.   A file that was created by

23   operating system software or file system

24   software, it creates a file.

25   A.   All files are created by file

1   R. DEWAR

2   system software.   It is a little bit

3   unclear.   I'm just saying it is a

4   difficult distinction to draw precisely

5   without me asking a lot of not very

6   helpful questions.

7   Q.   Let me be a little clearer,

8   then, and if we can't, that is fine, I

9   feel pretty good about this.

10   But the operating system or the

11   file system can create files that the user

12   doesn't even know exists?

13   A.   That is true.

14   Q.   It might be bookkeeping kind of

15   things that the file system cares about or

16   the operating system cares about, right?

17   A.   Right.

18   Q.   Those would certainly be fair

19   game to back up, at least some of them?

20   A.   At least some of them.   But I

21   will ask you a question.

22   Q.   You are not allowed to.

23   A.   But it will help clarify where

24   we are going.

25   Q.   I will see if I can field it.

1   R. DEWAR

2   A.   The cache files of a browser

3 for you are system files or user files?

4   Q.   That is beyond my skill set.

5   A.   It is beyond my skill set to

6 answer the question, too. I'm saying it

7 is a little bit of a difficult decision to

8 draw. Cache files are a good example, you

9 don't want the backup. I accept the model

10 on a machine like that there is huge

11 numbers of files that should be backed up

12 and that are clearly user files, and that

13 there are files that are clearly not user

14 files that would also be backed up.

15   Q.   So this technique where we were

16 just sort of talking about the

17 granularization technique and the shadow

18 file, that is for the situation of backup

19 going from a local computer to the remote

20 backup file server, right?

21   A.   Say that again.

22   Q.   We were talking about the

23 granularization technique, right?

24   A.   Yes.

25   Q.   And the purpose of the

1   R. DEWAR

2   granularization technique, kind of as the

3   name suggests, is that they only want to

4   back up data that is changed, but now they

5   are even focused on smaller chunks of

6   data?

7   A.   Pieces of a BOB.

8   Q.   Which they call a granule, the

9   patent calls a granule?

10   A.   Right.

11   Q.   That's the backup operation. I

12 want to now switch to what we referred to

13 earlier as a restore operation.

14   A.   Right.

15   Q.   And in the granularization

16 context, Woodhill, for those large files,

17 uses the term "update request," right?

18   A.   Yes.

19   Q.   And that's a situation where

20 you might have some large file and for

21 whatever reason you think some or all of

22 it got corrupted or something you don't

23 like, and you want to restore it to a

24 previous version of that file.

25   A.   Okay.

1   R. DEWAR

2   Q.   And the update request is

3 trying to get just those pieces from the

4 previous version that it needs to get back

5 to the previous version.

6   A.   Right.

7   Q.   Because there might only be

8 small changes between the current version

9 and the previous version, right?

10   A.   Right.

11   Q.   And they are saying don't send

12 the whole previous version, just send the

13 pieces that have changed?

14   A.   Right.   Pieces of pieces,

15 because there are really two levels here.

16   Q.   Exactly.   The pieces being the

17 BOBs --

18   A.   And the pieces of pieces being

19 the granules.   When you said large files a

20 few times, every time I have converted

21 that in my mind to large BOBs because

22 that's actually a focus of

23 granularization.

24   Q.   So just in terms of the patent,

25 they refer to it as large files, though?

1   R. DEWAR

2   A.   Right, which is a little bit

3 misleading, because one file that is one

4 BOB -- a file that is one BOB might not be

5 a large file, but it is still subject to

6 granularization, according to my

7 understanding.

8   Q.   So let's just put aside the

9 size because it is all relative, kind of,

10 I guess.

11   So if we look to column 17 of

12 Woodhill, this is where I think they start

13 talking about some of this stuff.

14   MR. RHOA: Objection, form.

15   Q.   It is around line 18. There is

16 no question yet. I'm just trying to get

17 you to a certain spot.

18   It says "The technique of

19 granularizing large files also becomes

20 useful when a current version of a file,"

21 I'm skipping the parenthetical, "must be

22 restored to a previous version of the

23 file."

24   That's what we were just

25 talking about, right?

1   R. DEWAR

2   A.   Yes.

3   Q.   So if something happened with

4   the current version, you don't trust it or

5   it is corrupted or something and you want

6   to get back to yesterday's version or

7   something like that, right?

8   A.   Right.

9   Q.   And then it continues, and it

10   says "Each binary object comprising the

11   current version of the file can be

12   restored to the binary object comprising

13   the previous version of the file by

14   restoring and updating only those granules

15   of the current version of the binary

16   object that are different between the

17   current and the previous version of the

18   binary objects."

19   And that's what we were just

20   talking about a moment ago, too?

21   A.   Right.

22   Q.   You will get those granules

23   from the previous version that you need to

24   get the current version to be identical to

25   the previous version?

1   R. DEWAR

2   A.   Yes.

3   Q.   Now, down at around line 40,

4   they talk a little bit more about this

5   update request, right?

6   MR. RHOA: Objection, form.

7   Q.   And it says "Program control

8   then continues with step 446 where the

9   distributed storage manager program

10 transmits an update request to the remote

11 backup file server which includes the

12 binary object identification record for

13 the previous version of each binary object

14 as well as the list of contents

15 identifiers calculated in step 444."

16   The content identifiers that

17 they are talking about there are the

18 content identifiers of the current version

19 on the local computer, right?

20   A.   Yes, right.

21   Q.   That's its way of telling the

22 remote backup server here's the data that

23 I have, right?

24   A.   Right.

25   Q.   And the BOBID is its way of

1   R. DEWAR

2   saying this is the data that I want?

3   MR. RHOA: Objection, form,

4   foundation.

5   A.   No, that's not what it says.

6   It says that it provides the -- where was

7   it? Binary object identification record,

8   you can't make the change you just made.

9   Q.   What was the part, just so

10   it --

11   A.   You said binary object

12   identifier.

13   Q.   Okay.

14   A.   And it is crucially important

15   that it does not say that here. There

16   wouldn't be any use to it. That wouldn't

17   work. It is important that it be the

18   binary object identification record.

19   Q.   Now, when the remote backup

20   file server receives the update request,

21   it reconstitutes each BOB that the user is

22   requesting according to the technique in

23   Figure 5H.

24   I'm just reading out of 46

25   through 57. I think you are with me,

1   R. DEWAR

2   right?   Are we on the same lines there?

3   A.   Yes.

4   Q.   So the idea here is that on the

5   remote file server it has to get that BOB

6   that you want, right?

7   A.   Well, more specifically it has

8   to reconstitute it.   That's much more than

9   just getting.

10   Q.   That's one of the questions I

11   was going to have.

12   So when you get to Figure 5H,

13   and we can take a look at it, if I

14   understand correctly --

15   A.   Now I'm beginning to suffer

16   from not having this in the -- let's see,

17   5E, 5F.   I'm sorry, maybe it would be --

18   okay, here we are, sorry.   I had them out

19   of order.   Give me a moment to get back in

20   order.

21   Q.   It should be sheet 10.

22   A.   Okay.   Now I'm back in order.

23   And we are on sheet 10.   I have it.

24   Q.   So if I understand the process

25   here, before when we were talking about

1   R. DEWAR

2   the backup and we said how there is a

3   shadow file and it only sends the granules

4   over, right?

5   A.   Right.

6   Q.   So on the remote file server,

7   the first time you back up that large

8   file, it's a new file and the whole thing

9   goes over, right?

10   A.   Right.

11   Q.   And then subsequently anytime

12   there are changed granules, it sends the

13   changed granules over?

14   A.   Right.

15   Q.   So there might be a period of

16   here are some changes from yesterday, here

17   are some changes from today, you know,

18   just different granule changes, right?

19   A.   Okay.

20   Q.   And the purpose of this

21   reconstitution procedure is to somehow

22   rebuild to whatever day you asked for,

23   right?

24   MR. RHOA: Objection, form.

25   A.   Well, that's the purpose of the

1   R. DEWAR

2   whole flowchart.

3   Q.   Because it is a complicated

4   flowchart, I want to make sure we are on

5   the same page about what it does.

6   A.   Restore reconstituted binary

7   object is one step in a complex process

8   and not a trivial step.

9   Q.   Just so that we have a very

10   simple hypothetical, let's assume that you

11   had a brand new large file and you backed

12   it up, so the whole large file goes over

13   to the backup file server.

14   A.   Yes.

15   Q.   Before you even did any granule

16   updates, you want that back, you want to

17   restore it back, right? What happens in

18   that case?

19   A.   Well, for each -- my

20   understanding, for each BOB in the file

21   you decide whether that BOB needs to be

22   restored, whether you have the right

23   version or not, based on the comparisons

24   specifically of the BOBIDs for the

25   corresponding BOB in the corresponding

1   R. DEWAR

2   file.

3   So perhaps the kind of

4   comparison you do is to compare the third

5   BOBID for this file with the third BOBID

6   for this file over here, the other

7   version.

8   Q.   And if they mismatch, then you

9   will say we will --

10   A.   Well, if you mismatch, then you

11   gear up, assuming it is a big BOB, which

12   is the environment we are working in at

13   the moment, then you gear up the

14   granularization process -- yes, you get

15   it, but part of that getting it is to use

16   the granularization process to minimize

17   the amount of data transmitted.

18   Q.   So when it receives the update

19   request, the first thing that the file

20   server is going to do is create -- or

21   maybe it is not the first, but one of the

22   first things the file server is going to

23   do is going to create what it refers to as

24   a work area, right, that is step 420?

25   A.   Yes.

1   R. DEWAR
2   Q.   And then as the figure is
3   saying, it is going to get the most recent
4   complete copy of the binary object?
5   A.   Right.
6   Q.   That's like we were saying
7   before, when the whole thing went over,
8   right?
9   A.   Right.
10   Q.   And then it has to figure out
11 what kind of granules do I need to build
12 back in to bring it up to whatever version
13 you asked for?
14   A.   Right.
15   Q.   So now it has, down in step
16 438, this is what it is referring to as
17 the reconstituted binary object?
18   A.   You keep saying "it."
19   Q.   I'm sorry, in that flowchart,
20 step 438, Figure 438, eventually
21 reconstitutes?
22   A.   My understanding is that this
23 restore reconstituted binary object is
24 where the decompression takes place.
25   Q.   By decompression, it means

1   R. DEWAR

2   putting all the granules back in?

3   A.   No, I mean decompressing. But

4   BOBs on the backup server are always

5   compressed. You can only compute granule

6   stuff from the uncompressed version.

7   So my understanding is restore

8   reconstituted binary object is where you

9   take the compressed BOB you have saved on

10   the backup server and you need to

11   decompress it before you can play the

12   granule game. You can't play the granule

13   game on compressed BOBs, I don't think.

14   Q.   I think if you look at 428, you

15   see granularized copy found, 428, and then

16   it goes through 430 and then it kind of

17   loops. I think this is the area where it

18   is just building back up until it has all

19   of the latest and greatest granules.

20   A.   So I actually --

21   Q.   It is not going to be important

22   for the questions.

23   The key question is, at some

24   point they are going to have what they

25   refer to as the reconstituted binary

1   R. DEWAR
2   object, which is what the request cares
3   about, right, the previous version of the
4   BOB?
5   A.   Right. I will tell you, the
6   confusion in my mind, which I feel like I
7   should read because I think it is
8   important, is whether we granularize the
9   compressed or the uncompressed version.
10   Q.   Would it help if you looked at
11 this portion of the patent that is in
12 column 17?
13   A.   That's where I'm looking at.
14 There is really no mention of compression
15 and decompression at all in this whole
16 paragraph, hence my confusion.
17   Q.   I might know the source of
18 that. I will throw it out there. I'm not
19 asking you to agree or disagree.
20   But there is at least some
21 discussion of when something is backed up
22 not to the remote file server, but to
23 another local, that those can be in
24 compressed form. So you can either have
25 one backup copy on a local that is

1   R. DEWAR

2   compressed or you can have it on the

3   remote file server for other reasons.

4   MR. RHOA: Objection.

5   Q.   Maybe that's the thing.   I'm

6   not asking you to agree or disagree.   If

7   that jogs your memory in one way, it is

8   not going to be important to the question.

9   MR. RHOA: Objection to form.

10   A.   Well, it is significant whether

11   the granules are computed over the

12   compressed or uncompressed version.   Maybe

13   we could agree that that's not clear in

14   this specification or maybe we can ask

15   more questions.

16   Q.   I think the next questions

17   might help that out.   But you will have to

18   be the judge on that, I guess.

19   But we do know there is

20   something that by this time that they have

21   that is called a reconstituted BOB?

22   A.   Yes.

23   Q.   And then if you take a look

24   right around line 50, so before 50, around

25   46, it says "Program control continues

1   R. DEWAR

2 where the DS," distributed storage manager

3 program, "reconstitutes each previous

4 version," blah blah blah, and then around

5 50, it says "Program control then

6 continues with step 450 where the

7 distributed storage manager program for

8 each binary object compares the content

9 identifiers of the next granule in the

10 work area of remote backup server," so

11 that's the stuff that is in the work area,

12 "against the corresponding contents

13 identifiers calculated in step 444,"

14 right?

15   A.   Right.

16   Q.   And I think this is in the

17 figure as well, one of the figures. This

18 is where it is trying to see which

19 granules have changed. I think 5I, 450,

20 has that. Figure 5I might be a better

21 figure for you to look at, but it is up to

22 you.

23   If you see in Figure 5I, 444,

24 you are calculating the contents

25 identifiers, that's the current version,

1   R. DEWAR

2 you transmit the update request in 446,

3 the file server then reconstitutes the

4 binary object, and then in step 450 it now

5 has to compare content identifiers to see

6 which of them are different. That's what

7 452 is doing.

8   Then 454 is saying transmit the

9 granules, i.e., the ones that are

10 different, back to the local computer,

11 right?

12   A.   Correct.

13   Q.   Maybe I would have been better

14 off with Figure 5I. I apologize.

15   So in 450 and 452 this is where

16 it is identifying which granules are

17 different and need to go back to the local

18 computer?

19   A.   Right.

20   Q.   And the remote file server had

21 to obtain the content identifiers of the

22 reconstituted BOB somehow, right?

23   A.   Right.

24   Q.   And needed it to do the

25 comparison, right?

1   R. DEWAR

2   A.   Right.

3   Q.   And it had to obtain the

4   content identifiers of the current BOB in

5   order to make the comparison?

6   A.   Right.

7   Q.   And then as we said the remote

8   backup server compares each of those

9   content identifiers in 452 in Figure 5I?

10   A.   Yes, right.

11   Q.   When the remote backup file

12   server notices that these identifiers

13   don't match, it knows that the local

14   computer is missing the corresponding

15   granule as it exists in the work area?

16   A.   Right.

17   Q.   And then it transmits it in

18   step 454?

19   A.   Right.

20   Q.   And in order to make that

21   transmission, it has to request that that

22   granule get transmitted from the remote

23   back to the local?

24   A.   Right.

25   Q.   And in this way the local

                    R. DEWAR

computer will obtain all the granules that

it is missing in the previous version of

the file that it requested?

    A.   Correct.

    Q.   I know this is a more

complicated procedure than the normal one,

so I apologize.

    A.   That's okay. I'm still

confused about the interaction with

compression, but maybe we can steam on and

ignore that for a moment.

    Q.   At a break you might want to

take a look at it. I think it is the

local computer, but you have to figure it

out.

          So I want to focus on a

particular situation like we have done in

some of the other instances. So we have a

granularized file. It has been backed up,

right?

    A.   Right.

    Q.   So it is already on the system.

That's the prior version, the prior

version of the file. Then on the local

```
 1                R. DEWAR
 2   computer, assume that there is something
 3   like a malicious user, a virus, something,
 4   all of that data somehow gets changed?
 5        A.        Corrupted.
 6        Q.        Corrupted, but every single
 7   granule, okay?
 8        A.        Yes, okay.  Every single
 9   granule?
10        Q.        Some bit in every single
11   granule, just whatever, everything gets
12   written to 1's or 0's, something, but that
13   file got clobbered.  So that is certainly
14   a reason to do a restore?
15        A.        Right.
16        Q.        Assuming that the user figures
17   out there is a problem?
18        A.        Right.
19        Q.        So they want to do the restore
20   and in this hypothetical, because no one
21   knows this until you push the button for
22   restore, every single granule has changed?
23        A.        Right.
24        Q.        So in this case all the content
25   identifiers are going to be different
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1   R. DEWAR

2   between the current and the previous

3   version of the BOB?

4   A.   Right.

5   Q.   And in this case the update

6   request will identify the BOBs over the

7   remote file server, right?

8   MR. RHOA: Objection to form.

9   Q.   It has to know what the

10 previous BOBs are somehow?

11   A.   Yes, okay.

12   Q.   And it will include the content

13 identifiers of the current version of the

14 BOB?

15   A.   Right, for comparison purposes,

16 yes.

17   Q.   That's what I'm getting at.

18 You have to identify the prior BOB, but

19 you don't have the data of the prior BOB

20 by definition, and you have the data of

21 the current version and you have to tell

22 the remote side here is the data I have in

23 this very efficient form with content

24 identifiers, right?

25   A.   Say that again. That doesn't

1   R. DEWAR

2   sound right to me.

3   Q.   I mean, a very crude way of

4   doing this would be not in the patent, to

5   be saying I want yesterday's BOB, let me

6   send over the whole database that I have

7   right now, you send me what is different,

8   that wouldn't make any sense, you would

9   have to send the whole file, instead you

10 are just sending over the content

11 identifiers as they exist?

12   A.   I believe you said the binary

13 object identification records, because

14 that's what it says.

15   Q.   Okay, then maybe I misspoke.

16 But you have to identify the prior BOB

17 somehow?

18   A.   Yes. You do that with very

19 important and crucial difference; the

20 binary object identification record, not

21 the binary object identifier. I mean, it

22 includes it.

23   Q.   That's what I'm getting at. We

24 do know that the BOB is identified with

25 the binary object identification record?

1   R. DEWAR

2   A.   Record, yes, as long as you use

3 the word "record" I won't be jumping up

4 and down in my seat.

5   Q.   We do know that the binary

6 object identification record includes a

7 binary object identifier?

8   A.   It happens to include the

9 binary object identifier.

10   Q.   Well, it is actually part of

11 the name, right? It is binary object

12 identification record?

13   A.   Yes.

14   Q.   It is not surprising it has a

15 binary object identifier?

16   A.   Right. If I can add to my

17 answer, it includes it. It is important

18 not to jump to the conclusion that it

19 is -- that it is used for any purpose, the

20 binary object identification record was

21 used. The binary object identification

22 record contains other crucial fields

23 beyond the binary object identifier.

24   Q.   Would we be jumping to

25 conclusions to assume that the binary

1   R. DEWAR

2   object identifier is an important field in

3   the binary object identification record?

4   A.   Of course it is important, but

5   whether it is used at the particular place

6   depends on what's being done. We are

7   looking for the file, it is not used.

8   Once we have found the file and

9   the BOB we are looking for, we want to see

10   whether it matches some previous one.

11   That's when we use the binary object

12   identifier. It is kind of a crucial

13   point.

14   Q.   Let me see if this is correct

15   or incorrect. The binary object

16   identifier is not used to identify the

17   binary object, that's your opinion?

18   A.   Well, it depends what you mean

19   by identify. If in your mind identifier

20   means a name which I go then look up, that

21   would be an entirely wrong viewpoint. If

22   you mean that it is an encoding of the

23   identity of the record, that's the sense

24   in which it is really -- identifier here

25   is related to identity, not identify.

1   R. DEWAR

2   That's why it is called a

3   binary object identifier, because it

4   reflects the identity. I think that's a

5   confusion that I can see happening, oh, it

6   is used to identify it. No, it reflects

7   its identity, that's the distinction.

8   Q.   And the identity isn't the

9   name?

10   A.   The identity of a file is its

11   contents in this regard. If you take the

12   identity of a file being its contents,

13   then the binary object identifier encodes

14   that identity.

15   Q.   So I'm going to try and ask it

16   one more time because I'm not quite sure

17   it was answered. I think it is a yes or

18   no.

19   The binary object identifier,

20   does it identify the binary object or not?

21   A.   Define exactly what you mean by

22   identifier and I'm willing to answer the

23   question. I can look it up in a

24   dictionary myself. But I just don't know

25   what you have in mind when you say

1   R. DEWAR

2   "identify," because it is a very odd thing

3   to say, so I can't tell you whether it is

4   accurate or not.

5   Q.   The broadest reasonable meaning

6   of identifier, or identify.

7   A.   I will say again, it encodes

8   the identity, and I'm not willing to jump

9   to saying it identifies it.

10   Q.   So you are incapable of

11   answering yes or no?

12   A.   It is kind of a loaded question

13   which needs terribly precise definitions

14   of what is meant.

15   What I'm saying, the binary

16   object identifier encodes the identity is

17   precise and clear to me. So if you think

18   they mean the same thing, fine, but I

19   don't.

20   Q.   Would it be unreasonable for

21   the board to think it means the same

22   thing?

23   A.   It is hard to say. I can see

24   how someone could jump to that conclusion

25   just from the name, but if you read how

1   R. DEWAR

2   the binary object identifier is used, it

3   is never used to identify the BOB. It is

4   only used to confirm its identity with

5   respect to another BOB.

6   So it is never -- if you say

7   binary object identifier identifies the

8   BOB, that has an implication of something

9   going on which doesn't appear anywhere in

10   the patent, and that's why I think it is

11   confusing. I can't answer for some

12   hypothetical patent examiner what he might

13   or might not think. I can only tell you

14   what I think.

15   I think it is very important to

16   understand that the binary object

17   identifiers are not names, they are not

18   used to somehow find the BOB or figure out

19   which BOB is which or anything like that.

20   They are used solely to check whether the

21   identities of two BOBs are the same.

22   Q.   When you are making that

23   statement, are you including claim 1 of

24   the Woodhill patent or not?

25   A.   I'm not including the claims.

1   R. DEWAR

2   MR. DICHIARA: It is probably a

3   good time for a very short break, maybe

4   ten minutes.

5   (Recess taken.)

6   BY MR. DICHIARA:

7   Q.   So the thing I want to ask

8   about is when you started working on your

9   analysis of are the '791 claims valid or

10   not in view of Woodhill.

11   So in terms of that process,

12   can you describe kind of generally what

13   you did to, high level, what you did to do

14   your work?

15   A.   Well, I started off with a fair

16   familiarity with the claims of '791. It

17   is not the first time I have seen this

18   patent. So I was pretty familiar with the

19   patent, with its claims, at a low level,

20   and with its shape at a high level. It

21   was a known quantity to me.

22   So really I started in this

23   case by looking through Woodhill and

24   really trying to understand everything

25   that was in the specification of Woodhill.

1   R. DEWAR

2   So then, you know, I start off

3   at a high level, how does it intersect

4   with the '791 patent, and then I looked at

5   the claims. I was only asked to look at

6   certain claims in the '791 patent. I

7   think we both have that list. So then I

8   went through those claims one by one at a

9   much lower level saying is this element of

10   the claim in Woodhill, yes or no.

11   So that's a high-level

12   description of how I proceeded.

13   Q.   And when you were asking

14   yourself whether it was in Woodhill, you

15   were including or not including Woodhill's

16   claims?

17   A.   I was not including the

18   Woodhill claims.

19   Q.   That's because the attorneys

20   told you not to?

21   A.   Told me not to, yes.

22   Q.   In terms of your declaration,

23   who wrote the first draft?

24   A.   Well, we sort of met at the

25   office and constructed sort of detailed

1   R. DEWAR

2   notes on the points that would be made and

3   then the first draft based on those

4   notes -- those notes in a sense were a

5   first draft, and then based on that draft

6   my attorney's office came up with the full

7   thing and the appropriate boilerplate at

8   the front, and then I reviewed that

9   carefully and we made modifications, not

10   too many, because we had a pretty clear

11   understanding of what we wanted to say

12   from our previous conversations.

13   Q.   But in terms of actually like

14   typing the first draft, that was the

15   attorneys trying to reflect your

16   conversations?

17   A.   And the notes we had made. So

18   in some cases it was typing out exact

19   words we had agreed on, and in some cases

20   it was providing the words for things we

21   had a clear and general agreement on.

22   Q.   Do you have the '791 patent

23   handy? I want you to turn to the back,

24   towards the claims, and I want to focus on

25   claim 1. Just let me know when that's

1   R. DEWAR

2   clear in your mind.

3   A.   Yes, that's in my mind. I

4   might also be able to write it out by

5   memory, I'm afraid.

6   Q.   And I want you to assume that

7   the board, when considering what the term

8   "existence means," as a second element,

9   doesn't require the existence means to

10   look at information for all files in the

11   system and that it will not require that

12   you identify all instances of a file in a

13   system.

14   MR. RHOA: Objection, form,

15   improper hypothetical.

16   A.   I'm not quite sure what all

17   instances of a file in a system might

18   mean. Local existence means for

19   determining whether an instance of a

20   particular data item is present is a

21   yes/no question.

22   Q.   I'm not disagreeing with that.

23   A.   It has to be by examining the

24   identifiers of the plurality of data

25   items.

1   R. DEWAR

2   Q.   Correct. So maybe this isn't a

3   hard assumption, maybe it is. I'm just

4   asking very basically that when they

5   analyze it, they are not going to say that

6   the patent requires, in the prior art or

7   accused device or anything else, that this

8   claim doesn't require that you look at

9   information for all files, that's one

10   assumption, and that they are also going

11   to say that the claim doesn't require that

12   you identify all instances of a file in a

13   system, identifying one is enough.

14   A.   Right.

15   Q.   With that in mind --

16   MR. RHOA: Objection, improper

17   hypothetical, form.

18   Q.   -- I want to know whether the

19   claim is satisfied by Woodhill or not?

20   A.   In claim 1, the issue with

21   claim 1 is whether a substantially unique

22   identifier is computed for a data item, or

23   a named data item, for a file.

24   That's not 100 percent clear in

25   Woodhill because I would say -- I would

1   R. DEWAR
2   say it doesn't do that because of the
3   issue -- I mean, we went through that
4   earlier this morning. The issue is does
5   it compute a hash for the entire file or
6   only for pieces of it.
7   Q.   Just to be clear, his claim
8   doesn't say "file," it just says "data
9   item," and the board construed "data item"
10   as less than a file. It could be a
11   portion of a file. It could be any
12   sequence of bits.
13   A.   I guess that's right. Let's
14   see, exactly what do we have as the
15   construction? "Data item" just says a
16   sequence of bits. Let's have -- let me
17   look.
18   Q.   Just let me know if you are
19   looking at the decision.
20   A.   Right, okay, so it can be a
21   portion of a file.
22   Q.   It could be any number of
23   things, right?
24   A.   Right.
25   Q.   So we will assume that a BOB is

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1                    R. DEWAR
2   a data item; is that fair enough?
3        A.        Under that interpretation --
4             MR. RHOA:   I just want to make
5   sure that my objection for the improper
6   hypothetical and the form continues down
7   all lines of questions flowing from that
8   hypothetical.
9             MR. DICHIARA:   You should just
10  say "same objection" so it is clear.
11            MR. RHOA:   Same objection.
12       A.        So if you make the
13  correspondence of data items to BOBs, then
14  Woodhill is determining a substantially
15  unique identifier of those BOBs.
16       Q.        And then turning to the
17  existence means --
18       A.        That's completely missing from
19  Woodhill.
20       Q.        And I want to understand your
21  basis for that, because earlier when we
22  were talking about the backup procedure
23  and we were talking about comparing the
24  binary object identifiers of the local
25  version and the backed-up version, we had
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1   R. DEWAR

2   said that during that comparison you can

3   determine whether the BOB is on the local,

4   it is certainly there, and you can also in

5   some instances determine that it was on

6   the remote.

7   A.   But you are comparing one BOB

8   with one BOB. There is no process of

9   examining the identifiers of the plurality

10   of data items. There is never a place in

11   Woodhill where it says gee, does this BOB

12   have this, no, does this BOB have this,

13   no.

14   Q.   But I had asked that in the

15   assumption. I had said that we are going

16   to assume that the board says that the

17   existence means, or that the claim doesn't

18   require that you look at all of the file

19   information.

20   A.   No, but you have to look at at

21   least two.

22   Q.   Which two are you thinking of?

23   A.   Whatever plurality might mean.

24   And the comparisons in Woodhill only look

25   at one.

1   R. DEWAR

2   Q.   Let's turn back to Woodhill, if

3 you would.

4   MR. RHOA: Same objection along

5 this whole line of questioning regarding

6 improper hypothetical, form.

7   Q.   I want you to turn to column 22

8 and line 5. It says "means for comparing

9 said current name of a particular binary

10 object to one or more previous names of

11 said binary object."

12   Now, I think earlier you said

13 you didn't consider the Woodhill claims

14 when you made your judgments?

15   A.   No, I have no comments on this

16 claim because I didn't examine it.

17   Q.   But at least that language is

18 satisfying what you just said, it is

19 examining the plurality?

20   A.   I'm not willing to make that

21 determination on the fly.

22   Q.   So then if we turn to column 2

23 of Woodhill, you looked at that.

24   In line 14, it says "means for

25 comparing the current value of the binary

1   R. DEWAR

2 object identifier associated with a

3 particular binary object to one or more

4 previous values of the binary object

5 identifier associated with that particular

6 binary object."

7   A.   Right. What that is saying is

8 that you can restore to different versions

9 of the file. You can make a request to

10 restore to this particular version in

11 which case it will make a particular

12 comparison, or you can ask to restore to

13 this version or make a particular

14 comparison.

15   It is never doing some search

16 across different possibilities. That

17 doesn't occur in any of the flowcharts.

18 It doesn't occur in any of the

19 specification. And it is just not an

20 element of Woodhill, in my opinion.

21   Q.   Do you think it would be

22 unreasonable to interpret the language

23 comparing the current value of the binary

24 object identifier to one or more previous

25 values of the binary object identifier as

1   R. DEWAR

2   looking at a plurality of identifiers?

3   A.   If you interpreted it that way,

4   it would be inconsistent with everything

5   else in the specification. It would be

6   inconsistent with anything that's in the

7   flowcharts and it would be inconsistent

8   with the detailed description of how

9   things work.

10   Q.   Just for that text alone, if

11   you were considering that text in

12   isolation?

13   A.   Well, it could mean a number of

14   things, but it has to be read in context

15   of the rest of the description.

16   Q.   Doctor, it is in the summary of

17   the invention, right?

18   A.   Right.

19   Q.   You are talking about the

20   invention, right? In the summary of the

21   invention, they are talking about the

22   invention?

23   A.   Right.

24   Q.   It is saying it is comparing a

25   current value -- I don't want to misquote

1   R. DEWAR

2 it. It says it is comparing "the current

3 value of the binary object identifier to

4 one or more previous values of the binary

5 object identifier."

6   A.   But there is no capability of

7 doing that in any of the description, in

8 the terms you are thinking of. You can

9 ask it to compare this and this. You can

10 ask it to compare this and this.

11   At no point in Woodhill can you

12 say hello, I have got a binary identifier,

13 go and see if there is a previous version

14 that matches it. We have no process

15 described that leads in that direction and

16 we have a very specific description of a

17 process that leads away from that.

18   Q.   Let me just ask a simpler

19 question, perhaps.

20   Is this portion that we are

21 just looking at in column 2 where it says

22 "comparing the current value of the binary

23 object identifier to one or more previous

24 values of the binary object identifier,"

25 is that examining the identifiers of the

1   R. DEWAR

2   plurality of data items?

3   A.   Well, let's look at the whole

4   claim. "Existence means for determining

5   whether a particular data item is present

6   in the system by examining the identifiers

7   of a plurality of data items."

8   Q.   Let's take that in pieces.

9   The first part, before we get

10   to the "by," "existence means for

11   determining whether a particular item is

12   present in the system," you would agree

13   with me that Woodhill can do that?

14   A.   No.

15   Q.   I thought when we were talking

16   about Woodhill earlier in the backup

17   process, it compares two BOBIDs --

18   A.   But --

19   Q.   Let me finish the question,

20   please. You are comparing --

21   A.   Two BOBIDs.

22   Q.   We used your CV.doc example and

23   you changed the first sentence, and it

24   said, when it looked at the BOBIDs for the

25   first BOB, the system knew that the BOB

1   R. DEWAR

2   was on the local, right, it determined it

3   was there and there was no dispute about

4   that?

5   A.   Right.

6   Q.   And then later on when we were

7   looking at the second BOB, which was

8   unchanged, it determined not only that it

9   was at the local, but it was at the

10 remote?

11   A.   Right. It can give an answer

12 of yes. It can never give an answer of

13 no. There is no procedure -- it is very

14 important in the claim that it says

15 "existence means for determining whether,"

16 that's a yes/no question.

17   So you say I have an

18 identifier, is this object present among

19 these data items. There is never a

20 process in Woodhill that does that and

21 gives you an answer of no.

22   Q.   But just, Doctor, it says

23 "determining whether it is present," it

24 doesn't say "determining whether it is not

25 present." There are separate claims that

1   R. DEWAR

2   say that.

3   A.   Determining whether an item is

4   present must include saying it is not

5   present if it isn't present. There is no

6   other reasonable reason. There is no

7   other reasonable interpretation.

8   Find out if Joe is in the

9   office. You have to be able to say yes,

10 Joe is in the office; no, he isn't. You

11 can't say oh, well, I can only tell you if

12 he is in the office. That doesn't make

13 any sense.

14   Q.   But that's what the claim says,

15 it just says determining whether he is

16 present?

17   A.   Determining whether is a

18 Boolean question with an answer of yes or

19 no. Determining whether is a process that

20 gives an answer of yes or no.

21   Q.   And if you answer yes --

22   A.   It means it is present, and if

23 you answer no, it means it is not present.

24   Q.   And this claim says determining

25 whether present, there are other claims

1   R. DEWAR

2   that say determining whether not present?

3   A.   There is semantic nonsense as

4   far as I'm concerned. If I ask whether

5   something is present, I'm giving a yes/no

6   answer, and a no means it isn't present.

7   Q.   We agree at least that it can

8   say, in the instance of the hypothetical,

9   that it is present, it might not be able

10   to say it is not present, if I understand

11   your analysis?

12   A.   There are cases where they will

13   say it is not present and it is present.

14   So we have cases in Woodhill where it says

15   it is present when it isn't present, and

16   it isn't present when it is present. If,

17   by "present," you mean the comparison

18   works.

19   Q.   But there are definitely times

20   when it knows that it is present?

21   A.   Right.

22   Q.   There is at least that, you are

23   going to say sometimes maybe --

24   A.   But that would be true of a

25   procedure that said yes all the time.

1   R. DEWAR

2   Suppose I had a procedure that

3   said yes all the time, it would be right

4   some of the time. That is not a

5   determination procedure. You can't say I

6   have a question to ask. Well, I answer it

7   right some of the time, therefore I have a

8   determination method. No. You have to

9   have an answer that is correct.

10   And we are not in the business

11   of answering the question, and I will

12   repeat again, Woodhill gives an answer of

13   yes when the answer is no, and an answer

14   of no when the answer is yes. So it is

15   not a determination procedure.

16   Q.   When you were making that

17   answer, are you assuming as part of that

18   answer that when the claim says present

19   "in the system" that you have to look at

20   all the other file information or not?

21   A.   You never look at, even in the

22   ideal embodiment of '791, you don't look

23   at all files, you just look at a

24   subsection of files which are in the true

25   file name registry. So no one claims that

1   R. DEWAR

2   you are looking at all the files. That

3   would be an incorrect construction.

4   Q.   That would be an incorrect

5   construction?

6   A.   To say that you have to look at

7   all the files in the system.

8   Q.   What about all the information

9   for all the files?

10   A.   I'm sorry, say it again.

11   Q.   Does the claim require that you

12   look at information for all of the files?

13   A.   In the system?

14   Q.   Yeah.

15   A.   No.

16   Q.   That would be incorrect?

17   A.   Right. There are plenty of

18   files in the system, in the ideal

19   embodiment of '791 there are plenty of

20   files in the system which aren't in the

21   true file, whatever it is called.

22   Q.   I'm trying to see where we

23   agree and disagree. We at least agree the

24   claim doesn't require --

25   A.   That you look at all the files

1   R. DEWAR

2   in the system.

3   Q.   Or information for all the

4   files in the system, in case that is

5   different?

6   A.   I'm not sure I understand the

7   difference. But the answer is no and no,

8   I think.

9   Q.   The reason I'm trying to make

10   it is that "look at all the files" might

11   mean you actually have to look at the

12   content, information about the files might

13   be something else.

14   A.   Okay. In that case I don't

15   have a problem and the answer is no, you

16   don't have to look at all the file's

17   contents and you don't have to look at all

18   the information -- information about all

19   the files.

20   Because you do not -- you are

21   not required to give an answer that's

22   universally quantified over all files, or

23   you could even say all data items, because

24   we shouldn't jump to files.

25   Q.   Correct. I think we have some

1   R. DEWAR

2   points of agreement, some points of

3   disagreement.

4   A.   Fair enough.

5   Q.   Not the first time, right?

6   Now I want to focus on claim 2,

7   and I just want to focus on just the local

8   existence means.

9   We realize this is a depending

10   claim and we realize we have a dispute

11   about whether claim 1 is satisfied or not,

12   and I just want to focus on the particular

13   element of local existence means.

14   The other thing that I'm going

15   to ask you to assume --

16   A.   I'm sorry, let me just find the

17   right -- I'm in the wrong place and I need

18   to be in the right place. Okay.

19   Q.   So focusing on claim 2, this

20   claim, besides local existence means, has

21   another little caveat, it says

22   "Determining whether an instance of a

23   particular data item is present at a

24   particular location in the system," okay?

25   It is not just -- the prior claim said

1   R. DEWAR

2   whether it is present in the system. Now

3   it is particular location. Okay?

4   A.   Right.

5   Q.   And I'm going to ask that you

6   make the following assumption, that a

7   particular location can be specified by a

8   single file name.

9   A.   I don't think that is

10   compatible with the claim construction or

11   plain reasonable technical understanding.

12   Q.   Let's go back to the '791

13   patent then. We talked about this a

14   little earlier. At column 9, line 62, or

15   3, it says "Identity" -- by the way --

16   which is --

17   A.   Column 9? Oh, yes.

18   Q.   -- "or disk location of the

19   actual physical representation of the file

20   or file segment. It is sufficient to use

21   a file name."

22   So I'm going to ask you to

23   assume, and I realize you might not agree

24   with that, that is fine, I'm just trying

25   to narrow the disputes for the board to

1   R. DEWAR

2 see where we agree and disagree.

3   A.   Okay.

4   Q.   But for present purposes I'm

5 asking you to assume that the board says

6 that a particular location can be a

7 particular file name.

8   A.   You can ask me to assume that.

9 It is nonsense to me, so I'm not going to

10 be able to conclude much from nonsense.

11   Q.   Let's see if that works.

12   A.   I mean, I have no idea what

13 that means. Because a location is pretty

14 well defined in column 2 and it is things

15 that hold a plurality of files in general.

16   To try and say that a file is a

17 location makes no sense to me at all. You

18 are talking about the location of the bits

19 on disk?

20   Q.   Yes.

21   A.   Well, that's a very long list

22 of crap that only the operating system

23 knows.

24   Q.   But that column in the patent

25 says it is sufficient, that's the words it

1   R. DEWAR

2   uses, to use a file name for the disk

3   location.

4   A.   Right.

5   MR. RHOA: Objection to form.

6   A.   A file name leads to a disk

7   location. The word "location" and "disk

8   location" has nothing to do with the use

9   of location in this patent.

10   Q.   This is this patent, this is

11   the '791 patent.

12   A.   But disk location is not a

13   location.

14   Q.   I'm asking you to assume that

15   the board says that a disk location is a

16   location.

17   A.   Well, that makes no sense to

18   me, so I will assume nonsense for the

19   moment, and you fire on with the

20   questions.

21   Q.   Well, let me ask a question

22   about that. You say disk location isn't a

23   location, right?

24   A.   Location is a technical term in

25   this patent which we have a construction

1   R. DEWAR

2 for.

3   Q.   And what does it say?

4   A.   It says "In many data

5 processing systems, data items are

6 transferred between different locations in

7 the system. These locations may be

8 processes in the data processing system,

9 storage devices, memory. For example, one

10 processor may obtain a data item from

11 another processor or from an external

12 storage device, such as a floppy disk, and

13 may incorporate that data item into its

14 system."

15   Q.   Let me give the board's

16 construction.

17   A.   I think that is copied word for

18 word from somewhere.

19   Q.   So on page 15 of the decision.

20   A.   Where do you want me to be?

21   Q.   Page 15 of the board's

22 decision.

23   A.   Let's also make sure that --

24   Q.   We use the same construction?

25   A.   Since I quote what I used as

                           R. DEWAR

 1

 2   location, let me also see --

 3   Q.   It is an excellent exercise,

 4   because maybe we are using different

 5   constructions.

 6   A.   It would surprise me if these

 7   aren't the same. What am I looking for?

 8   I'm looking for my binder that says

 9   Decisions.

10   Q.   So I want you on the first tab,

11   page 15. I want you to focus particularly

12   on the part where it says "any other

13   physical location in the system."

14   A.   Right.

15   Q.   Do you have that in mind?

16   A.   Yes.

17   Q.   "Any other physical location in

18   the system." And column 9, line 63, says

19   "disk location of the actual physical

20   representation of the file," right? Are

21   you with me so far?

22   A.   I'm with you so far.

23   Q.   It is sufficient to use a file

24   name. So far, so good?

25   A.   Right. Always understanding

1   R. DEWAR

2   that disk location isn't somehow a place

3   on the disk.

4   Q.   This says "at disk location of

5   the actual physical representation."

6   That's almost word for word, it says "any

7   other physical location." This says

8   "actual physical location."

9   A.   I'm allowed to ask you

10   questions. I will tell you my

11   understanding is that location of a file

12   can be thought of in two ways. One is

13   just as some high-level thing identified

14   by its file name, there are bits

15   somewhere, maybe some of them are

16   compressed, maybe they aren't, maybe they

17   are encrypted, maybe they aren't, maybe

18   they are spread out over multiple disks,

19   spread out over multiple pieces, you don't

20   know and don't care.

21   You could think at a very low

22   level of the operating system of all that

23   stuff I just said, where the encrypted

24   bits are, encrypted key is.

25   Q.   Putting aside the detail of

1   R. DEWAR

2   encryption, you and I, I think, both agree

3   you can specify a file by a name like

4   CV.doc?

5   A.   Right.

6   Q.   And conventional operating

7   systems say it is easier for a user to

8   think of it as CV.doc than to go to disk

9   52, sector 49, offset 36, and that kind of

10   mumbo-jumbo?

11   A.   That wouldn't begin to be

12   enough because you have a giant list of

13   locations and all sorts of metadata.

14   Q.   I agree 100 percent with that.

15   But I'm just trying to confirm

16   that the patent, the actual '791 patent,

17   when it is using the word "disk location,"

18   it says the actual physical representation

19   and it says that a file name is

20   sufficient.

21   MR. RHOA: Objection to form.

22   Q.   This clause is saying that a

23   file name for its intended purposes as

24   used in the patent is sufficient to

25   represent the disk location.

```
 1               R. DEWAR
 2          MR. RHOA:  Objection to form.
 3     Q.       It is an abstraction, but it --
 4     A.       It is an abstraction, yes.
 5          MR. RHOA:  Objection to form.
 6     Q.       For present purposes it is
 7  saying it is sufficient?
 8          MR. RHOA:  Objection to form.
 9     Q.       And you can debate that there
10  is more specific ways to identify it or
11  more detail and so forth.  But the patent
12  is saying for its purposes of the use of
13  location, a file name is sufficient to
14  identify disk location.
15          MR. RHOA:  Objection to form.
16     A.       It might help to tell you how I
17  read that sentence.  A file name is
18  sufficient to tell where the file is.  I
19  mean, it seems like the word "location"
20  has got you into a whole lot of confusion.
21     Q.       It is in the patent, it says
22  "disk location."
23     A.       Disk location is not the same
24  thing as location here.  It is just not
25  the same.  There are many, many reasons
```

1   R. DEWAR

2   for making that conclusion.

3   Q.   Let me just ask you, what's the

4   part that is so unclear when it says "disk

5   location of the actual physical

6   representation," and the claim

7   construction says, for location, "any

8   other physical location"?

9   MR. RHOA: Objection, form.

10   A.   When we look at "location"

11   here, the only thing that makes sense in

12   terms of the '791 patent is that the

13   location is something that holds plurality

14   of files. Nothing else makes sense in

15   terms of the rest of the patent.

16   Again, you are playing with

17   games. You found the word "disk location"

18   here and you assume it is connected with

19   "location" here, and it is an incorrect,

20   wrong assumption, which doesn't stand up

21   to scrutiny on a whole lot of bases. I

22   understand the point you are making and I

23   disagree with it.

24   Q.   Under your understanding of the

25   word "location," it has to have multiple

1   R. DEWAR

2   files for it to be proper under this

3   construction?

4   A.   Yes.

5   Q.   And is there anything in the

6   construction that leads you to that

7   conclusion or is it just your

8   understanding of the word?

9   A.   It is the whole embodiment and

10   the procedures are about finding a file

11   among a plurality of files by using the

12   true name. To say that that includes

13   comparing two specific true names in the

14   case where you have one file and only one

15   file misses the point of the patent.

16   I mean, you have to look at

17   every claim in the context of the whole

18   patent to have some idea of what it is

19   talking about, and what it is talking

20   about here is a true name search, and it

21   is just not there. I understand the

22   semantic game you are trying to play with

23   location, but I don't accept it as valid.

24   Q.   Just so we can sort of see if

25   we can help the board a little bit on

1   R. DEWAR

2   this, and for purposes of my question if

3   the board were to construe "location"

4   broadly enough to encompass that it could

5   be a single file, I fully understand that

6   you disagree with that --

7   A.   Let's say all the bits located

8   that are occupied by a single file, I

9   guess.

10   Q.   All I'm trying to get at, and

11   you can disagree with the board, I'm sure

12   in every case people have all kinds of

13   disagreements, but let's assume if the

14   board says we think "location" is broad

15   enough --

16   A.   Then I wouldn't be able to

17   understand the patent anymore.

18   MR. RHOA: Objection, form,

19   incomplete hypothetical.

20   A.   Then I wouldn't be able to

21   understand the patent, so I would be

22   confused. I would have to ask some

23   follow-up questions if that happened.

24   Q.   So then you wouldn't have any

25   opinion to the contrary either, right? If

1   R. DEWAR

2   the board said that "location" is a single

3   file, you don't have any opinion to say

4   the rest of their reasoning is wrong,

5   right?

6   MR. RHOA: Objection,

7   incomplete hypothetical and form.

8   A.   I'm sorry, give me that

9   hypothetical again.

10   Q.   I'm asking you to assume that

11   the board says, in effect, our

12   construction of "location" is so broad

13   that it can cover a file name, specified

14   by a file name.

15   A.   Right.

16   Q.   And we say that because there

17   is at least one example in the patent that

18   at least suggests that, you can disagree

19   with that, but that's what they say.

20   If they make that assumption,

21   do you have an opinion or not about

22   whether claim 2 -- the element of claim 2

23   and only claim 2 is satisfied by Woodhill

24   or not?

25   MR. RHOA: Objection,

1   R. DEWAR

2   incomplete hypothetical, and form.

3   A.   Well, I would be in a situation

4   where claim 2 has no relationship to the

5   specification now, so I'm at sea. If I

6   see a claim that has no relation to the

7   specification, I really don't know what to

8   make of it.

9   The board has put me in a

10   position of that disconnect. So I don't

11   know how to handle that, because you

12   always have to interpret the claims in

13   terms of the specification. I mean, the

14   claims just in isolation -- you always

15   have to use the specification and there

16   has to be a match. That's really why I'm

17   saying what I'm saying about location.

18   Q.   I understand, Doctor.

19   A.   I'm starting from that

20   assumption that the claims must be

21   supported by the specification.

22   Q.   The reason I'm bringing it up

23   is this, is that sometimes you can say in

24   an argument, well, if that were true,

25   Woodhill doesn't satisfy the rest of the

1   R. DEWAR

2   claim for this other reason. I'm just

3   trying to figure out whether you have

4   another reason or not.

5   What I'm hearing is that if the

6   board were ever to construe "location"

7   broad enough to cover a single file, the

8   whole claim is so confusing to you at that

9   point that you don't have any opinion one

10   way or the other that it was satisfied by

11   Woodhill?

12   MR. RHOA: Objection to form,

13   improper hypothetical.

14   Q.   Because if you do have an

15   opinion, I want to know what it is.

16   MR. RHOA: Same objection.

17   A.   The claim is supposed to build

18   on claim 1.

19   Q.   I'm just focusing on the

20   specific -- I know you have a dispute

21   about claim 1.

22   A.   I'm saying something else. Let

23   me finish my answer first.

24   Claim 2 is supposed to build on

25   claim 1. We are talking about claim 2,

1   R. DEWAR

2   right?

3   Q.   Yes.

4   A.   Claim 2 is supposed to build on

5   claim 1. You are setting up a

6   hypothetical which has the consequence

7   that it doesn't have any relationship to

8   claim 1 now, and that's a real disconnect

9   for me.

10   I mean, it is really -- maybe I

11   would have some opinion if I thought about

12   it more, but it is just so weird that I

13   don't have an opinion.

14   Q.   Okay. Let's move to another

15   claim.

16   MR. DICHIARA: Can we take a

17   short break, five minutes?

18   THE WITNESS: Sure.

19   (Recess taken.)

20   BY MR. DICHIARA:

21   Q.   Earlier we were talking about

22   the file CV.doc and we were saying that

23   you can open a file with its path name,

24   right?

25   A.   Right.

1   R. DEWAR
2   Q.   So you can say it opens
3 C:/Dewar/CV.doc?
4   A.   Right.
5   Q.   And the '791 patent will take
6 that CV.doc and get you the actual file
7 that is associated with that?
8   A.   Right.
9   Q.   And I think we were in
10 agreement that the LDE is the entity that
11 will take the path name and convert it to
12 a true name?
13   A.   You are talking about the open
14 procedure now?
15   Q.   Yes.
16   A.   Okay, fine. Could we perhaps
17 get to where the open procedure is?
18   Q.   It is column 20.
19   A.   Okay, open file, line 35.
20   Q.   Right. And what I wanted to do
21 is kind of walk through the data
22 structures a little bit. When you say
23 "open C:/Dewar/CV.doc," what happens.
24   And I'm asking you whether as
25 part of that opening, and it is a simple

1   R. DEWAR

2   data item in this case, the LDE is going

3   to take that path name and get a true name

4   that is associated with that path name,

5   right?

6   A.   Okay.

7   Q.   Okay --

8   A.   I mean, yes, I understand.

9   Q.   And it is the true file

10   registry which will then take that true

11   name and give you the true file ID?

12   A.   There is more to it than that,

13   I think. Because there is the business of

14   fetching it from a separate region.

15   That's at the bottom of the column.

16   Q.   And the point I want to get at

17   is when you say "open CV.doc," it is, for

18   lack of a better term, the true name

19   technology that is going to provide the

20   associated true name and then eventually

21   say here's where that file actually is,

22   right?

23   A.   Right.

24   Q.   And in column 9, in the TFR

25   field, what is the field that is saying

1   R. DEWAR

2   where that actual CV.doc actually lives?

3   A.   It might be the true file ID,

4   it might not.

5   Q.   You don't know?

6   A.   Well, no, it says it might or

7   might not. It says that if the true file

8   ID is absent if the actual file is not

9   currently present at the current location.

10   Q.   In the case that it is

11   populated, that is the location?

12   MR. RHOA: Objection to form.

13   A.   That's the file name which it

14   would go after.

15   Q.   You can put '791 aside for a

16   little bit and you could put Woodhill

17   aside a little bit, but we are still going

18   to talk about prior art. I don't know if

19   it is organized that way for you in the

20   book, but we are going to turn to Kantor,

21   the Kantor reference.

22   Just for the record, it is not

23   a question, the Kantor reference in each

24   of the IPRs is identified as Exhibit 1004.

25   A.   I must say that we are looking

1   R. DEWAR

2   at Kantor with respect to '791 now?

3   Q.   Right now I'm just going to ask

4   questions about Kantor.

5   A.   Kantor in general?

6   Q.   In general, to make sure we

7   know where the knee bones and ankle bones

8   are connected. Do you need a copy of

9   Kantor?

10   A.   No, I have the whole gruesome

11   document here, 400 and whatever pages it

12   is, 226 pages. I have it in front of me.

13   Q.   So are you ready?

14   A.   Yes.

15   Q.   You are looking at the right

16   page. So the title page is FWKCS Content

17   Signature System Version 1.22, 1993 August

18   10, right?

19   A.   Right.

20   MR. RHOA: Objection, hearsay.

21   Can I just have a standing objection? I

22   object to any statement alleging dates of

23   Kantor, any statement about prior art,

24   etc.; is that okay to have a standing

25   objection along those lines?

1   R. DEWAR

2   MR. DICHIARA: Yes. I will try

3   to keep the questions in view of the

4   document and what the document says so

5   that these objections shouldn't be an

6   issue.

7   MR. RHOA: Thank you.

8   A.   Just to underline that, I have

9   no opinion on the dates.

10   Q.   I understand that.

11   A.   I have an EMCV number on the

12   bottom of that which should match yours.

13   Q.   It is the same in all of them.

14   The reason I'm doing it, there is one or

15   two instances where an exhibit is some

16   number in one IPR and some number in some

17   others. That's the reason I'm saying it.

18   A.   All right.

19   Q.   The Kantor document, and I'm

20   talking about the entire four corners of

21   this document, describes the FWKCS system,

22   right?

23   MR. RHOA: Objection,

24   foundation.

25   A.   I mean, I will say "describe"

1   R. DEWAR

2   somewhat implies that this is a manual

3   that you can read through, and it is not.

4   It is a help system. It is the underlying

5   document for a help system. I think if it

6   was intended to be a description that you

7   would read end to end, it would be written

8   differently.

9   But we can deduce a description

10   from it, a little painfully, without even

11   the help system that goes on top of that.

12   Q.   Maybe the better word to say is

13   it discusses how to use FWKCS system in

14   the case of bulletin boards, right?

15   A.   Yes. It is incomplete in that

16   regard. There are aspects of using it

17   that are not included here which I don't

18   have an opinion on because I confined my

19   looking at Kantor specifically to this

20   document. I didn't go beyond it.

21   Q.   And Kantor, and, again, when I

22   say Kantor, just so it is clear, we are

23   talking just about the document, not the

24   system, whether or not it was used in the

25   real world, just the document.

1   R. DEWAR

2   But Kantor discusses how to

3   detect duplicate files on a BBS, right?

4   A.   Right.

5   Q.   And BBS is the acronym I will

6   use for bulletin board system or bulletin

7   board service, right?

8   A.   Right.

9   Q.   That is a known acronym?

10   A.   Right. My hesitation there was

11   I would agree that we have a very broad

12   idea of what duplication is, he has a very

13   broad idea of what duplication is.

14   Q.   I think I understand that.

15   A.   I think as we get into it, it

16   will be clear.

17   Q.   Just turn to page 4, and 4 in

18   the upper right corner.   It should say

19   page 4 in the upper right corner of the

20   document.

21   A.   I see, page 4.

22   Q.   So down underneath the

23   introduction, second full paragraph, it

24   says "One use is to provide a convenient

25   solution to a problem which faces the

1   R. DEWAR

2   electronic bulletin board system

3   operators: duplicate or redundant

4   material."

5   And that's what we are talking

6   about?

7   A.   That's really what I had in

8   mind when I say if you only want to say

9   duplicate, then you have to have a broad

10   view of that word that includes the

11   redundant, because that is important.

12   Q.   And you read all of Kantor; is

13   that right?

14   A.   Yes.

15   Q.   So Kantor utilizes something

16   that it calls a content signature. Do you

17   remember that?

18   A.   Right.

19   Q.   That is in the title, I

20   believe. And these are content-based

21   identifiers?

22   A.   Right.

23   Q.   And you don't dispute that they

24   are generated based on the content?

25   A.   I don't dispute that. When you

1   R. DEWAR

2   say that, are you very specifically

3   referring to CS or to all the things that

4   are used?

5   Q.   Let's just say content

6   signature for --

7   A.   What he calls CS here?

8   Q.   Yes.   I think I know what you

9   are getting at.

10   A.   Not the ZCS, you are excluding

11   that for the moment?

12   Q.   We can exclude it for a moment.

13   We will deal with that separately.

14   A.   Yes, fine.

15   Q.   And I lost my question a little

16   bit.   But as the name suggests, the

17   signature is based on the contents of a

18   file?

19   A.   Right.

20   Q.   And you don't dispute that the

21   content signature is a hash of the file,

22   do you?

23   A.   No, I don't dispute that.

24   Q.   And then I think this is what

25   you were getting at, Kantor also utilizes

1   R. DEWAR

2   something that it refers to as a zipfile

3   content signature?

4   A.   Right.

5   Q.   I think what you were getting

6   at, it sometimes uses the acronym ZCS?

7   A.   ZCS for the zipfile contents.

8   Q.   And if we turn to page 9, you

9   talk about that a little bit.

10   A.   The CS as it is used is

11   specifically for non-zipfiles and ZCS is

12   for zipfiles.

13   Q.   I think that is correct. If

14   you turn to page 9, I think this is what

15   you were getting at actually. There is a

16   tile there, Zipfile Content Signature

17   ("ZCS"), right?

18   A.   Yes.

19   Q.   And what he says is "FWKCS also

20   generates a special 'zipfile contents

21   signature' ('ZCS') in which all the files

22   in the zipfile are treated in a special

23   way as a whole," right?

24   A.   Right.

25   Q.   So all the files in the zipfile

1   R. DEWAR

2   are treated as a whole to create the

3   zipfile content signature; that's what it

4   says?

5   A.   Right. I just want to be

6   clear, because I don't want to start on a

7   path, for the CS that is supplied to a

8   non-zipfile I can agree we have a hash

9   based on the contents. You cannot extend

10   what I just said to ZCS. You have to ask

11   me separately.

12   Q.   I will.

13   A.   Okay.

14   Q.   Well, at least the name of it

15   is zipfile content signature, we agree on

16   that?

17   A.   I agree that's the name.

18   Q.   And I also want to ask if you

19   have two absolutely identical zipfiles, so

20   it is a situation like we were discussing

21   before --

22   A.   The same sequence of bits for

23   the entire thing.

24   Q.   Someone else at your company

25   already had the zipfile in the system --

1   R. DEWAR

2   A.   And they just copied the

3   zipfile.

4   MR. RHOA: The witness is

5   cautioned to pause to allow objections to

6   be lodged if needed.

7   Q.   So there is no dispute, it is

8   the same exact file in the situation where

9   somebody already had it in Kantor and you

10   got it through an e-mail or something else

11   and you are going to generate, it is the

12   identical file, you will get the identical

13   zipfile content signature?

14   A.   You will get the identical ZCS,

15   yes.

16   Q.   And at the bottom of page 9,

17   the very bottom, there is hardly anything

18   on there, it is just that it continues

19   through 10 and a little bit on to page 11,

20   he is talking about reports of

21   experimental data, right?

22   A.   Yes.

23   Q.   And he is talking about some

24   experimental data on channel 1, right,

25   that's on page 10?

```
1                    R. DEWAR

2        A.        Yes.

3        Q.        And that's a BBS?

4        A.        Yes.

5        Q.        That is a well-known BBS?

6        A.        Right.

7        A.        Yes.

8        Q.        And he is also talking about

9   experimental data on the Invention

10  Factory?

11       A.        Yes.

12       Q.        At the bottom of page 10,

13  bridging to 11, he says "Based on these

14  experimental results, the enhanced

15  accuracy provided by the FWKCS

16  contents_signature appears to have

17  resulted, in effect, in a typical pairwise

18  statistical error rate of less than one

19  part in ten trillion."

20                 MR. RHOA:  Objection, hearsay.

21       Q.        I'm just asking what it says.

22       A.        I do not understand the

23  arithmetic.

24       Q.        Okay, we will pass through with

25  that.
```

1   R. DEWAR

2   A.   I raised that question to

3   myself when I read it. I do not

4   understand where the ten trillion comes

5   from.

6   Q.   That is not a collision rate

7   statistic or anything like that?

8   A.   If you say one part in ten

9   trillion from experimental observations,

10 you are talking about an observation that

11 is over ten trillion events. That can't

12 be right.

13   So I believe that that ten

14 trillion is obtained by some kind of

15 mathematical process. It isn't I did this

16 ten trillion times, gosh, and it only

17 failed once. That cannot be what it means

18 even though that's what it appears to say.

19   Q.   Because that is just too many

20 operations?

21   A.   It is too many operations to be

22 done.

23   Q.   On page 2 --

24   A.   Going back to page 2?

25   Q.   Yes. I'm just trying to get

1   R. DEWAR

2   some early stuff to make sure we are on

3   the same wavelength. The bottom of page

4   2, going on to 3, it talks about the

5   purpose and it says that "FWKCS can

6   produce a kind of content signature which

7   does not depend on file name, dates, order

8   of collection, nor method, nor amount of

9   compression."

10   Do you see that?

11   A.   Right.

12   Q.   And you can keep your finger on

13   that, or it doesn't really matter, but on

14   page 9, in the middle, he kind of says the

15   same thing again, underneath the zipfile

16   content signature in that first paragraph,

17   there is another sentence which says "the

18   resulting ZCS does not depend on the names

19   of the files, the dates, the order, nor on

20   the method, nor amount of compression,"

21   right?

22   A.   Right.

23   Q.   So in both cases the content

24   signature and the zipfile content

25   signature, it doesn't depend on the method

1   R. DEWAR

2   or the compression?

3   MR. RHOA: Objection, form.

4   Q.   That's what those sentences

5   mean?

6   A.   You are talking about CS and

7   ZCS now?

8   Q.   Right. In both cases.

9   A.   It doesn't correspond to my

10   understanding. My understanding is that

11   the CS is computed from the data in the

12   file.

13   Q.   So let's focus --

14   A.   Whereas ZCS does other things.

15   Q.   But it is clear that it doesn't

16   depend on the method or the amount of

17   compression?

18   MR. RHOA: Objection to form.

19   Q.   That's what he means when he

20   says "nor on the method, nor amount of

21   compression"?

22   MR. RHOA: Same objection.

23   A.   Right, the ZCS does not depend

24   on either of those factors. I think I

25   will modify that a little bit. It is

1   R. DEWAR

2 intended by design not to depend on those

3 factors. We can't really say that

4 absolutely, but given that is its design

5 intent.

6   Q.   And the ZCS doesn't depend --

7 the zipfile content signature, the ZCS,

8 doesn't depend on things that are not

9 directly derivable from the data itself,

10 right?

11   A.   That's false because it depends

12 on the CRCs which it cannot be sure derive

13 from the data. It just believes them.

14   Q.   We will get to that.

15   A.   But you asked me the question.

16 It is relevant to the question.

17   Q.   I think I know what you are

18 saying. Okay.

19   A.   It computes something which by

20 design hopefully most of the time reflects

21 something along those lines.

22   Q.   Meaning that most of the time

23 it depends on the data and not on stuff

24 that --

25   A.   Well, it doesn't depend on the

1   R. DEWAR

2   data in the zipfile.

3   Q.   We will get to that.

4   A.   But, I mean, again, I want to

5   make sure that I don't make statements

6   about ZCS that are incompatible later on.

7   Q.   We know, right, that it doesn't

8   depend -- ZCS, in looking at page 9, it

9   says the ZCS does not depend on the names

10 of the files, right?

11   A.   Right.

12   Q.   I'm just reading from it. The

13 dates of the files, right?

14   A.   Again, I mean, the ZCS, it is

15 easier to say what it is depending on than

16 what it isn't depending on.

17   So it is depending on the

18 32-bit CRCs. Now, you can ask me what

19 they are supposed to be or you can ask me

20 what they might actually be.

21   Q.   I'm asking you about page 9.

22 We will get to the CRCs, I promise you

23 that.

24   But what we are clear on from

25 page 9 is that the ZCS does not depend on

1   R. DEWAR

2   the names of the files, the dates of the

3   files, right, the order in which they

4   appear in the zipfile, nor on the method,

5   nor amount of compression, it is

6   independent of that?

7   A.   How about we put it this way,

8   which I think we can agree on and be happy

9   with.

10   The computation of the ZCS does

11   not -- is not affected directly by any of

12   those parameters.

13   Q.   It doesn't hash those

14   parameters?

15   A.   It doesn't hash those

16   parameters. As long as we put it that

17   way, I think we can agree on that and then

18   we have a clear picture.

19   Q.   In your prior art book, you

20   probably have it marked separately, there

21   is the PKWare file format document.

22   A.   The zipfile format?

23   Q.   Yes. And in IPR 85 and 87, it

24   had Exhibit 2004, and in --

25   A.   Starting at page 11 of 14?

1   R. DEWAR

2   Q.   Yes.

3   A.   I assume we are looking at

4   exactly the same document.

5   Q.   I'm just making the comment,

6   because this is one of the instances I was

7   talking about, and in IPR 84 it was marked

8   officially as Exhibit 2007. This is just

9   in case if anybody is reading the

10   transcript, they know.

11   You obviously read this

12   document and recognize it, all that kind

13   of stuff, right?

14   A.   Yes.

15   Q.   You are familiar with it. And

16   this is, I believe in your direct

17   testimony, what you believe to be the

18   relevant zipfile standard in the Kantor

19   time frame, right?

20   A.   Right. That's my

21   understanding.

22   Q.   And this is actually the

23   zipfile format that you believe it was

24   referencing when it was talking about

25   PKZIP and Phil Katz and all that kind of

1   R. DEWAR

2   stuff?

3   A.   Yes.

4   Q.   So if we turn to page 3 -- and

5   this is the order we got it in. I know it

6   is a little confusing because it starts

7   out 11 of 14 and then it says 1 of 13.

8   A.   That's because now we are on

9   the pages of the actual standard itself.

10   Q.   So I want to go to page 3.

11   This describes, in the middle, it has

12   compression methods, right?

13   A.   Right.

14   Q.   And there are six different

15   methods?

16   A.   Seven.

17   Q.   Seven, correct. I stand

18   corrected. And method zero says just the

19   file is stored, no compression?

20   A.   Right.

21   Q.   And it is correct that the

22   zipfile standard allows for uncompressed

23   files?

24   A.   It does allow for that, yes.

25   Q.   And you don't dispute that?

1   R. DEWAR

2   A.   I don't dispute that. I think

3 it is extremely rarely used. Most users

4 of ZIP would not know about it. But it is

5 there in the standard.

6   Q.   And what is that based on? I'm

7 just curious.

8   A.   40 years of working with

9 zipfiles from me and everyone else. The

10 default is somewhere in the region of 2 to

11 5. I don't know if that is defined in the

12 standard.

13   But the defaults in ZIP is

14 somewhere in the middle. 99.9 percent of

15 use of ZIP is the normal default. I think

16 some ZIP users know about minus 9, which

17 says compress the hell out of it, even if

18 it takes longer. But really 99.9 percent.

19 If you look at typical bulletin boards at

20 the time, nearly all of the zipfiles would

21 have been compressed at standard

22 compression ratio.

23   Q.   I want to confirm a couple of

24 quick points.

25   You don't dispute you could

1   R. DEWAR

2   have a zipfile with uncompressed inner

3   files?

4   A.   That is possible, yes.

5   Q.   If your files were small, you

6   would be less inclined to compress them?

7   A.   I don't think so, because what

8   you are interested in is the compression

9   ratio, and you zip a bunch of small files

10   and you get something smaller. Smaller is

11   always better.

12   Q.   Sometimes you get something

13   smaller, sometimes you don't, right?

14   Small files that carry any compression

15   scheme carries extra information with it

16   as part of the compression, right?

17   A.   For the kind of files that were

18   typically on bulletin boards at this time,

19   almost any file would compress. I mean,

20   today we have files that don't compress

21   because we have these very elaborate

22   super-compressed music files and video

23   files that don't compress further.

24   But for the kind of files that

25   would be on a bulletin board, everything

```
1                    R. DEWAR
2    would compress.  I have never seen ZIP
3    make a file larger except in the case of
4    music or video.
5         Q.        But we are certainly in
6    agreement that you can have a zipfile with
7    uncompressed inner files?
8         A.        Right, it is possible to do
9    that.
10        Q.        So let's get back to Kantor.
11        A.        Okay.
12        Q.        Kantor refers to something that
13   it calls a CSLIST.  Do you remember that?
14        A.        The what, I'm sorry?
15        Q.        CSLIST.
16        A.        Yes.
17        Q.        And that's the contents
18   signature list?
19        A.        Right.
20        Q.        If we turn to page 18, up near
21   the top, right underneath System
22   Housekeeping -- are you with me so far?
23        A.        Yes.
24        Q.        It says "FWKCS typically
25   maintains four working files called," and
```

1   R. DEWAR

2   then it gives four different flavors of

3   CSLIST, right?

4   A.   Right.

5   Q.   And it says, two sentences down

6   or whatever says "CSLIST.SRT is the main

7   list of content signatures."

8   That is just what we were

9   talking about, it is the list of content

10   signatures, right?

11   A.   Right.

12   Q.   And if we turn to page 52, we

13   get a glimpse of what CS list contains

14   down near the bottom. Are you familiar

15   with this portion of Kantor?

16   A.   Well enough, I think.

17   Q.   So there are some fields there

18   going left to right numbered 1 through 8.

19   The first field seemingly has a

20   name that says 16-character CS?

21   A.   Right.

22   Q.   If you look on page 53,

23   unsurprisingly it describes it as a

24   16-character hexadecimal content

25   signature, right?

1   R. DEWAR

2   A.   Right.

3   Q.   And then field 3 says CS Owner

4   back on page 52, for example?

5   A.   Yes.

6   Q.   And then on 53, it says the

7   file which has that content signature?

8   A.   Right.

9   Q.   That's the file that yielded

10   the content signature in field 1?

11   A.   Right.

12   Q.   And field 2 doesn't include a

13   description on page 52, but on 53 it

14   refers to it as "column 17 used for

15   lowercase flags, see special column 17

16   flags below," right?

17   A.   Yes.

18   Q.   If you do the math, I think it

19   is saying column 17 because there were 16

20   columns of hex?

21   A.   Yes.

22   Q.   That is just his way of

23   commenting on things.

24   Then field 5, going back to 52,

25   says "in, or has" seems to be the name of

1   R. DEWAR

2   that field?

3   A.   Right.

4   Q.   And you have to jump to 54 for

5   the description, and it says "if the owner

6   of the contents signature is a file in a

7   zipfile, then the zipfile which contains

8   that file is listed here," right?

9   A.   Okay.

10   Q.   If this were an inner file,

11   this field would say what's the zipfile

12   that has that?

13   A.   Right.

14   Q.   And then field 7 says "where,"

15   right?

16   A.   Right.

17   Q.   And that is a, according to

18   both page 54 and the name, that's saying

19   where the file actually is, right?

20   A.   Okay.

21   Q.   This is the D:/ path for

22   reaching the file, right?

23   A.   Right.

24   Q.   So there is some similarity

25   here to the true file ID, right?

1   R. DEWAR

2   A.   I wasn't asked to look at that

3 and I haven't looked at it. I don't like

4 to give an off the top of my head opinion.

5   Just to be clear, I was not

6 asked to look at Kantor with respect to

7 the '791.

8   Q.   I'm not asking about '791, I'm

9 just asking about Kantor right now.

10   A.   Yes, okay, about the

11 similarities of the specification. Yeah,

12 I agree there is some similarities.

13   Q.   I apologize for jumping around,

14 but I'm trying to follow the subject

15 matter.

16   A.   You can't do anything else in

17 Kantor than jump around.

18   Q.   So on page 19, I'm going to ask

19 about some commands in connection with the

20 CSLIST.

21   This is referring to, what it

22 says is the FWKCS command line. And you

23 are familiar with the concept of the

24 command line?

25   A.   Yes.

1   R. DEWAR

2   Q.   This is back in a different

3 time frame when you might run a command

4 and have all kinds of parameters and

5 options?

6   A.   We do that every day in real

7 life today.

8   Q.   So if you jump, I apologize for

9 the jumping, to page 33, they have two,

10 right before it, they refer to it as

11 options, an F and a G, right?

12   A.   Yes.

13   Q.   And the F option says "find if

14 matching content signature in CSLIST,"

15 right?

16   A.   Yes.

17   Q.   And G says "get all matching

18 content signatures in CSLIST"?

19   A.   Yes.

20   Q.   So these are commands that

21 exist to see if a content signature is in

22 the CSLIST?

23   A.   Yes.

24   Q.   In fact, the G command can find

25 multiple instances if there was multiple

1   R. DEWAR

2   instances of it, right?

3   A.   Yes.

4   Q.   I'm going to start asking some

5   questions about the way Kantor can kind of

6   detect or identify duplicates.

7   So if we jump to page 189, in

8   the top of the page they are talking about

9   running FWKCS with an electronic bulletin

10   board system.

11   MR. RHOA: Objection, hearsay.

12   Q.   That's just what it states,

13   right?

14   A.   Yes, that's what it states.

15   Q.   Then it says suppose you have

16   an electronic bulletin board system with

17   more than 10,000 zipfiles and have an

18   ongoing problem of people accidentally

19   uploading zipfiles which contain the same

20   files as ones which you already have,

21   right?

22   A.   Right.

23   Q.   So this is where he is

24   specifically talking about zipfiles and

25   duplicates?

1   R. DEWAR

2   A.   Right.

3   Q.   Then I think he has a phrase

4   for this a little lower. He says "then to

5   do a partial cleanup, you can run," and he

6   gives one of these command line

7   instructions, right?

8   A.   Yes.

9   Q.   It is a fairly complicated one

10   and it ends in MULTIS. Do you see that?.

11   A.   Yes.

12   Q.   And you understand that the

13   MULTIS, this command is the one that

14   creates a MULTIS report that lists

15   duplicate entries from the CSLIST?

16   A.   Right.

17   Q.   It says that right here on page

18   189.

19   A.   I'm always understanding when

20   you say duplicates as he does in this

21   document, duplicates or redundant.

22   Q.   Well, he refers to it down in

23   189, I have a smaller version of it, but

24   if you can sort of see where I'm at, it

25   says "to put all the duplicate zipfiles

1   R. DEWAR

2   together in groups, in the file MULTIS;

3   and to make a report, MULTCNT.RPT, showing

4   number of probably duplicate zipfiles."

5   So he uses the word

6   "duplicates"?

7   A.   Right.

8   Q.   Then he says in the same

9   paragraph we were just reading from that

10   you could use a word processing system and

11   put a d in column 17; that's the one we

12   talked about before, right, the special

13   column flag?

14   A.   Yes.

15   Q.   On each line containing the

16   file that you wished to delete, right?

17   A.   Right.

18   Q.   And then he has a sample right

19   underneath it?

20   A.   Yes, I see that.

21   Q.   And the first line of that

22   sample on 189, there is a file that is

23   called LAWN2.ZIP, right?

24   A.   Yes.

25   Q.   And the second one is

1   R. DEWAR

2   LAWN200.ZIP, right?

3   A.   Right.

4   Q.   And even though they have

5   different file names, they have the same

6   16-character content signature just shown

7   there to the left, right, the one that

8   starts 014FF56D?

9   A.   Yes, and those are the two ZCS

10   values.

11   Q.   Unfortunately, there is a space

12   and it goes on, 158AC, right? And then on

13   the second guy, the one that says

14   LAWN200.ZIP, you will see there is a d

15   there between the two?

16   A.   Yes.

17   Q.   That is the thing they were

18   referring to right above it, marking it

19   with the d?

20   A.   Yes.

21   Q.   I'm just making sure we are in

22   total sync on it, the LAWN2.ZIP doesn't

23   have the d mark, right?

24   A.   Right.

25   Q.   So one has a d -- this is his

1   R. DEWAR

2   way of saying here are two files with the

3   same content signature, I want to get rid

4   of one of them, I'm putting the d in

5   there?

6   A.   Yes.

7   Q.   Then on page 190, he says,

8   right at the top, you could run this

9   FWKCS17d command to delete all of those

10   marked files, right?

11   A.   Yes.

12   Q.   And to save those lines in a

13   file named, without the d, in a file named

14   DELETED.LOG?

15   A.   Right.

16   Q.   And then if you look at the

17   example below, he has the -- and you can

18   go back and forth between 189 and 190, I'm

19   just going to see if you agree with me

20   that this snippet is all the files that he

21   marked with the d?

22   A.   Right.

23   Q.   So LAWN200, VIS.ZIP and I think

24   it is CHEMIC20?

25   A.   Yes.

```
 1                      R. DEWAR
 2        Q.        So this is showing the files
 3    that were deleted when you marked d?
 4        A.        Right.
 5        Q.        So after you run FWKC17d,
 6    DELETED.LOG is going to show the files
 7    that were deleted?
 8        A.        Yes.
 9        Q.        And that file is going to
10    contain the zipfile name, right?
11        A.        Yes.
12        Q.        For example, LAWN200.ZIP,
13    right?
14        A.        Right.
15        Q.        And its content signature,
16    which is that 16-character hexadecimal
17    thing to the left, right?
18        A.        Right.  Let's say ZCS, because
19    since content signature is -- I mean, it
20    is a little confusing because content
21    signature sometimes is used for CS and ZCS
22    together and sometimes used only for CS.
23    So just be clear when you say it.
24        Q.        I think in page 52, if you
25    wanted to go back, you can look here, but
```

1   R. DEWAR

2   in this file, you see how there is a z to

3   the right of LAWN200.ZIP?

4   A.   Yes, that says it is a ZCS.

5   Q.   That's the way it says it is a

6   ZCS?

7   A.   Yes.

8   Q.   So we agree on the way this

9   command, FWKC17d is working, it is

10   processing the MULTIS file?

11   A.   Yes.

12   Q.   It is deleting the files that

13   were marked d?

14   A.   Yes.

15   Q.   And it is creating something

16   called DELETED.LOG, which is including the

17   kind of information shown on page 190?

18   A.   Yes.

19   Q.   Now I want to talk about the

20   exclude function. And you have reviewed

21   the exclude function in Kantor?

22   A.   Yes, I have.

23   Q.   And this time we don't have to

24   jump as far, but it is around page 205.

25   There is going to be a little jumping

1   R. DEWAR

2   here. You are not going to be surprised

3   by that, I'm sure.

4   On 205, under the number 6, it

5   says "Protecting against abuse," and it

6   just says "The FWKCS Contents Signature

7   System is able to recognize files it has

8   seen before even if their names have been

9   changed," and we understand that works

10   that way?

11   A.   Yes.

12   Q.   And then there is a sentence in

13   there about authenticity verification, and

14   then there is a sentence that says "These

15   recognition functions are based on

16   contents signatures, and are written in

17   assembly language"?

18   A.   Yes.

19   Q.   Then he refers to a specific

20   one underneath it called exclude, right?

21   A.   Right.

22   Q.   And that description says "To

23   exclude specific files from your VBS,

24   after you run this on a specific file or

25   run it on a zipfile which contains one or

1   R. DEWAR

2 more files, every one of those files is

3 automatically rejected even if its name

4 has been changed and even if it is inside

5 a zipfile. If the excluded file is inside

6 a zipfile, then that whole file is

7 rejected."

8   In the art they sometimes refer

9 to this as a blacklist; are you familiar

10 with that term?

11   A.   I wouldn't use it in that

12 context, because blacklists are used

13 specifically these days for transactions

14 that involve mail systems on the Internet.

15 I would say it is similar to a blacklist.

16   Q.   It is similar in the sense that

17 it is saying beware of these guys, don't

18 yourself upload them?

19   A.   The point of a blacklist is it

20 is broadcast, a fundamental part of a

21 blacklist is it something someone concocts

22 and other people use to exclude it. I

23 don't see that element here. I wouldn't

24 use that term. But I understand exactly

25 what this is about.

1   R. DEWAR

2   Q.   I won't use that term either,

3 then.

4   A.   I don't think it helps us

5 either way.

6   Q.   But it is meant to exclude

7 files that have a certain content

8 signature even if the file names have

9 changed, right?

10   A.   Right.

11   Q.   I want to jump back to page

12 154, and you see there is a section in

13 here talking about some of the special

14 column flags, and one of them at the

15 bottom of the page is X, for exclude?

16   A.   Yes.

17   Q.   And it says "to exclude from

18 the system any file or any zipfile which

19 contains any file whose content signatures

20 matches one marked with this flag," right?

21   A.   Yes.

22   Q.   So these are the column 17

23 flags in the CSLIST that will identify

24 which guys to get rid of if it ever sees

25 it, right?

```
1                     R. DEWAR
2        A.        Right.
3        Q.        Would you consider this column
4   17 flag to be a status flag?
5                  MR. RHOA:  Objection, form.
6        A.        Not really.  It is just
7   information about the entry.
8        Q.        It is just a flag?
9        A.        It is just a flag.  I don't
10  think it is particularly useful to append
11  status to it.
12       Q.        With the Kantor exclude
13  function, if you try and upload a file,
14  Kantor will calculate a content signature
15  for that file you are trying to upload,
16  right?
17       A.        Right.  It would calculate --
18       Q.        We can use a simple file if it
19  is easier.
20       A.        It is actually a little harder
21  with a simple file.  If we have a simple
22  file, we assume that it is noncompressed
23  and it computes the CS from that.
24       Q.        That's all I'm trying to get
25  at.
```

1   R. DEWAR

2   So it doesn't know anything

3   about a content signature yet, you are

4   just trying to upload a file that is

5   CV.doc, it calculates the content

6   signature, right?

7   A.   Right.

8   Q.   Then it is going to see if it

9   has an X next to that content signature in

10   the CSLIST?

11   A.   Right.

12   Q.   And if it does, it is going to

13   be automatically rejected?

14   A.   Right.

15   Q.   So let's turn to page 100.

16   MR. RHOA: Peter, can I run to

17   the men's room?

18   MR. DICHIARA: Sure.

19   (Recess taken.)

20   BY MR. DICHIARA:

21   Q.   So page 100, at the bottom,

22   they are referring to the upload log and

23   its format and contents, right?

24   A.   Okay.

25   Q.   And on 101 they are giving the

1   R. DEWAR

2   partial -- page 101, they are giving the

3   partial example of what the log file may

4   look like, right?

5   A.   Okay.

6   Q.   And I think we were talking

7   about it before in terms of log files, but

8   log files are just lists where something

9   happens, you add an entry, something else

10   happens, you add another entry, and so

11   forth, right?

12   A.   Right.

13   Q.   And this log file is concerning

14   upload events, right?

15   A.   Right.

16   Q.   Immediately below the table,

17   the text says "What is done with the file

18   in the various cases depends on the

19   options you have set up. Option S saves

20   the rejected files, otherwise files are

21   typically either deleted or sequestered."

22   A.   Right, I read that.

23   Q.   The first entry in the log file

24   is for a file that had a file name

25   IGLYPOFF.FOO and the second -- the first

1   R. DEWAR

2   field is the date, right, that's computer

3   code for saying October 18th, 1992?

4   A.   Right.

5   Q.   And the second field is a

6   computer code for time, which I don't want

7   to get into details, but I'm taking a

8   guess it is 9:52 in the morning?

9   A.   Yeah.

10   Q.   And then the next field is a

11   comment field, which if you look down at

12   the bottom of 101 and forward, they are

13   trying to give a description of comment

14   fields, and for this particular one, I

15   think throughout Kantor he refers to it as

16   "accessioned," I think is the term he

17   uses?

18   A.   Yes.

19   Q.   I think it is his way of saying

20   assimilated, that something is being

21   uploaded into the system.

22   And in the description, he is

23   saying the file, or zipfile, was accepted

24   and entered into the system?

25   A.   Yes.

1   R. DEWAR
2   Q.   And that same entry also
3 includes the content signature for that
4 IGLYPOOF.FOO file?
5   A.   Yes.
6   Q.   Then if you go down to the
7 fifth line, there is another file, it has
8 the same kind of information, file name,
9 content signature, date/time, but the
10 comment says, "duplicat," short form,
11 "duplicate," and if you look on page 102,
12 it says "a duplicate zipfile was found;
13 its ZCS is given. If NOT s" -- and "s" is
14 that flag they talked about under the
15 table?
16   A.   Yes.
17   Q.   -- then "IF TRASHOLD" -- and
18 that's the flag on whether to sequester or
19 not I believe?
20   A.   Right.
21   Q.   It says "directory is
22 specified, file is put there," otherwise
23 you delete it.
24   So if you are not saving it and
25 not sequestering it, then you delete it,

1   R. DEWAR

2   right?

3   A.   Yes.

4   Q.   So it is going to delete

5   duplicates on upload if the flags are set

6   a certain way?

7   A.   Yes.

8   Q.   If you turn to page, just back

9   quickly to 103, there are a couple of

10 entries, a little bit more than halfway

11 down, that say "excluded" as a comment,

12 right?

13   A.   Yes.

14   Q.   And they, too, include the file

15 name, the content signature, the date and

16 time, right?

17   A.   Yes.

18   Q.   If you go back to 103 this

19 time, the comments are explaining

20 "excluded," right?

21   A.   Yes.

22   Q.   And it says, just like we were

23 saying before, it is just closing the loop

24 on this, that an x was found in column 17

25 of CSLIST.SRT next to an entry with a

                    R. DEWAR

1

2   matching content signature?

3   A.   Yes.

4   Q.   "Flagging that item for

5   exclusion," which is what it said before.

6   "The content signature, the CS, for the x

7   flagged file is given." Then it says "if

8   NOT s," meaning it is unsaved, that is the

9   flag, "then the zipfile or file is

10   deleted," right?

11   A.   Yes. All my yes's are just

12   saying you read something to me and I read

13   the same thing.

14   Q.   And they are self-explanatory

15   stuff for the most part?

16   A.   I don't know whether they are

17   self-explanatory or not. You are just

18   reading.

19   Q.   Let me see if I can summarize.

20   Kantor is describing that you

21   can mark the CSLIST with an x flag for

22   certain content signatures, right?

23   A.   Yes, that's my understanding.

24   Q.   And if subsequently you tried

25   to upload a file and it had calculated to

1   R. DEWAR

2   that content signature, it can be

3   automatically deleted?

4   A.   Yes.

5   MR. RHOA: Objection, form.

6   Q.   And in fact, it says --

7   A.   That's what it appears to say.

8   I agree.

9   Q.   We walked through at least two

10   examples, both the duplicate and the

11   exclude, where it is automatically

12   deleted, right?

13   MR. RHOA: Objection to form.

14   A.   Yes, it seems to suggest in

15   some cases there is an automatic deletion.

16   Q.   In fact, you can go through

17   102, 103, 104, and even on 105, there are

18   any number of upload events that will

19   yield automatic deletion?

20   A.   Yes, it would appear so.

21   Q.   So the upload log file is going

22   to give you both the type of operation,

23   right, accessioned or excluded, right?

24   A.   Right.

25   Q.   The file name, the content

1   R. DEWAR

2 signature, the date it happened, date and

3 time it happened, correct?

4   A.   Yes, that's what I read, yeah.

5   Q.   So let's turn to page 109.

6   There is, I can't even venture

7 to count, but there is some number of

8 testing operations that Kantor discusses

9 in this document, right?

10   A.   Right.

11   Q.   For example, it is on page 110,

12 they refer to an N option, I'm looking at

13 page 110, and it talks about like if N is

14 equal to 1, zipfile integrity is tested

15 using PKUNZIP?

16   A.   Right.

17   Q.   Underneath it, there is a V

18 option. It is talking about "call the

19 SCAN for plain file Virus," so that is

20 doing some kind of virus test?

21   A.   Right.

22   Q.   And on page 112, Kantor is

23 discussing authenticity checks. I think

24 they refer to it as authenticity

25 verification, tests on AV of uploaded

1   R. DEWAR

2   file?

3   A.   Yes, okay.

4   Q.   And then on page 113, he is

5   saying, like right in the middle of the

6   page there, right under "ELSE if not

7   UPLOAD nor ATTACH," he says "performs file

8   integrity test and/or makes

9   contents_signatures," right?

10   A.   Okay.

11   Q.   And he continues, "This carries

12 out the not_upload test functions under

13 PCBTEST.BAT. This function is called

14 under PCBoard when a user requests TEST,"

15 right?

16   A.   Right.

17   Q.   And he continues, he says "If

18 the file under consideration is a zipfile,

19 it is tested for file integrity using

20 PKUNZIP-t."

21   A.   Right.

22   Q.   And you are familiar with

23 PKUNZIP, I take it, from your earlier

24 comments?

25   A.   Right.

R. DEWAR

Q.   Then he has a note, and the second indent under the note, he says he is referring to the y option, right? He says "under the y option," and he has a parenthetical saying "below"; do you see that?

A.   Right.

Q.   And then a few lines down below it, there is y and then a hyphen, and it says "list content signatures for all the files in a zipfile followed by its zipfile content signature."

A.   Okay.

Q.   So this option lists the content signatures for all the files in a zipfile?

A.   Right.

Q.   And that is invoked by this test function with the y option?

A.   Right.

Q.   So let's turn to page 173. Now I want to talk about something that Kantor at times refers to as lookup.

          At page 173, the first thing he

1   R. DEWAR

2   talks about -- I'm sorry, I jumped ahead a

3   little bit, I will get there in a moment.

4   The first thing I want to talk

5   about is precheck. He uses "'Precheck'

6   works together with FWKCS Version 1.22 to

7   let you precheck files listed in the

8   uploads directory of a BBS which uses

9   option g of FWKCS Version 1.10 or later.

10   It provides you with the ability to

11   automatically skip files which are

12   duplicates of files on your system."

13   Right?

14   A.   Right, that's what it says.

15   Q.   And the precheck feature is a

16   mechanism to say, in short, should I

17   bother uploading it or do you already have

18   it, right? This is back in the day of

19   slow modems, and before I send this big

20   file, maybe we can cut to the chase and

21   ensure --

22   A.   Okay.

23   Q.   And then lookup, which is a

24   little higher up, it says "works together

25   with Version 1.22 to let you use large

1   R. DEWAR

2   BBSs as high-speed, multi-gigabyte, remote

3   access reference libraries, and helps you

4   avoid uploading duplicate or redundant

5   material. To support this function, the

6   BBS runs FWKCS Version 1.10 or later," and

7   then it says "remote inquiry option i,"

8   right?

9   A.   Yes.

10   Q.   Now we are going to try to dig

11   into option i a little bit, and let's go

12   back to page 96. About halfway through,

13   you see the i with a dash?

14   A.   Yes.

15   Q.   It says "process remote

16   Inquiries," this is the option i, right?

17   MR. RHOA: Objection, form,

18   foundation.

19   Q.   It says "process remote

20   Inquiries"?

21   A.   Yes, I read that.

22   Q.   And it says "Requesting a

23   contents_signature search. With option i,

24   a person can ask ahead to find out if

25   material which he/she is thinking of

1   R. DEWAR
2 uploading is already on a BBS," right?
3   A.   Yes, that's what it says.
4   Q.   This is a way to see that you
5 already have this content there, right?
6   A.   That's what it appears to say,
7 yes.
8   Q.   And a little lower, you see the
9 paragraph that says "the format for the
10 content signature is provided"? It is two
11 paragraphs underneath it.
12   A.   Yes.
13   Q.   It says "the content signature
14 must be presented in a zipfile which
15 contains only one file named FWKCS," and
16 then it kind of says lookup with a period
17 in the middle?
18   A.   Yes.
19   Q.   The zipfile which is sent can
20 essentially have any name permitted by
21 DOS, right?
22   A.   Yes.
23   Q.   They are saying if you have
24 this zipfile with this weird named file
25 called FWKCSLOO.KUP, that's going to have

```
 1                    R. DEWAR
 2   the content signature within that guy,
 3   right?
 4        A.        Right.
 5                  MR. RHOA:   Objection to form.
 6        Q.        Then right underneath it, it
 7   says "If the i option is used on the
 8   receiving BBS, then that incoming zipfile
 9   is unzipped."
10                  By unzipping it, they are going
11   to get FWKCLOO.KUP, right?
12        A.        Yes.
13        Q.        "The single FWKCLOO.KUP," which
14   we just talked about, "(if it contains
15   more than one contents_signature), is
16   sorted," so you can put actually multiple
17   content signatures in that specially-named
18   file, right?
19        A.        Yes.
20        Q.        And then it says "and that list
21   of contents_signatures is used as an input
22   for finding matching contents_signatures.
23   Both CSLIST.SRT and CSLIST1.SRT are
24   searched," right?
25        A.        Yes, right.
```

1   R. DEWAR

2   Q.   So this is a way where you can

3   see or look up or inquire, whatever term

4   you want to use, to certain content

5   signatures appear in the CSLIST?

6   A.   Yes.

7   Q.   It essentially says bundle it

8   up in this special file, FWKCLOO.KUP, with

9   the weird extension, put that in a

10   zipfile, right?

11   A.   Yes.

12   Q.   And the way Kantor would do

13   this is if it saw this strange named file,

14   it knows that it is containing a list of

15   content signatures and to search the

16   CSLIST?

17   A.   Yes.

18   Q.   Right in the middle of the

19   page, right underneath where it had the

20   "i-," page 96, it says "option i also

21   provides potentially valuable

22   cross-searching capabilities, for example,

23   a user could use this to find other files

24   in a BBS which contained material related

25   to a file he/she has by learning in which

1   R. DEWAR

2   zipfiles the specific file appears."

3   So far, so good?

4   A.   Yeah.

5   Q.   And this is what we were

6   talking about, it is a way to see if the

7   CSLIST has the content signatures, right?

8   A.   Right.

9   Q.   And then it says, same sentence

10   continues, "and then use the y form of the

11   test function to obtain full sets of

12   contents_signatures for all files in each

13   of those zipfiles," right?

14   A.   Right.

15   Q.   So whatever inner files a

16   zipfile consists of, you will be provided

17   with those content signatures from this

18   test y function?

19   A.   Right.

20   Q.   And on page 97, at the bottom,

21   it says "A utility is provided,

22   LOOKUP.BAT, which the remote BBS user can

23   use to automatically create the material

24   to send, for the remote contents_signature

25   inquiry to take place," right?

```
 1                R. DEWAR
 2      A.        Right.
 3      Q.        And you understand that that's
 4 just a utility that will create this
 5 special FWKCSLOO.KUP file?
 6                MR. RHOA:  Objection, form and
 7 foundation.
 8      A.        I can't really tell that
 9 specifically.  I would have to look in
10 detail at LOOKUP.DOC, I guess.
11      Q.        You might want to look at that
12 to confirm; is that what you are saying?
13      A.        Right, to understand the exact
14 operation.
15      Q.        But just these pages 96 and 97,
16 doesn't that seem like a reasonable
17 interpretation?
18                MR. RHOA:  Objection to form.
19      A.        It is a possible
20 interpretation.  I really can't -- I
21 really don't know what LOOKUP.BAT does
22 exactly.
23      Q.        Let me ask you this.  This
24 strange file with the ".KUP" extension,
25 this is, just to be a little honest, it
```

1   R. DEWAR

2   seems a little maybe kludgy that they are

3   trying to find a way to do a lookup,

4   creating a special file that Kantor will

5   recognize and do some special process,

6   right?

7   A.   Yes, that's what I understand.

8   Q.   So when page 97 is suggesting

9   here is something so you don't have to

10   worry about it, something under the covers

11   will make that FWKC lookup file for you?

12   MR. RHOA: Objection to form.

13   A.   I would prefer to be able to

14   look at LOOKUP.BAT and LOOKUP.DOC to

15   understand exactly what they do.

16   (Continued on the next page.)

17

18

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25

```
1                    R. DEWAR

2           MR. DICHIARA:   I understand.

3    This is a perfect time for you to make

4    your break.

5              (Time noted:   4:27 p.m.)

6

7    _____

8           ROBERT B.K. DEWAR, Ph.D.

9

10   Subscribed and sworn to before me

11   this ___ day of _____, 2013.

12

13   _____

14              Notary Public
```
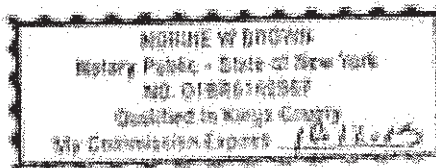
1
2   I N D E X
3
4   WITNESS   EXAMINATION BY   PAGE
5   DEWAR   DICHIARA   3
6
                     E X H I B I T S
7
    DEWAR   DESCRIPTION   PAGE
8   Exhibit 1 Handwritten document   56
              by witness
9   Exhibit 2 Handwritten document   89
              by witness
10
11
12
    DIRECTIONS NOT TO ANSWER
13
    Page   Line
14   (NONE)
15
16
    REQUESTS
17
    Page   Line
18   (NONE)
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25

1

2   CERTIFICATION

3

4   I,   TODD DeSIMONE, a Notary Public for

5   and within the State of New York, do

6   hereby certify:

7   That the witness whose testimony as

8   herein set forth, was duly sworn by me;

9   and that the within transcript is a true

10   record of the testimony given by said

11   witness.

12   I further certify that I am not related

13   to any of the parties to this action by

14   blood or marriage, and that I am in no way

15   interested in the outcome of this matter.

16   IN WITNESS WHEREOF, I have hereunto set

17   my hand this 25th day of September, 2013.

18

19

20   _____

21   TODD DESIMONE

22

23

24

25

ERRATA SHEET
VERITEXT REPORTING COMPANY

CASE NAME: IN RE ONE
DATE OF DEPOSITION: 9/25/13
WITNESS' NAME: ROBERT B.K. DEWAR, Ph.D.

PAGE	LINE(S)	CHANGE
7	4	replace "often be more so introduced" with "often also be introduced"
12	8	replace "which" with "and"
17	10	replace "only, and" with "only. And,"
34	18	replace "/" with "\"
36	15	replace "/" with "\"
37	3	replace "/" with "\"
41	16	replace "/" with "\" (both occurrences)
43	7	replace "/" with "\"
44	23	replace "/" with "\"
45	13	replace "/" with "\" (both occurrences)
48	20	replace "diagram" with "diagrams"
49	12	replace "file" with "end of file"
50	7	replace "/" with "\" (both occurrences)
54	21	replace "the" with "the main"
77	16	replace "be proper" with "be a problem"
88	12	replace "modular" with "modulo"
99	20	replace "/" with "\" (both occurrences)
170	19	replace "/" with "\" (both occurrences)
177	13	replace "files, which" with "files that"
201	12	replace "said" with "meant"
202	3	replace "there" with "this"
232	9	replace "allowed" with "not allowed"
242	23	replace "/" with "\" (both occurrences)
168	21	replace "/" with "\"

(signature) Robert B.K. Dewar
ROBERT B.K. DEWAR, Ph.D.

SUBSCRIBED AND SWORN TO BEFORE ME
THIS _____ DAY OF _____, 2013.

(signature) 10-12-15
(NOTARY PUBLIC)   MY COMMISSION EXPIRES:

1   UNITED STATES PATENT AND TRADEMARK OFFICE

2   BEFORE THE PATENT TRIAL AND APPEAL BOARD

3   ---------------------------------X

       EMC CORPORATION,   ) Case No.

4   ) IPR2013-00087

                          Petitioner,   )

5   vs.   ) Docket No.

) 100157-00240

6   )

       PATENT OWNER OF U.S. PATENT   )

7   NO. 8,001,096 TO FARBER, et al.) VOLUME II

       ---------------------------------X

8

9   September 26, 2013

10   9:09 a.m.

11

12   CONTINUED DEPOSITION OF ROBERT B.K.

13   DEWAR, Ph.D., an expert herein, held at the

14   offices of Wilmer Cutler Pickering Hale &

15   Dorr LLP, 7 Times Square, New York, New York,

16   pursuant to Notice, before Mayleen Ahmed

17   (Cintrón), a Registered Merit Reporter,

18   Certified Realtime Reporter, and Notary

19   Public of the State of New York.

20

21

22

23

24

25

1   A P P E A R A N C E S:

2

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4   Attorneys for Petitioner

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6   Boston, Massachusetts 02109

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8   CYNTHIA D. VREELAND, ESQ.

9

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11   NIXON & VANDERHYE P.C.

12   Attorneys for Patent Owner

13   901 North Glebe Road

14   Arlington, Virginia 22203-1808

15   BY: JOSEPH A. RHOA, ESQ.

16

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18   - - -

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25

1   - DR. DEWAR - CROSS -

2   R O B E R T   D E W A R,   having been

3   previously sworn, resumed as a witness

4   and testified further as follows:

5   CONTINUED CROSS-EXAMINATION BY

6   MR. DICHIARA:

7   Q.   Good morning, Dr. Dewar.

8   A.   Good morning.

9   Q.   You understand this deposition is

10   continuing from yesterday?

11   A.   I understand that.

12   Q.   And that you are still under oath

13   as we discussed yesterday?

14   A.   I understand that.

15   Q.   And do you have your book with the

16   prior art from yesterday, your binder?

17   A.   Everything. Yes, I have

18   everything.

19   MR. DICHIARA: And Joe, I think

20   you have the prior art binder.

21   Q.   I want to turn to --

22   Let me just ask, is this --

23   A.   Oh, that's my -- that's music. So

24   I don't think that's relevant. I don't think

25   that needs logging in.

1   - DR. DEWAR - CROSS -

2   Q.   Does it involve hash codes?

3   A.   I don't think there is any

4   intersection subject matter.

5   Q.   Okay.

6   So, I would like to turn one of

7   the prior art exhibits for Satya,

8   Satyanarayanan. The one that is marked

9   EMC 1026, the title is "Coda: A Highly

10   Available File System For a Distributed

11   Workstation Environment."

12   A.   Correct.

13   (Witness complying.)

14   Q.   Do you have that before you?

15   A.   I -- I have that in front of me

16   right now.

17   Q.   And you reviewed that in

18   connection with preparing for your reports,

19   right?

20   A.   I did, yes.

21   Q.   And are you familiar with the Coda

22   file system?

23   A.   No. Other than from this

24   document.

25   Q.   So, I just want to turn to the

1   - DR. DEWAR - CROSS -

2   abstract first, appearing in the first page,

3   and I think it is the second and third

4   sentence down.

5   He's referring to server

6   replication. And it says, "One mechanism,

7   server replication, involves storing copies

8   of a file at multiple servers," right?

9   A.   Yes.

10   Q.   And Coda -- actually, this Satya

11   paper discloses that, right?

12   A.   I'm sorry. What?

13   Q.   The abstract is correct, that this

14   paper discloses --

15   A.   Yes.

16   Q.   -- server replication, storing

17   copies of files at multiple servers?

18   A.   Yes.

19   Q.   Okay. I didn't think that was

20   anything that was in dispute.

21   So, then if we turn to page 450,

22   there's a section there entitled "Server

23   Replication", and I just want to confirm a

24   couple of things.

25   A.   Okay.

1   - DR. DEWAR - CROSS -

2   Q.   Are you there?

3   A.   Yes, I'm there.

4   Q.   So, the second sentence, each file

5   in directory Coda has a unique low level file

6   identifier, a component of which identifies a

7   parent volume, right?

8   A.   Okay.

9   Q.   So, it's true that this paper is

10   disclosing that Satya is using unique file

11   identifiers?

12   A.   Although they do involve and as

13   are disclosed here, a component which is

14   outside the file. But subject to that, yes.

15   Q.   It's the location, the parent

16   volume is the location of the file, right?

17   A.   Right. And so it's not a unique

18   file. The unique file identifier here, FID,

19   is not something that is based only on the

20   contents of the file.

21   Q.   I agree with you.

22   A.   I'm just making that point.

23   Q.   It doesn't mention one way or

24   another other than it has to be unique?

25   A.   No. He mentions that the

1   - DR. DEWAR - CROSS -

2   component identifies the parent volume which

3   is a specific disclosure that didn't --

4   doesn't depend only on the bits in the file.

5   Q.   Right. It just has to be unique,

6   and a component of it has to be identified at

7   the parent volume, correct?

8   A.   And the -- and I would add the --

9   I would add my notes of understanding that

10 when I see "unique" here, I understand that

11 means to me substantially unique.

12   Q.   Okay.

13   A.   And I think that's not in dispute

14 either. I think that's clear.

15   Q.   That's the way it works.

16   A.   And I think he is just using

17 "unique" quite perfectly.

18   Q.   But that's true, though, I mean,

19 he uses what he's calling a "unique

20 identifier" to identify files?

21   A.   Yes.

22   Q.   He just doesn't say how to

23 generate the identifier, right?

24   A.   Yes.

25   Q.   And he also mentions in the next

1   - DR. DEWAR - CROSS -

2   sentence that all replicas of an object will

3   have the same file identifier, right?

4   (Witness reviewing document.)

5   Q.   The very next sentence.

6   A.   Right.

7   Q.   So, the Satya system that he is

8   describing here, this version of Coda, was

9   designed to work with unique file identifiers

10   to identify files; you don't dispute that?

11   A.   Right. I have to conclude from

12   this that replicas have the same parent

13   volume.

14   Q.   Okay.

15   A.   Just -- just -- I mean --

16   Q.   I want an answer to my question

17   first.

18   A.   Okay. All right.

19   Q.   Which is --

20   A.   Well, I was just going back to

21   something I thought was part of the answer.

22   So ask the question again.

23   Q.   Satya was designed to work with

24   unique file identifiers to identify files;

25   you don't dispute that?

1   - DR. DEWAR - CROSS -

2   A.   To identify files in connection

3   with a particular parent volume.

4   Q.   So yes, with that caveat?

5   A.   Yes, with that caveat, yes.

6   Q.   All right. And switching gears

7   from Satya. I want to talk about the

8   Internet, kind of as it existed in the

9   1990-ish time frame just for context.

10   You've heard of Archie, right?

11   A.   I've heard of Archie.

12   Q.   Are you familiar with Archie?

13   A.   Not by use. I knew it at the

14   time, but I -- I'm -- I looked at it a little

15   bit. I haven't studied it closely.

16   Q.   And you would agree, though, that

17   it was a tool for indexing FTP sites, you

18   looked at it on that level?

19   A.   Yes.

20   MR. RHOA: Objection.

21   A.   It's a some kind of search tool.

22   Q.   It's like a database where you

23   could submit a query, and it will tell you

24   where FTP files were?

25   A.   Right.

1   - DR. DEWAR - CROSS -

2   Q.   And with Archie, you would submit

3   some kind of a query?

4   Like if you were looking for a

5   software package or something like that, you

6   could say I'm interested in that package, and

7   it would reply back and say, Here are some

8   locations that have something that satisfies

9   whatever your search string was?

10   MR. RHOA: Objection.   Lack of

11   foundation; outside the scope.

12   A.   I mean, it has -- it has some data

13   about locations of some things and in some

14   places.   It's -- it's not a search tool in

15   the sense of rumbling around.

16   Q.   Like a modern search?

17   A.   Like a modern system.   That's the

18   important distinction to draw, I think.

19   Q.   And I don't dispute that.

20   You might already have a copy of

21   this.   Well, I can give you this copy and you

22   can tell me whether you have it in your book.

23   And you're free to use the copy you have in

24   your book.

25   MR. DICHIARA: What I just handed

1   - DR. DEWAR - CROSS -

2   Dr. Dewar is an exhibit that's marked

3   EMC BMW 1034. And one of the titles is

4   "Guide to Network Resource Tool". It's

5   on the first page. It is the Network

6   Working Group, Request For Comments

7   1580.

8   MR. RHOA: I would like to lodge

9   objections to the extent necessary to

10   this document; it's hearsay; and lack

11   of authentication.

12   Q.   So, did you review this document

13   in connection with --

14   A.   No, I did not review this

15   document.

16   Q.   Well, let's turn to page 36

17   and 37. I'm going to ask some questions to

18   see if it jogs your memory in any way

19   concerning your memory of Archie and the way

20   it worked. Okay? Is that fair?

21   MR. RHOA: Objection. Outside the

22   scope.

23   A.   I didn't say I had any memory of

24   Archie. I'm not being aware of Archie until

25   this case.

1   - DR. DEWAR - CROSS -

2   Q.   Okay. So --

3   A.   I used the Internet extensibly,

4   but I'm -- not in the content of looking

5   around at FTP sites. I used it extensively

6   for working communication, but I had no --

7   Archie was unknown to me until a few months

8   ago.

9   Q.   Okay. So let's --

10   A.   So there's no memory to jog there.

11   Q.   So, let's see if what I'm going to

12   point to is consistent with whatever your

13   understanding is of Archie --

14   A.   Okay.

15   Q.   -- and whatever way it was

16   involved with your review in this case.

17   If I heard you correctly, you

18   didn't review this document --

19   A.   I did not review this document.

20   Q.   Okay. So, if we turn to page 36

21   and 37, it provides some examples. And this

22   is all going to be high level stuff. We're

23   not going to get into 1s and 0s and so forth.

24   So, Example 5.5, it says, "If you

25   are using an archie client, and enter the

1   - DR. DEWAR - CROSS -

2   command: archie -s," for search, and then it

3   gives this name "eudora".

4   Does "eudora" ring any bells. Do

5   you know what Eudora is?

6   MR. RHOA: Objection. Beyond the

7   scope. Lack of foundation.

8   Can I have a standing objection

9   for all questions relating to this

10   exhibit that --

11   MR. DICHIARA: Just say "same

12   objection" so we know when it ends.

13   MR. RHOA: Okay.

14   MR. DICHIARA: So --

15   MR. RHOA: So, same objection as

16   used in connection with questions

17   regarding this exhibit, being: lack of

18   authentication; lack of foundation;

19   outside the scope of the deposition;

20   lack of foundation; hearsay, etcetera.

21   A.   No.

22   Q.   Okay. So then right underneath

23   it, after you enter either this "archie"

24   command, or if you enter this "find" command,

25   the example is saying, "Then archie will send

1   - DR. DEWAR - CROSS -

2   you the following results".

3   And you see that there are like

4   three or four results it provides?

5   MR. RHOA: Same objection.

6   A.   I see that.

7   Q.   Right. And part of what it

8   provides is a host and some directory path

9   name --

10   MR. RHOA: Same objection.

11   Q.   -- location stuff, right?

12   MR. RHOA: Same objection.

13   A.   Right.

14   Q.   And you'll see, for example, in

15   the first case, it has a given host. There's

16   an IP address of some type to the right, and

17   then there's a directory location, and then

18   directory information which at the end says

19   "eudora" again.

20   MR. RHOA: Same objection.

21   Q.   Right?

22   MR. RHOA: Same objection.

23   A.   Right. It has a string with

24   "eudora" in it.

25   Q.   Right.

1   - DR. DEWAR - CROSS -

2   A.   Yes.

3   Q.   And then on the next search hit,

4   if you will, there's a different kind of

5   location.

6   This time it says, this is at the

7   top of page 37, "/pub/mac/eudora," right?

8   MR. RHOA: Same objection.

9   A.   That's what it says.

10   Q.   Right.   And then on the next

11   search hit, there's again something else,

12   looks a little different.

13   But it returns something that says

14   "/pub/NetNews/comp.binaries.mac", and then

15   there is some file information that says

16   "readme".

17   MR. RHOA: Same objection.

18   Q.   Do you see that?

19   A.   I see that.

20   Q.   So, this document is at least

21   suggesting to you, as someone skilled in the

22   art, these are kind of the results you would

23   get from an Archie search?

24   MR. RHOA: Same objection.

25   A.   Well, it's an example of what

1   - DR. DEWAR - CROSS -

2   might come from an Archie search.

3   Q.   Right.

4   A.   Or at least alleged to be an

5   example. I mean, I...

6   Q.   But it's what you would expect to

7   see from a database search, something like

8   this?

9   MR. RHOA: Same objection.

10   A.   Can you repeat that question?

11   Q.   As a person skilled in the art,

12   this is the kind of results you would see

13   from a database search, this is consistent

14   generally with what you would expect to see

15   from a database search?

16   MR. RHOA: Same objection.

17   A.   I think the use of the word

18   "database" is a little odd given the date.

19   We're talking about 20 years ago, and I have

20   no knowledge that Archie is using anything

21   that we would call a database today.

22   Q.   You don't know one way or another

23   whether Archie was a database?

24   MR. RHOA: Same objection.

25   A.   Was a database?

1   - DR. DEWAR - CROSS -

2   Q.   Correct.

3   A.   Certainly it wasn't -- it was

4   certainly more than a database because it had

5   an interactive component. A database is some

6   kind of component that allows data to be

7   stored.

8   Q.   And searched?

9   A.   And searched.

10   Q.   And the question was, I just want

11   to know the extent of your knowledge here as

12   far as your opinion is concerned.

13   You don't know whether Archie was

14   a database or not?

15   MR. RHOA: Same objection.

16   A.   That's like asking whether an

17   orange is an apple. Archie is -- Archie is a

18   search tool; it's a tool that you interact

19   with on the Internet. That cannot be, by its

20   nature, a database. It might employ a

21   database, but the terminology confusion is

22   too significant for me to answer the

23   question.

24   Q.   Do you have any understanding

25   whether Archie included a database?

1   - DR. DEWAR - CROSS -

2   MR. RHOA: Same objection.

3   A.   I have no knowledge of that.

4   Q.   So, do you have any knowledge

5   about WAIS?

6   MR. RHOA: Objection.

7   A.   Huh?

8   Q.   WAIS, W-A-I-S.

9   MR. RHOA: Same objection.

10   A.   No.

11   Q.   And you don't know one way or the

12   other whether it was an acronym that stood

13   for Wide Area Information Server?

14   MR. RHOA: Same objection.

15   A.   No.

16   Q.   You just don't know the tool?

17   A.   No.

18   MR. RHOA: Same objection.

19   Q.   So, let's turn -- you certainly

20   have it in your document -- to the Langer

21   exhibit.

22   A.   Yes.

23   Q.   That's marked as Exhibit 1003

24   across all IPRs. Let me know when you have

25   that.

1   - DR. DEWAR - CROSS -

2   A.   I have that in front of me.

3   Q.   And you reviewed this in

4   connection with your reports, right?

5   A.   I -- I reviewed the last part of

6   it that relates to packages containing a

7   directory or directory tree.

8   Q.   You didn't review the whole

9   document?

10   A.   No. Because I -- the rest of the

11   document -- I looked through it, but it

12   didn't seem to be relevant to the specific

13   issue of multipart files.

14   Q.   So I just want that to be clear on

15   the record.

16   You only looked at the part that

17   said packages; you didn't look at the whole

18   document?

19   A.   I looked -- I looked through the

20   rest to see whether it had anything to say on

21   multipart files. Since it didn't, I did not

22   pay any further attention to it.

23   Q.   Now, in your review, you don't

24   dispute that Langer is referring to both

25   Archie and WAIS, right?

1   - DR. DEWAR - CROSS -

2   A.   I'm sorry. What?

3   Q.   You don't dispute that Langer is

4   referring to both Archie --

5   A.   Right. I understand that.

6   Q.   -- and WAIS, right?

7   And in your review, you didn't

8   know what Archie or WAIS even was? You

9   didn't know whether it had a database

10   included?

11   A.   At the time, actually, that's what

12   triggered me to go up and -- go and look to

13   see what Archie was about.

14   Q.   And when you looked at it, you

15   still couldn't confirm whether it included a

16   database or not?

17   I want that -- maybe I misheard

18   you earlier. I just --

19   A.   Can I -- can I add some

20   explanation there?

21   Q.   Sure.

22   A.   To me, it's totally irrelevant

23   whether -- whether it includes a database.

24   It includes some kind of internal data which

25   it can search. Whether that's organized in a

1   - DR. DEWAR - CROSS -

2   way that we would define, describe as a

3   database, that is as I -- you know, something

4   like a Relational Schema, I have no idea and

5   I think I regard it as totally irrelevant.

6   It has some internal data that it

7   is able to search. If that -- if any such

8   mechanism is included in your definition of

9   database, it is not included in mine, then

10   I'm -- according to your definition of

11   database, I would say yes.

12   Q.   Okay. So maybe you had some very

13   broad notion of database. Archie includes

14   one, if it just simply means a database

15   search.

16   A.   Well, I'm just saying if your

17   notion of database includes any kind of data

18   structure which can be searched -- certainly

19   not mine, I don't think it is the general

20   definition -- but if you want to present that

21   definition for the purpose of your question,

22   then yes, it has a database, in that sense in

23   which you're using the question.

24   Q.   Okay. I think that's all we'll

25   need for the question.

1   - DR. DEWAR - CROSS -

2   A.   Okay.

3   Q.   So, on page 3 of Langer, there's a

4   section there that refers to unique

5   identifiers.

6   A.   Yes.

7   Q.   And you certainly reviewed that

8   section, right?

9   A.   Yes.

10   Q.   Okay. And he says at the very

11   beginning of that section, "Finally another

12   issue that will arise is that of uniquely

13   identifying files which may have different

14   names..."

15   And he goes on, "...and/or be in

16   different directories on different systems

17   (and also being sure that the files with the

18   same name are identical)", right, etcetera?

19   A.   Right.

20   Q.   Are you with me?

21   So, this was the problem we were

22   discussing yesterday, right, that you might

23   have two files with different names, yet they

24   might be the same thing?

25   A.   Well, I don't think we were

1   - DR. DEWAR - CROSS -

2 discussing it in the context in which I was

3 asked to look at this document. So, if

4 you're asking me how this relates to the

5 material in -- I mean, we're discussing it, I

6 think, in connection with '791.

7   If you're asking me how this

8 material relates to what we discussed in

9 '791, I didn't consider that at all.

10   Q.   And in the exhibit we were just

11 looking at, 1034, where we had the example of

12 eudora.

13   A.   Yes.

14   Q.   This is the situation where there

15 were several files from the search result

16 that said "eudora", right?

17   A.   That contained Eudora.

18   Q.   Right.

19   A.   Somewhere in the file identi -- in

20 the file path name.

21   Q.   Right. And what Langer is

22 referring to here is essentially saying,

23 well, how do we know that that's really the

24 same file as in --

25   MR. RHOA: Objection.

1   - DR. DEWAR - CROSS -

2   Q.   -- it has the name, but we don't

3   know if it's really the same file?

4   MR. RHOA: Objection to foundation

5   and form.

6   A.   I can't really -- I didn't

7   consider that, and I don't have an answer.

8   Q.   You don't have any opinion one way

9   or the other to dispute that notion? Did --

10   A.   No, I wasn't asked. I was -- I

11   was only asked very narrowly to look at

12   Langer.

13   Q.   Okay.

14   A.   So I -- so I did not consider the

15   answer to that question. I don't think it's

16   a good to do it on the fly.

17   Q.   That's fine. But we can agree you

18   have no basis. Right now, you haven't

19   disputed that notion?

20   A.   I have not disputed the notion...

21   Q.   That Langer --

22   A.   State your question again.

23   Q.   Let me state it again. Yes.

24   You are not disputing that Langer

25   uses unique identifiers for files, right?

1   - DR. DEWAR - CROSS -

2   A.   I'm -- well, unique identifiers --

3   I have to say. The only sense in which I

4   looked at Langer was in the sense of

5   identifiers for multipart files. And I don't

6   find that in Langer.

7   So, that was the only thing I was

8   looking for in Langer, and I didn't find

9   that, so. And that was my job, to find that

10   and...

11   You know, so, I have no -- I have

12   no considered opinion on the situation of

13   files that aren't multipart, because I

14   have -- you know, that was not in my scope of

15   the examination of Langer.

16   Q.   Okay. And we'll probe that,

17   whether it was relevant or not. Okay?

18   A.   That's fine.

19   Q.   Okay. So then --

20   A.   I'm just telling you what, you

21   know, how I address that.

22   Q.   That's fine. That's fine.

23   Turn to page 4.

24   (Witness complying.)

25   Q.   In the first full paragraph there,

1   - DR. DEWAR - CROSS -

2   it says, "A simple method of defining a

3   unique identifier that does NOT include a

4   particular site identifier would be to use a

5   hash function of the entire contents of the

6   file."

7   You reviewed this portion of

8   Langer, right?

9   A.   Yes. I -- I'm aware of that. I

10   mean, as -- as soon as I read that, I

11   understand that it is not relevant to my

12   reading, so...

13   Q.   To the multipart package?

14   A.   To the multipart package.

15   Q.   You're saying it's not relevant?

16   A.   Right.

17   Q.   But in your reading of it, you

18   didn't dispute -- and we can read through the

19   rest of it -- that he is disclosing using an

20   MD5 code to uniquely identify files, right?

21   A.   He mentions MD5. I did not -- I

22   did not have -- I was not asked to give an

23   opinion on whether this process formed

24   non-multipart files -- You know, I was asked

25   to look at this very specifically for

                    - DR. DEWAR - CROSS -

1

2   multipart files. Because it's -- I was asked

3   to look at -- look at it in connection with a

4   patent that is very specifically restricted

5   to multipart files.

6   MR. DICHIARA: I'm going to move

7   MO   to strike that answer as nonresponsive.

8   A.   Again? Ask the question again?

9   Q.   In reading this, you didn't

10   dispute that Langer is disclosing using an

11   MD5 code to uniquely identify a file?

12   A.   I did not --

13   Q.   Let me restate that. That didn't

14   come out the way I wanted it.

15   You don't dispute that Langer is

16   disclosing using an MD5 code to uniquely

17   identify a file?

18   A.   I neither dispute it nor confirm

19   it.

20   Q.   And then the next paragraph, did

21   you review that?

22   A.   Which paragraph are we talking

23   about?

24   Q.   The very next full paragraph, the

25   one that starts with "instead of providing,"

1   - DR. DEWAR - CROSS -

2   that paragraph; the second full paragraph on

3   page 4.

4   A.   I don't regard it as relevant to

5   what I was asked to look for.

6   Q.   I'm not asking you --

7   A.   In skimming this --

8   Q.   Doctor. Doctor, the question

9   wasn't whether you thought it was relevant.

10   I asked whether you reviewed it. We'll get

11   to the relevance.

12   A.   I -- I read it.

13   Q.   Okay. And in this sentence, he

14   says, "...it should be quite simple for ftp

15   sites to notify the MD5 codes and local

16   directory path/filenames of new files to

17   central database servers."

18   A.   Right. I understand that.

19   Q.   Does that sentence have any

20   meaning to you?

21   A.   Yes. It is a totally standard

22   technique used by everyone for -- you know,

23   that's what MD5 codes are used for, is that

24   kind of identification.

25   Q.   Okay. And what Langer is saying

1   - DR. DEWAR - CROSS -

2   here -- let me see if this is consistent with

3   your understanding of this sentence or not --

4   is he is saying that the FTP sites will

5   notify and update the databases and say, here

6   is an MD5 code and here is the path name?

7   MR. RHOA: Objection to form.

8   Q.   Is that what that sentence is

9   saying to you?

10   A.   Updating the databases. What

11   databases? Who is doing the updating?

12   Q.   In this sentence, it says the FTP

13   sites are going to do the updating, it says

14   the FTP sites to notify. It should be quite

15   simple for the FTP sites to notify the

16   central databases. That's what that sentence

17   says. And it is going to update it with the

18   MD5 codes and the path names.

19   MR. RHOA: Objection to form.

20   (Witness reviewing document.)

21   A.   I'm sorry. I don't -- I don't

22   read into it what you read into it that it

23   updates those database servers. I only see

24   "notify".

25   Q.   Let's take it in --

1   - DR. DEWAR - CROSS -

2   A.   I only see "notify".

3   Q.   Let's take it in pieces.

4   It says, "It should be quite

5   simple for ftp sites to notify."

6   A.   Right.

7   Q.   So, the FTP site is going to the

8   notifying?

9   A.   Right.

10   Q.   Right? And what it's going to

11   notify, or what it's going to include in the

12   notification, is the MD5 code and local

13   directory path name?

14   A.   Right.

15   Q.   Okay. And who it's going to

16   notify are the central database servers?

17   A.   Right.

18   Q.   That's just a fair reading of that

19   sentence?

20   A.   Right.

21   Q.   And do you have any opinion one

22   way or the other whether the central database

23   servers here are referring to Archie and WAIS

24   that the rest of the document refers to?

25   A.   No opinion.

1   - DR. DEWAR - CROSS -

2   Q.   So no reason to dispute it then?

3   A.   I can neither dispute nor confirm

4   it.

5   Q.   Nor confirm it. Okay.

6   And at least in this sense,

7   whatever the central database servers are --

8   and I understand you don't have an opinion

9   one way or the other whether it is Archie or

10   WAIS -- those databases have an MD5 code and

11   a path name? That's what that sentence says?

12   MR. RHOA: Objection to form.

13   A.   It implies that is a possibility,

14   but it does not say that.

15   Q.   Under that reading, this implied

16   possibility --

17   A.   Okay.

18   Q.   -- that, at least in that regard,

19   has a similarity to the True File Registry

20   which includes a True Name and the location

21   of where that file is?

22   A.   I really can't comment on that. I

23   wasn't asked to look at that, and I don't

24   feel like...

25   Q.   That's okay.

1   - DR. DEWAR - CROSS -

2   A.   To make that -- so I --

3   Q.   You can just say -- I don't want

4   to talk over each other.

5   We will get into the reasoning

6   later. If you don't have an opinion on it,

7   it's fine. Then what I'm going say is, "You

8   don't have any reason to dispute it?" And you

9   can say what you said before, that you

10 don't --

11   A.   Okay.

12   Q.   -- have any reason to dispute it

13 or to confirm it.

14   A.   Okay.

15   Q.   Okay? Because I don't want the

16 off-the-cuff stuff. There might be some

17 times where I'm going ask if something is a

18 fair reading, but I don't want you to do any

19 on-the-fly opinions.

20   A.   Fair enough. So, can we go back

21 and see where were in the process?

22   Q.   Yes. I had asked that under that

23 possible reading-- you said it is implied

24 but you're not quite sure, where we said that

25 the central database server has been updated

1   - DR. DEWAR - CROSS -

2   by the FTP sites and, as a result, that

3   central database server has both to the MD5

4   code and the locations of where those files

5   are, right? And you said that's possible?

6   A.   Under your supposition, yes.

7   Q.   Well, you also said that it

8   implies it, but you were a little hesitant to

9   say --

10   A.   Actually, I believe my words are

11   that it implies that's a possibility.

12   Q.   Okay.

13   A.   Which is a little bit...

14   Q.   So under that possibility --

15   A.   Yes.

16   Q.   -- it's at least like the True

17   File Registry in the sense that it has a

18   hash-based identifier, right?

19   A.   (No response.)

20   Q.   I need a confirmation instead of a

21   head shake for the record.

22   A.   It -- I really -- under your

23   supposition that a data structure is created

24   that has an MD5 code in it, it has an MD5

25   code in it.

1   - DR. DEWAR - CROSS -

2   Q.   Okay. As the rest of the document

3   talks about, as a unique identifier for a

4   file, right?

5   A.   Right.

6   Q.   And it also has the location of

7   where that file is?

8   A.   Under your supposition of the

9   possibility that it has a location, it has

10   the location.

11   Q.   And my supposition, you had agreed

12   is a possibility?

13   A.   It's a possibility.

14   Q.   Okay. All right.

15   So, I want to talk a little bit

16   about how Langer discusses how you can

17   request a file with an MD5 code. Okay?

18   A.   (Witness nodding.)

19   Q.   At the bottom of page 3 and onto

20   page 4, I want to focus on that bridging

21   paragraph. Okay? The one that starts

22   "if" --

23   A.   Okay.

24   Q.   -- comp.archives.

25   Let me ask you: Are you familiar

1   - DR. DEWAR - CROSS -

2   with comp.archives at all?

3   A.   Yes, I'm familiar with that.

4   Q.   What is comp.archives?

5   A.   It is one of the components of the

6   newsgroup systems of the time.

7   Q.   And the newsgroup systems at the

8   time, that might be something where people

9   like yourself at the time might say, Hey, I

10   have some new Ada software and here's what it

11   does, and here's where it is, or something

12   like that?

13   A.   Yeah. And I would be interacting

14   with a particular newsgroup.

15   Q.   Other programmers and folks like

16   that?

17   A.   Well, actually there was a

18   newsgroup called comp.lang.ada, which I was a

19   member of for many years.

20   Q.   Did you ever put postings on

21   comp.archives, just so --

22   A.   No.

23   Q.   -- that we have a concrete

24   example?

25   A.   No.

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2   Q.   For the reporter's sanity, let's

3   try to --

4   A.   Sorry.

5   Q.   I know it is tough.

6   A.   I need to give more time.

7   Q.   So, you have a familiarity with

8   comp.archives, right, high level?

9   A.   I just know from a mention here

10   that it is most probably one of the

11   newsgroups at the time, but I have no

12   knowledge of that independent of the

13   suggestion by its mention here.

14   Q.   We'll get to that.

15   So, it says, "If comp.archives and

16   WAIS etc provide a unique identifier for each

17   file which is independent of location" --

18   right? -- "and there are convenient ways to

19   automatically insert that identifier into a

20   news article" -- I think that's what you were

21   just referring to -- "when referring to a

22   file, then users would HAVE to lookup a

23   directory before ftping the file, and could

24   then be automatically informed of the nearest

25   location."

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2   So, you have that in mind?

3   A.   I --

4   Q.   Okay. I want to take it in pieces

5 so that we're all in sync, and we know what

6 we know and what there is an opinion and what

7 there isn't. Okay?

8   So, on that first page part where

9 it says, "If comp.archives and WAIS etc

10 provide a unique identifier for each file

11 which is independent of location", they're

12 talking about the unique identifiers that we

13 just mentioned before, the MD5 identifiers

14 for files, right?

15   A.   I assume so.

16   Q.   It's a fair reading, right?

17   A.   It is certainly a reasonable

18 reading.

19   Q.   Okay. And then it says, "...and

20 there are convenient ways to automatically

21 insert that identifier into a news article

22 when referring to a file," right?

23   A.   Right.

24   Q.   So, what Langer is saying here is

25 that there is some convenient way that if you

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2   had a newsgroup posting, like you were saying

3   before, you can automatically inject the MD5

4   code into that news article when it refers to

5   the file?

6   A.   From the casual reading we're

7   doing, that's certainly a possible reading.

8   Q.   And then the last part of it says,

9   let me get that so I read it correct.

10   "...then users would HAVE to

11   lookup a directory before ftping the file",

12   right?

13   A.   That's what it says.

14   Q.   What he is suggesting here, now

15   that you have the MD5 code, you can do that

16   Archie lookup and find out where it FTPed the

17   thing, like we said before?

18   A.   I'm not clear on that conclusion.

19   Q.   So, you don't have an opinion one

20   way or the other?

21   A.   I don't have an opinion on -- one

22   way or the other on whether that conclusion

23   is accurate.

24   Q.   And the next sentence,

25   parenthetical sentence says, "This need be no

1   - DR. DEWAR - CROSS -

2   burden on the user - they should be able to

3   request by the unique identifier and have

4   that request acted upon by the appropriate

5   ftp archive in one operation or reading news

6   or mail."

7   A.   That's what it says.

8   Q.   So, here he is saying it is some

9   kind of operation while you're reading news

10   or mail, it can get that file in one

11   operation?

12   A.   I neither confirm nor dispute

13   that.

14   Q.   Okay.

15   A.   I -- I really --

16   Q.   Is it a possibility? Do you have

17   any sense of that?

18   A.   I really can't give on-the-fly

19   interpretations of material here which I have

20   not studied from the point of view of the

21   questions you're asking.

22   Q.   Okay. And we'll get to whether

23   it's relevant to the package stuff which

24   immediately follows this.

25   A.   Right.

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2   Q.   Whether this is the context for

3   the package identifier.   Okay?

4   A.   (Witness nodding.)

5   Q.   So, down at the bottom of the

6   page, the last paragraph, it says, "A simple

7   ftp implementation would just hardlink every

8   file available for ftp to a filename encoding

9   of it's MD5 token."   Right?

10   A.   That's what it says.

11   Q.   Do you know what hard linking is?

12   A.   I know what hard linking is.

13   Q.   Okay.   And what's your

14   understanding of hard linking?

15   A.   Hard linking is a mechanism

16   available that's high only in UNIX, not in

17   any other system, which allows multiple

18   directory entries at the second level of the

19   UNIX file system to refer to the same data.

20   Q.   Is it another way of saying it's a

21   way of creating an alias to a file?

22   A.   Broadly speaking, that's fair,

23   although that doesn't capture the difference

24   between soft link and hard link, which is a

25   technical difference which I don't believe is

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2   relevant.

3   Q.   With hard linking, you can either

4   refer to it by the file name or whatever was

5   hard linked to the file name, right?

6   A.   It's actually hard linked to the

7   data.

8   Q.   Right.

9   A.   I mean, if you -- if you want to

10   get carefully technical, those are different,

11   but I don't think it matters at the level of

12   this discourse here. I mean, I think we can

13   almost replace "hard link" by "link" here.

14   Q.   I agree.

15   A.   And -- I don't understand, for

16   instance, why a soft link won't be just as

17   good.

18   Q.   Right. But what he's saying here

19   is something you understand, right, that you

20   can link, or hard link, the MD5 code to the

21   file name?

22   A.   I'm saying -- I said I understood

23   what "hard link" is. I don't want to give an

24   opinion about what the interpretation of this

25   sentence is. And so I -- again, so I can

1   - DR. DEWAR - CROSS -

2   neither confirm --

3   Q.   Nor dispute it?

4   A.   -- nor dispute what you just said.

5   Q.   Okay. And I think you said

6   earlier, this was not part of your opinion at

7   all on the packages; is that right?

8   A.   Right.

9   Q.   Okay. Let me ask you something.

10   Did the lawyers tell you not to

11   consider this portion?

12   A.   The lawyers gave me the patent. I

13   mean, my understanding is that there was

14   only -- that the patent where Langer was

15   relevant claimed prior art is talking only

16   about files that have multiple parts.

17   So it was my job to look at

18   Langer -- all of Langer. You know, I wasn't

19   told to just look at a part of Langer,

20   because the whole of Langer is -- is claimed

21   to be potential prior art. I understand

22   that.

23   But given that the patent is very

24   specifically about multipart files and

25   forming unique identifiers for multipart

1   - DR. DEWAR - CROSS -

2   files in a particular way, I was looking at

3   Langer from the point of view of whether I

4   saw prior art for that particular aspect of

5   the patent. Because that was all I was asked

6   to do.

7   Q.   And it was your opinion that the

8   section we were just talking about wasn't

9   relevant to any part of that patent?

10   A.   Right.

11   Q.   And is "that patent", just so

12   we're clear, the '539 patent?

13   A.   I'm sure that's right.

14   Q.   It's the only one where Langer --

15   A.   That is ---

16   Q.   -- is granted ground.

17   And let me just ask you, I know we

18   talked about this yesterday: You haven't had

19   any discussions with Mr. Rhoa about this case

20   since yesterday, right?

21   A.   No.

22   Q.   Okay. So, let's turn to page 5.

23   A.   Okay.

24   Q.   And there's the part that starts

25   with "packages," right?

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1

2   A.   Right.

3   Q.   And it begins saying, "A related

4   problem is that essentially the same

5   collection of information may be available as

6   different .tar.Z or zoo, or ZIP or shar files

7   etc," right?

8   A.   Right.

9   Q.   The very first sentence he's

10   talking about a related problem?

11   A.   Related to?

12   Q.   What he was just talking about.

13   A.   Okay.

14   Q.   The previous section, right?

15   A.   Yes. Okay.

16   Q.   And the previous section was

17   talking about the problem with file names,

18   and whether they're uniquely identified?

19   A.   Okay.

20   Q.   So, this very sentence is saying

21   the prior section is relevant?

22   MR. RHOA: Objection to form.

23   Q.   It's the same problem?

24   A.   It's saying it's related.

25   Q.   Relevant?

1   - DR. DEWAR - CROSS -

2   A.   Relevant to what?

3   Q.   The problem --

4   A.   All he's saying is that these two

5   problems are related.

6   Q.   Okay. Well, we can let someone

7   else decide whether this suggests the prior

8   section was relevant and whether it should

9   have been considered or not.

10   But I understand that you didn't

11   really consider it too tightly, didn't think

12   it was too important for your opinion, right?

13   A.   Well, I have a very firm opinion

14   that the previous section is not relevant.

15   Q.   Okay.

16   A.   So, I'm certainly not going to

17   agree to your interpretation from a casual

18   reading of this one sentence that it is

19   relevant. Because the reasons for it not

20   being relevant are technical and -- and I

21   have considered them carefully.

22   Q.   We'll explore that.

23   So, what he is saying here,

24   though, when he is talking about the related

25   problem, right, he says, "essentially the

1   - DR. DEWAR - CROSS -

2   same collection of information may be

3   available" -- in this case, he's talking

4   "essentially" is different file name,

5   different extensions. Same information but

6   one might be in a .tar file, one might be in

7   a .Z, one might be in a ZIP; that kind of

8   stuff?

9   A.   I see no mention of extensions,

10   and I don't understand its presence in your

11   question.

12   Q.   What is .tar referring to?

13   A.   That's just -- oh, you're just

14   saying, it is listing a possible extension of

15   a file?

16   Q.   A file name extension is what I

17   meant.

18   A.   Okay.

19   Q.   But that's what it's saying, it's

20   saying the same collection of information in

21   one case might be called package .tar,

22   another one might be package .Z, yet they're

23   still the same essentially collection of

24   information, but they have different file

25   names?

- DR. DEWAR - CROSS -

1

2   A.   He's not quite saying -- I -- I

3 dispute that reading.

4   .tar.Z files are not files that

5 end in .tar.Z; it is just a generic term to

6 refer to things that are being tarred and

7 gzipped. T-A-R-R-E-D. Let's do it that way.

8 One of those words that I can say and have no

9 idea how to spell, and gzipped,

10 G-Z-I-P-P-E-D. That one I did know how to

11 spell.

12   So, he is talking about kinds of

13 files, not particularly that they have

14 different names. He's just -- he's just

15 listing examples of classes of files that are

16 multipart files.

17   Q.   They're multipart files that

18 contain other files?

19   A.   That contain other files.

20   Q.   And what he's saying is that you

21 might have one that includes a set of files

22 and it's been tar zipped, right?

23   (Witness reviewing document.)

24   Q.   Correct?

25   A.   Yes.

1   - DR. DEWAR - CROSS -

2   Q.   And he might have the same set of

3   files that have been gzipped, essentially the

4   same collection.   And that's what he says.

5   A.   Right.   But I -- as I read this, I

6   don't think it's important.   But I don't

7   think he is emphasizing the comparison of two

8   files with two different compression

9   techniques.   He's equally talking about two

10   ZIP files that contain the same information.

11   So, I just -- he's not emphasizing

12   that it is different kinds of files.   That

13   might be the case, but that's not important.

14   Q.   We can use ZIP if you want;

15   whatever format is the simplest example to

16   discuss.

17   But essentially what he's talking

18   about here is that there could be one set of

19   files formed one way, another package with

20   another set of files formed another way, and

21   how does the user identify whether those are

22   the same?

23   A.   What do you mean by -- but in

24   asking that question, this is a request for

25   clarification.

```
1              - DR. DEWAR - CROSS -
2          Q.    Yes.
3          A.    Do you specifically have in mind
4    that one would be zipped and one would be
5    gzipped?
6          Q.    Whichever way is easier for you to
7    understand it, I'm happy to work with.
8                We can talk about two files that
9    have both been zipped.
10         A.    Okay.  As long as -- as long as
11   it's clear to me that your question includes
12   that.
13         Q.    Well, let's do that.  That's
14   probably the simplest fashion.
15         A.    I think it is the simplest path.
16   Because I think it is a distraction, that
17   doesn't come from an accurate reading of
18   this, to assume they are different
19   compression techniques.  They might be, but
20   you can't assume that.
21         Q.    Well, let's assume this
22   hypothetical, and see if this sentence is
23   referring to it or not.
24         A.    I'm just going to get some water.
25   I don't need it to be a formal break.
```

1   - DR. DEWAR - CROSS -

2   (Pause in the proceedings.)

3   A.   Okay. Sorry.

4   Q.   So he is saying you might have a

5 collection of files that have been zipped,

6 right?

7   A.   Yes.

8   Q.   And then someone else has

9 packaged, collected those same set of files

10 and zipped them?

11   A.   Yes.

12   Q.   And what he's concerned with is

13 how do we know whether they're letting

14 someone know that they're actually the same?

15   A.   Right.

16   Q.   Right? And that's the same

17 related problem we were talking about before:

18 two different file names, but yet they're

19 really the same thing?

20   A.   Right.

21   Q.   So let's use that hypothetical

22 going forward, so we don't have to worry

23 about tar.zip and g.zip. We'll just talk

24 about two ZIP files. Is that okay?

25   A.   That's fine.

1   - DR. DEWAR - CROSS -

2   Q.   And then in the next paragraph, he

3   says, "Nevertheless" -- this is the second

4   sentence -- "a user may be wondering whether

5   to ftp a package..."

6   He is talking about requesting a

7   package here, right?

8   A.   Right.

9   Q.   "... that has a new MD5 code to

10   see if it contains new revisions."

11   So far so good?

12   A.   Okay.

13   Q.   Okay. And so the user knows

14   there's a new MD5 code; so something's new,

15   right?

16   A.   Right.

17   Q.   But the problem with an MD5 code,

18   you see it is a new MD5 code, you have no

19   idea what that translates to? You don't know

20   whether an inner file has changed, whether

21   all the inner files have changed or anything,

22   it is just a number, right?

23   A.   Right.

24   Q.   So we will back up.

25   "...a user may be wondering

1   - DR. DEWAR - CROSS -

2   whether to ftp a package that has a new MD5

3   code."

4   And what that means is the user is

5   wondering whether to request a package now

6   that he has this new MD5 code associated with

7   it?

8   A.   Right.

9   MR. RHOA: Objection to form.

10   A.   Right, that's my understanding.

11   Q.   And then he says "to see if it

12   contains new revision."

13   Now, he uses the word "contains,"

14   right? So, he's talking about whether that

15   package contains anything new in it, right?

16   A.   Right.

17   Q.   And then he continues, "...and it

18   would be nice to be able to tell the user

19   without the need for collecting the entire

20   package," right?

21   A.   Right.

22   Q.   And so what he is saying is, he's

23   trying to propose a way so that the user can

24   find out what the new revisions are without

25   having to get the whole package over?

1   - DR. DEWAR - CROSS -

2   A.   Right.

3   Q.   And there is no dispute about

4   that?

5   A.   No.

6   Q.   And as we said, since it is a new

7   MD5 code, he knows something is new, he just

8   doesn't know what's new?

9   A.   (Witness nodding.)

10   Q.   Right?

11   A.   Right.

12   Q.   And they're specifically focusing

13   on trying to tell the user what that package

14   contains, which might have changed?

15   MR. RHOA: Objection to form;

16   speculation; lack of foundation.

17   A.   Trying to tell the user if it

18   contains new revisions.   That's what it says

19   here.

20   Q.   Right.   That the package contains

21   something, and they want to see if it's a new

22   revision?

23   A.   Right.

24   Q.   Okay.   And then in the next

25   paragraph, he's talking about --

1   - DR. DEWAR - CROSS -

2   And I'm sure you've considered

3   this at length.

4   A.   Yes.

5   Q.   -- how to create the package

6   identifier, right?

7   A.   Right.

8   Q.   And he says, "Likewise the

9   code..."

10   And here he's referring to an MD5

11   code, right?

12   A.   Right.

13   MR. RHOA: Ob--

14   Q.   "...for" --

15   MR. RHOA: Objection. Form and

16   foundation.

17   Q.   "Likewise the code for a tar or

18   cpio or ZIP archive etc or a collection of

19   shar files (with or without uuencoding)."

20   So, "Likewise the code for a tar

21   or cpio or ZIP archive etc or a collection of

22   shar files (with or without uuencoding etc)

23   could be the code obtained by applying MD5

24   again to the concatenation of the codes of

25   the extracted files, in numeric order,"

```
1                    - DR. DEWAR - CROSS -

2    right?

3          A.    Right.

4          Q.    And the code of the extracted

5    files are MD5 codes, right?

6          A.    But not MD5 codes of the data in

7    the ZIP files.

8          Q.    It says "the codes of the

9    extracted files". What are they codes of if

10   they're not the extracted files?

11         A.    He -- he suggests that, first, the

12   data should be uncompressed, and then -- then

13   it should be edited to UNIX conventions; that

14   involves extensive modifications of the text.

15         Q.    Where --

16         A.    Changing every line of the text.

17         Q.    And where do you see that in that

18   sentence?

19         A.    I'm looking at the paragraph above

20   which says how those codes are calculated.

21   You skipped that.

22         Q.    "A simple convention should

23   require that the code is always calculated on

24   the raw file."

25         A.    Right.
```

1   - DR. DEWAR - CROSS -

2   Q.   What does that mean?

3   A.   It means that you've got -- the

4   files in the ZIP, in the ZIP archive are

5   compressed.

6   Q.   They could be compressed?

7   A.   They are compressed virtually

8   always. Just like unique identifiers are

9   virtually unique. The files in ZIP files are

10   virtually always compressed.

11   Q.   Let's just focus on "virtually"

12   for a second.

13   I believe yesterday, you were

14   quite clear saying that ZIP files allow

15   uncompressed inner files, right?

16   A.   They allow uncompressed inner

17   files.

18   Q.   And this refers to ZIP files?

19   A.   Right.

20   Q.   Let's focus on that example.

21   A.   And then after --

22   Q.   Wait. Let's focus on that

23   example.

24   A.   If you have the artificial case,

25   which would never occur in this context -- I

1   - DR. DEWAR - CROSS -

2   mean, this is the context back in '90s when

3   data transmission was extremely expensive.

4   I dispute the practical

5   possibility of un -- of uncompressed files

6   ever appearing in this situation, but it's

7   technically possible to imagine someone doing

8   that.

9   MR. DICHIARA: Okay. So the first

10   thing I'm going to do is move to

11   MO   strike that answer as nonresponsive.

12   Q.   Yesterday we had talked about ZIP

13   files could have uncompressed inner files,

14   right?

15   A.   It is technically possible for a

16   ZIP file to have uncompressed inner files.

17   Q.   Okay. And with that in mind --

18   and I understand you might have a view about

19   whether people did it or didn't do it, but

20   with that in mind, let's focus on that

21   sentence.

22   A.   Okay.

23   Q.   Where it says, "A simple

24   convention should require that the code is

25   always calculated on the raw file."

1   - DR. DEWAR - CROSS -

2   What does that mean?

3   A.   The raw file is the one that comes

4   from extraction from the ZIP file?

5   Q.   So, in this case it's an

6   uncompressed file?

7   A.   So the sequence of bits in the raw

8   file --

9   Q.   I need a confirmation that you

10 understand.

11   A.   Say it again?

12   Q.   I need a confirmation of whether

13 you understood what I was saying.

14   A.   Okay. Ask the question again?

15   Q.   So, in the situation where I'm

16 asking, where you're talking about extracting

17 an uncompressed file, right?

18   A.   We are extracting an uncompressed

19 file in the situation you are talking about.

20   Q.   In the situation I'm talking

21 about.

22   And then it says, "A simple

23 convention should be that the code is always

24 calculated on the raw file."

25   So, we now have an MD5 code of an

1   - DR. DEWAR - CROSS -

2   uncompressed file, right?

3   A.   Well, the MD5 code computed here

4   is always of an uncompressed file.

5   Q.   Excellent. Okay. Great.

6   So, now below, when it's saying

7   that it's doing this concatenation of the

8   codes of the extracted file, they're talking

9   about a concatenation of MD5 codes of

10   uncompressed files?

11   A.   No. That's incorrect.

12   Q.   And tell me --

13   A.   Because you skipped the second

14   line of the paragraph above which is

15   important.

16   Q.   Okay. Tell me --

17   A.   Do you want me to read it?

18   Q.   Yes. And explain it.

19   A.   "Also text files should be encoded

20   from the unix form (ASCII code with LF as

21   line end and TABS not expanded)."

22   Q.   And what does that mean to you?

23   A.   That means that, in general, one

24   of these uncompressed files would have to be

25   subjected to extensive editing before

1   - DR. DEWAR - CROSS -

2   computing the MD5 code.

3   Q.   Unless, of course, it is already

4   in the UNIX form?

5   A.   Unless it happens to be in the

6   UNIX form in all respects already.

7   Q.   Right. So if you had UNIX files

8   in the package, they are uncompressed, the

9   MD5 code is just in the file that's in the

10   package?

11   A.   If that unlikely combination of

12   circumstances occur, yes.

13   Q.   Okay. So now on this next

14   paragraph where it says, what we were

15   referring to is saying, "Likewise the

16   code..."

17   And one of the things it mentions

18   it was for a ZIP archive, right?

19   A.   Right.

20   Q.   "...could be the code obtained by

21   applying MD5 again to the concatenation of

22   the codes of the extracted files, in numeric

23   order," right?

24   A.   Right.

25   Q.   So this is at least a hash of

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2   hashes?

3   A.   Not in the sense of the patents.

4   Q.   Can you answer my question "yes"

5   or "no"? Is it a hash of hashes?

6   A.   It's a hash of hashes, yes.

7   Q.   Okay. And it's specifically a

8   hash of a concatenation of MD5 codes of the

9   extracted files, right?

10   A.   Right.

11   Q.   And by concatenation in numeric

12   order, he's talking about one MD5 code right

13   next to the order, right?

14   A.   I -- I make that assumption.

15   Q.   In some kind of a block, right?

16   A.   (No response.)

17   Q.   A block?

18   A.   There are no details here, so we

19   can speculate on what's a reasonable way of

20   doing this based on his hints. And that's

21   one reasonable speculation.

22   Q.   And then he hashes those MD5

23   codes?

24   A.   Right.

25   Q.   And he says that's the code for

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2   the package?

3   A.   Right.

4   Q.   So we now have an MD5 code for a

5   package, right?

6   A.   Right.

7   Q.   And he says that that could be a

8   hash of hashes, right?

9   A.   It is a hash of hashes, yes.

10   Q.   And it is specifically a hash of

11   the MD5 codes of the extracted files, right?

12   A.   Yes.

13   Q.   And we mentioned before that the

14   extracted files, at least theoretically, have

15   been uncompressed files to begin with?

16   A.   They could be, theoretically,

17   uncompressed files.

18   Q.   And they could be UNIX files?

19   A.   And they could, theoretically, be

20   UNIX files.

21   Q.   And in the two paragraphs above,

22   he's specifically referring to FTPing a

23   package that has, in this case he's talking

24   about a new MD5 code?

25   A.   Right.

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2   Q.   So, he's talking about that you

3   can FTP a package with an MD5 code?

4   A.   Well, the MD5 code that's

5   mentioned in paragraph 2 is not the same as

6   the hash of hashes you're talking about

7   further down.

8   Q.   Well, we can --

9   A.   That would be a confusion.

10   Q.   Well, we can argue that and people

11   can come to different views. I'm sure that

12   you want that to be your opinion.

13   But, I mean, he's talking about

14   FTPing package with a new MD5 code, and then

15   he says how to create that MD5 code?

16   A.   Absolutely not. That's incor --

17   clearly incorrect reading of this.

18   Q.   And your basis for that is?

19   A.   The scenario of this section is,

20   he's computed MD5 codes on entire files. You

21   have an old ZIP file and a new ZIP file.

22   He's talking about where the MD5

23   computed, from the raw data of the file, this

24   file, is different from the MD5 of the raw

25   data of this file; meaning that there's some

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2 difference between these files: file names;

3 different versions; different ordering. Many

4 reasons -- well, different files completely

5 -- why these two MD5s should be different.

6   That's the situation which sets up

7 the scenario in which it will be nice to tell

8 the user, without getting the whole

9 package --

10   Q.   I understand.

11   A.   -- what's going. And it's for

12 that second purpose that we compute this

13 completely different than the MD5 code.

14   Q.   I understand what you're saying

15 now. Okay. So --

16   A.   I think that's the only possible

17 reading.

18   Q.   Let's see if we are in agreement.

19   So, in the second paragraph, he is

20 saying you can FTP a package with an MD5

21 code, right?

22   A.   Right.

23   Q.   But your understanding of it is

24 that in this paragraph, he's talking about an

25 MD5 code that would have been calculated

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2   across everything --

3   A.   Right.

4   Q.   -- in the package?

5   A.   As described in the first part of

6   this document.

7   Q.   Got you.

8   And so then he's saying, that's

9   not very helpful because --

10   A.   Right.

11   Q.   -- what we were saying before, you

12   have a new MD5 code --

13   A.   Right.

14   Q.   -- and you don't know how it

15   differed?

16   A.   That's my understanding.

17   Q.   I was probably unclear with my

18   question. Because I agree with what you

19   said. Okay?

20   A.   Okay.

21   Q.   And then two paragraphs down, he

22   is saying how to create a new MD5 code?

23   A.   A different MD5 code with

24   different properties, with different

25   intentions.

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2   Q.   Right.   So now it's actually

3   specifically in this paragraph, he's talking

4   about a different MD5 for the package where

5   it is an MD5 code calculated against the MD5

6   codes of the extracted files?

7   A.   Right.

8   Q.   The first one is across everything

9   in paragraph two; the one in paragraph four

10   is just for the MD5 codes of the file; is

11   that --

12   A.   Right.

13   Q.   Okay.   We're in sync.

14   And we don't dispute though that,

15   at least in this section, he is saying you

16   can FTP a package with an MD5 code?

17   (Witness reviewing document.)

18   Q.   That's the second paragraph.

19   A.   Well, he actually says "whether to

20   ftp a package that has a new MD5 code."   So

21   the "with" there is a substitution which I

22   don't accept.   Because it has an

23   implication --

24   Q.   Okay.

25   A.   -- that is not in this.

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2   Q.   He is at least suggesting you can

3   FTP a package with an MD5 code?

4   A.   No.   That has a new -- I just want

5   to use the language here.

6   Q.   Okay.

7   A.   That has a new MD5 code.

8   Q.   Okay.

9   A.   I -- it worries me to use the word

10   "with" because it implies an access method,

11   which is not implied here by that wording.

12   I just want to -- I prefer to

13   stick with the wording he has than make

14   modifications to it that might have other

15   implications.

16   Q.   So, let me ask a question.

17   Before, when we were referring not

18   to the packages, but just uniquely

19   identifying a file, right?

20   A.   Right.

21   Q.   We had talked about that they

22   referred to a central database, right?

23   A.   Right.

24   Q.   And that database can have an MD5

25   code?

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2   A.   Right.

3   Q.   Correct? And that MD5 code could

4   be associated with the location where the

5   file is?

6   A.   Right.

7   Q.   Right? And again, just in that

8   simple case, not package file but a normal

9   file, its says you can search that central

10   database -- I think it said "look up the

11   directory" -- and find out where the file is?

12   A.   I will neither confirm nor deny

13   that. Because I nor -- I neither confirm nor

14   dispute that because that was beyond the

15   scope of my investigation of Langer.

16   Q.   Okay. And you didn't think it was

17   relevant to this section?

18   A.   No. I didn't think it was

19   relevant to this section.

20   Q.   Okay.

21   A.   Can I -- can I restate that

22   answer?

23   Q.   Yes.

24   A.   I'm not saying that it isn't

25   relevant to the section in terms of the whole

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2   Langer argument. I'm saying it wasn't

3   relevant in terms of the narrow focus of my

4   examination of Langer, which is to see its

5   relationship to claim -- the claim of the

6   patent.

7   Q.   Okay. Great.

8   MR. DICHIARA: How about if we

9   just take a short break?

10   (Whereupon, a recess was taken

11   from 10:11 a.m. to 10:36 a.m.)

12   BY MR. DICHIARA:

13   Q.   So you still have the binder

14   before you?

15   A.   I do.

16   Q.   So, before the break, we were

17   talking about the package identifiers, right?

18   A.   Right.

19   Q.   And I think we had agreed that in

20   the second full paragraph in this section, it

21   was your understanding that new MD5 code was

22   an MD5 code calculated over everything in the

23   package, all the bits, right?

24   A.   Oh, the first MD5, yes.

25   Q.   Yes. And then two paragraphs

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2   down, he's proposing a different way in which

3   he's saying the MD5 code for the package is a

4   hash of the hashes, which are the hashes of

5   the extracted files?

6   A.   Right.   As possibly edited, as he

7   suggests.

8   Q.   Depending on whether it's a UNIX

9   file?

10   A.   Yes.

11   Q.   And then right underneath that --

12   and I think this gets to your exact point

13   that you were raising -- he says, "That

14   convention would help a lot, but does not

15   solve the problem concerning packages that

16   ARE slightly different", right?

17   A.   I'm sorry.   Where exactly?

18   Q.   The very next paragraph after

19   the --

20   A.   So, skipping the paragraph before

21   that?

22   Q.   No.   No.   We talked about that.

23   The "likewise" paragraph is the hash of

24   hashes?

25   A.   Well, we didn't -- but you're

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2   skipping this "deliberately loses any date

3   and mode or ownership information" of the

4   file?

5   Q.   Right.

6   A.   Okay. We are skipping that?

7   Q.   It is just hash of hashes. It is

8   not hashing this other stuff, although it

9   says it can be one easily enough.

10   MR. RHOA: Objection to form.

11   Q.   If you want to go through the

12   sentence, we can. But it says what it says.

13   A.   Let's go through that sentence,

14   because I consider it important.

15   Q.   Okay. So, he says, "This

16   deliberately loses any date and mode or

17   ownership information and also loses the

18   filename and directory structure

19   information..." right?

20   A.   Right.

21   Q.   "...although there are arguments

22   for retaining the latter and it could be done

23   easily enough..."

24   A.   "The latter" just means file name

25   and directory structure in that sentence.

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2   Q.   According to you?

3   A.   I think that's the -- that's the

4   clear reading.

5   Q.   Again, in your opinion?

6   A.   That's my opinion.

7   Q.   Okay.

8   A.   My technical opinion is the only

9   reasonable reading of "the latter".

10   Q.   Okay. So, then the next paragraph

11   says, "That convention..."

12   And by "that convention", he's

13   referring to this hash of hashes convention,

14   right?

15   A.   Right.

16   Q.   "...would help a lot but does not

17   solve the problem concerning packages that

18   ARE slightly different," right?

19   A.   Right.

20   Q.   So, he is proposing yet another

21   approach to try and build on his prior

22   approach, right?

23   A.   Right.

24   Q.   And he says, "The best approach

25   for the latter would be for Prospero and

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2   archie etc to explode the contents of such

3   files..."

4   And by "such files", he is

5   referring to the package, right?

6   A.   Right.

7   Q.   And are you familiar with the

8   notion or the term "explode the contents"?

9   A.   Yes.

10   Q.   Okay. And can you explain that?

11   A.   That's a decompression step of --

12   it's a generic term. Because the actual term

13   would differ depending on what -- not a

14   technical term "explode". He's just using it

15   as a generic term to talk about going to the

16   uncompressed versions of the inner file.

17   Q.   Are you familiar with the way the

18   term "explode a package" is used in the

19   Archie context?

20   A.   Well, "explode", it is used in a

21   number of different contexts. But I think

22   the best way to read it here is as a generic

23   description of the idea of taking a package

24   file and getting all the uncompressed files

25   from within that package.

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Q. Well, he actually clarifies it,
right? He says "explode the contents of such
file and list the individual items within
them"?

A. Right.

Q. Right? So, what he's saying here
is that by exploding the package, you were
going to list the individual files within the
package?

A. No. That's two separate steps:
exploding the contents of such files; and
list the individual items within it. I mean,
he is suggesting that what Archie should do
is first explode the file --

Q. Right.

A. -- second, list the individual
items within them.

Q. Create a list --

A. Right.

Q. -- of the actual files within the
package?

A. Right.

Q. And then he says this can easily
be done, right?

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2   A.   Right.

3   Q.   And he suggests some ways.

4   And what he's suggesting here is

5   that the MD5 for the package would be

6   associated with that listing, right?

7   A.   Right.

8   MR. RHOA: Objection to form.

9   A.   That's my understanding of the

10   suggestion.

11   Q.   All right. Because that's the way

12   that a person can tell if one package is

13   slightly different than another?

14   A.   Well --

15   Q.   By seeing the actual files --

16   A.   I would say it is the direct --

17   Q.   -- listed. The person can see the

18   actual files listed and then determine how

19   different one package is from another.

20   A.   Right. It's part of the solution

21   of that proper.

22   Q.   Because what we have, as we said

23   before, if you look at the MD5 code, you have

24   no idea what caused the differences?

25   A.   Right.

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2   Q.   And even if you had a list of MD5

3   codes and you were comparing two lists of MD5

4   codes, you could see that the lists differ

5   but it --

6   A.   I'm sorry. In what context are

7   you talking about comparing lists of MD5

8   codes?

9   Q.   Two paragraphs above where there's

10 a concatenation of MD5 codes.

11   A.   Right.

12   Q.   If I gave you one concatenation of

13 MD5 codes and another concatenation of MD5

14 codes, you could see that the -- those two

15 concatenations differ, but you wouldn't be

16 able to discern much more information than

17 that?

18   A.   I dispute that. Because if you

19 had the full list of MD5 codes, you can say:

20 Is this one the same as this one? Is this

21 one the same as this one? Is this one the

22 same as this one?

23   Q.   I agree with that. It was a

24 poorly-worded question.

25   A.   And I think that is somewhat

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2   equivalent to what he is talking about in the

3   next section anyway.

4   Q.   In the next section, he is

5   carrying it one step further, he is saying

6   you can actually list the item. So, he is

7   talking about something more meaningful, like

8   a file name?

9   A.   It is not clear to me. That's

10   speculation. Because, obviously, two ZIP

11   files can have the same stuff in it with

12   different file names.

13   I mean, very possibly, for

14   instance -- since we're speculating about

15   what might happen, here's a speculation --

16   that you have a file called Mumble Version 1

17   in the first ZIP file, and in the second one

18   it's called Mumble Version 2. You know, you

19   have different file names.

20   So, you can't conclude that

21   different file names means different data,

22   and you can't conclude that the same file

23   name means the same data. So, actually, my

24   interpretation is -- of his suggestion. It

25   is all very vague, so we're -- we're all in

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2   the speculation business here because this is

3   so vague.

4   My understanding is that he's

5   suggesting -- remember that he has previously

6   suggested that tools like Archie should list

7   the MD5 codes. So, he's actually presenting

8   you more than a list of file names. I think

9   that's, at least that --

10   Q.   I --

11   A.   That's a possible construction of

12   what he's suggesting.

13   Q.   And I agree with that.

14   When he is referring to listing

15   the individual items, for this sentence to

16   make any sense --

17   A.   Right.

18   Q.   -- in the context of this sequence

19   of one step after another, he is trying to

20   propose an improved solution, right?

21   A.   Right.

22   Q.   By this point in time, he is

23   saying there is going to be a listing with

24   file names and codes, so it might say Mumble

25   Version 1 and Mumble Version 2, and by

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2   looking at the MD5 codes, you can say are

3   they actually the same thing or not?

4   A.   It is one possible realization --

5   Q.   Okay.

6   A.   -- of these vague suggestions.

7   Q.   Now you can put Langer away.

8   A.   Okay.

9   (Witness complying.)

10   Q.   Unless you insist.

11   A.   What should we look at next.

12   Q.   I'm just going to ask you a little

13   bit about yourself.

14   A.   Okay.

15   Q.   Now, for the six patents that we

16   have been talking about --

17   A.   Right.

18   Q.   -- for the last day plus, would

19   you agree with me that they concern storage

20   systems or file systems?

21   A.   How would you understand the word

22   "concern" in that?

23   Q.   Well, I'm interested in what you

24   think the field of technology is for the

25   patents?

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2   A.   To me, the field of technology is

3   distributed systems. And I think a focus is

4   definitely -- of these patents, has in mind a

5   distributed system, so a collection of file

6   systems.

7   So I would say yes, they concern

8   file systems, but I don't -- but it's more

9   than just a single file system that they have

10   in mind.

11   Q.   So, did the patents require

12   distributed systems?

13   MR. RHOA: Objection to form.

14   Foundation.

15   A.   You're saying, you're asking --

16   Q.   Just generally.

17   A.   -- do the patents in the claims

18   require specifically? I don't know. I have

19   to -- off the top of my head, I'm not sure

20   whether that's a requirement.

21   You started off by asking a

22   general interpretation, and we certainly

23   plunged down into a question about the

24   claims. It's a different level, and I have

25   to answer it in a different way.

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2   I'd have to actually go --

3   Q.   Well, let me --

4   A.   -- and look at the --

5   Q.   -- focus on, my real question of

6 interest is: What do you consider the field

7 of technology?

8   A.   So the field of technology to me

9 here is distributed file systems, systems

10 that are distributed across some

11 communication --

12   MR. RHOA: Off the record.

13   (Pause in the proceedings.)

14   A.   Go back and repeat the last

15 question. Where are we exactly? I'm

16 confused for a moment.

17   Q.   I said I want to focus on, my real

18 question of interest is: What do you

19 consider the field of technology?

20   A.   Okay.

21   Q.   And you said, "So the field of

22 technology to me here is distributed file

23 systems, systems that are distributed across

24 some communication..."

25   A.   Network.

1   - DR. DEWAR - CROSS -

2   Q.   Network.   Okay?

3   And in your materials there -- I

4   won't have a working copy for a second.   Do

5   you have a CV in your --

6   A.   Yes. I have some. I think it is

7   at the end of the first declaration, right?

8   Q.   Yes. Is your CV accurate?

9   A.   It is not up-to-date, but it's

10   accurate as far as I know.

11   Q.   Is it generally accurate? There

12   might be --

13   A.   Yeah. Yeah. It's probably -- you

14   can get an idea of what it is. I'm writing

15   articles all the time, so you know, it's not

16   quite up-to-date. There are some -- are

17   some -- there's probably another page of

18   articles that isn't reflected. But nothing

19   significant, I think.

20   Q.   And the other articles would be

21   more recent articles?

22   A.   More recent articles on same sort

23   of things.

24   Q.   So, just at a high level,

25   generally, what did you do after you received

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2   your Ph.D.?

3   A.   So, my Ph.D. was in chemistry, but

4   it involved heavy use of computers. So my

5   Ph.D. thesis is a chemistry thesis. I was

6   solving a chemistry problem, but I was using

7   computers very extensively. I wrote a suite

8   of computer programs that is still in use

9   today for solving these problems in the

10   domain of chemistry.

11   Then right after I got my Ph.D., I

12   was approached by actually a Chemistry

13   Professor at IIT who asked me if I wanted an

14   Assistant Professorship in Computer Science,

15   or the Information Science Department. And I

16   go, well, that's really where my interest

17   lies. And I never did any chemistry again,

18   or at least almost no chemistry again.

19   And I took a job teaching computer

20   science at the Illinois Institute of

21   Technology.

22   Q.   And that was around 1970?

23   A.   It would be 1968 to 1975.

24   Q.   Okay.

25   A.   That's what it should say.

1   - DR. DEWAR - CROSS -

2   Q.   You're right. I didn't focus on

3   the Assistant Professor.

4   A.   In 1975 -- so, I was an Assistant

5   Professor. After two years, I received

6   tenure and was made Associate Professor.

7   And then in 1975, I was in touch

8   with Jack Schwartz, and he -- he basically

9   asked me, "Do you want to come to NYU and be

10   the second chairman of the department?" He

11   had founded the Computer Science Department

12   at NYU, and he was the first chairman. He

13   didn't really have the authorize to posit

14   that question, but he asked me if I wanted to

15   come.

16   And I thought about it, I visited,

17   and that's when we moved to New York in 1975.

18   And, indeed, I became Chairman of the

19   department, I think, in '78. You know, the

20   dates are here.

21   Q.   Yes.

22   A.   And I was Chairman of the

23   department. I was also an Associate Director

24   of the Courant Institute in which the

25   Department of Computer Science resided.

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2   And I taught there 'till I was 59

3   and a half, which is a magic age for the

4   time. But I have formed this -- I mean,

5   two -- two other things to get a sort of

6   clearer view of my experience.

7   I did extensive consulting all the

8   time I was a Professor. In particular, I was

9   involved in the development of Ada language

10   early on. Actually, I mean, it's

11   interesting, I was just checking them out

12   just a moment ago.

13   I was using the Internet

14   extensively in 19 -- in 19 -- I forget the

15   first date when I would have been using it.

16   In 1978.

17   By 1978-1979, I was sending dozen

18   of e-mail messages a day on the original

19   ARPANET, which was the precursor of the

20   Internet. So, I'm one of the ancient

21   Internet people.

22   But that was in consult -- in

23   conjunction with my consulting activities

24   which always, I would say, as extensive a

25   part of my activities is my teaching

1   - DR. DEWAR - CROSS -

2   research.

3   Q.   So, in terms of the CV, I just

4   have a couple of questions in terms of time

5   period.

6   A.   Ask away.

7   Q.   So, realizing that the dates are

8   "best estimate" kind of thing.

9   A.   Fire away.

10   Q.   You were the Director at NYU for

11   Computer Science up to 1987. And then what

12   happened after that?

13   A.   Well, that in -- from '81 to 87, I

14   was Director of Undergraduate Studies.

15   That's just -- some faculty member of the

16   department takes on the job of kind of

17   supervising and overseeing the undergraduate

18   program and figuring out what courses to

19   offer, and who should teach them and things

20   like that. So, it is sort of a subsidiary

21   administrative job to the chair of the

22   department.

23   Q.   Okay.

24   A.   And it is something you hold for a

25   short while. It's one of these jobs that

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2   gets -- like a chairmanship itself, which

3   gets rotated through the faculty and the

4   department and sort of by tradition. It is

5   not something that people -- a job that

6   people seek, but it's part of the service of

7   the department.

8   Q.   I'm more interested in, like, what

9   happened afterwards.

10   Was that the end of your NYU work?

11   A.   Oh, no. No.

12   Q.   Okay.

13   A.   It I was -- it was just -- not at

14   all. I was fully involved at NYU.

15   Q.   Okay. Until when?

16   A.   Until I resigned from NYU, which

17   is -- as I said, when I was 59 and a half, so

18   you have that date somewhere, research and...

19   (Witness reviewing document.)

20   A.   Maybe, Full Professor of Computer

21   Science at NYU from 1976 to 2005.

22   So, I was, in fact, my -- the

23   period from 1995 to 2000 -- let's see, even

24   it out. From 1990 to 2005, I had a very

25   extensive research program, millions of

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2   dollars a year developing -- helping develop

3   the Ada language. So I was very active.

4   In a certain sense, when you see

5   these things, those are distractions from my

6   main activity, which was research. And then

7   I became -- and I was Associate Director of

8   the Courant Institute. Again, that's a

9   part-time job, administrative job; by no

10   means my main activity.

11   My main activity was always in

12   research and, you know, I had a -- I had a

13   big research group.

14   Q.   Researching Ada?

15   A.   Research mostly focused on Ada,

16   yes.

17   Q.   And you said you were developing

18   the Ada language, right?

19   A.   Yes. I was -- I was a member of

20   all of the -- of -- it should be here

21   somewhere. I was a member of all sorts of

22   groups that were involved in developing Ada.

23   There was a formal DOD group that

24   I was a member of that I -- that I was a

25   member of the Relative -- Relevant ISO

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2   Groups, ISO, International Standards

3   Organization, and the ANSI groups that were

4   developing Ada.

5   So I helped develop, design and

6   check them through the development of Ada in

7   international standards.

8   Q.   And Ada, just so that we're

9   perfectly clear, is a specific programming

10   language?

11   A.   Yes. And it's always spelled

12   capital A, little d, little a. We're very

13   particular.

14   Q.   And in your research, in terms of

15   developing it, does that mean you were doing

16   things like developing compilers for it or --

17   A.   That was one aspect is we were

18   developing one of the early -- we were the

19   first NYU -- there was a formal validation

20   procedures for compilers that said -- run by

21   the DOD, that says, "Your compiler meets the

22   requirements of the Ada language".

23   I still have sitting in my office

24   Certificate No. 001. We were the first

25   compiler to meet the criteria the DOD had

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2   established, passed that set of tests.

3   Q.   Were you involved with the

4   development of the formal syntax for Ada?

5   A.   Absolutely. I was a member of all

6   the groups that were involved in developing.

7   I wasn't a formal member of the design team,

8   but I was a member of -- critically of a

9   group called the Distinguished Reviewers,

10   which was a group put together by the DOD to

11   oversee the development that was going on by

12   the developers.

13   And we liked some things; we

14   didn't like other things; we changed some

15   things. This is the usual kind of quite

16   difficult work that happens in designing a

17   program -- which I've been involved in that

18   kind of thing more than once, but this was a

19   major involvement.

20   Q.   And Ada is an object-oriented

21   programming language?

22   A.   It wasn't in its initial

23   incarnation. Although, I'm answering that

24   question in -- "object-oriented programming

25   language" is a tricky term, but people

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2   usually mean it -- use it to describe a

3   language that has inheritance.

4   Q.   And instances in objects?

5   A.   And instances in objects.

6   Although, what is an object is -- that's not

7   so clear.

8   Some people would argue that

9   certainly Ada, in its original form, allowed

10   object-oriented design, OOD. And I was

11   involved in the continuing development of

12   Ada.

13   I mean, most recently, I've been

14   very involved in the development of Ada 2012,

15   which is the version of the standard that

16   came out two years ago.

17   But the version that came out in

18   1995, Ada 95 was fully -- it was the first

19   internationally standardized object-oriented

20   language. So yes, it was definitely object

21   oriented.

22   Q.   Was it object oriented before '95

23   or not?

24   A.   Interesting debate. I think --

25   you know, people use "object oriented" in a

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2   casual way, you know, to include things like

3   abstract data types. And, you know, to me,

4   an abstract data type is not an object --

5   though many C++ programs seem to think

6   otherwise. So, you're touching on an

7   controversial area.

8   MR. RHOA: One second.

9   (Whereupon, a short recess was

10   taken from 11:00 a.m. to 11:01 a.m.)

11   BY MR. DICHIARA:

12   Q.   So, we were just discussing Ada.

13   And prior to 1995, we were discussing whether

14   it had been universally recognized as object

15   oriented or whether it was debated whether it

16   was object oriented.

17   Prior to 1995, did Ada have the

18   notion that you could instantiate an object?

19   A.   Yes. Because you could -- it had

20   the notion of instantiated generics. And

21   those -- in an object-oriented design, you

22   could use the generic facility of Ada to

23   create a conventional object-oriented design

24   which would have objects and message passing.

25   Q.   And you, I believe, had mentioned

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2   that you were involved with developing some

3   of the earliest Ada compilers; is that right?

4   A.   Right.

5   Q.   And the Ada compilers needed to

6   generate code that would create object

7   identifiers, right?

8   A.   Right.

9   Q.   Once it's compiled --

10   A.   Yes.

11   Q.   -- you need some kind of

12   identifier to find the object, right?

13   A.   Right.

14   Q.   And how were those object

15   identifiers created?

16   A.   At what level of abstraction?

17   Because at the lowest level abstraction, it's

18   just a region of data. At the lowest level

19   of abstraction, an object is nothing but a

20   data type, a record. That's true of C++,

21   too.

22   And so, an object is just a record

23   containing certain data. It resides at a

24   certain address in memory, and it's

25   identified in the generated code by its

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2   address.

3   Q.   But Ada also allowed distributed

4   programming, right?

5   A.   So, Ada allows distributed

6   programming in the sense of the distributed

7   programming annex of Ada.

8   Q.   So, you could have one object on

9   one machine, right?

10   A.   Right.

11   Q.   And in the same program, a

12   different object on a different machine?

13   A.   Right.

14   Q.   And how would you identify that

15   object on a different machine?

16   A.   The -- the communication that's

17   defined between nodes in the Ada model is

18   purely based on RPCs, Remote Program --

19   remote procedure calls. So, it's not a

20   data-oriented connection; it is a remote

21   procedure call connection.

22   Q.   So, in the period of 1990 to 2000,

23   were you designing any storage systems?

24   A.   I'm trying to -- I'm not quite

25   sure. I would have to check the dates.

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2   Because I wrote a whole sequence --

3   Q.   You can consult your CV.

4   A.   I wrote a whole sequence of

5   operating systems for Honeywell which most

6   certainly have full-blown file systems in

7   them.

8   Q.   Right. I think that might have

9   occurred earlier. But I wonder --

10   A.   I think that occurred earlier.

11   I was also involved from -- in the

12   '80s, and I don't know quite when that

13   connection ended -- in doing the file systems

14   for the COBOL, Realia COBOL compiler.

15   Q.   And COBOL is another computer

16   language?

17   A.   It's another computer language,

18   yes.

19   Q.   So, if you look at your CV -- and

20   I don't want to confine your search to a

21   particular spot. Maybe it is in the area

22   that starts with "Software Experience".

23   I'm interested in knowing whether

24   you were doing any storage systems from 1990

25   to 2000.

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2   A.   From 1990 to 2000? I'm trying to

3   remember.

4   (Witness reviewing document.)

5   A.   I'm certainly involved in the

6   early '90s in developing the IO system and

7   file system for the Ada compiler at Alsys.

8   That's item 11 in the section on "Other

9   Consulting Experience".

10   Q.   I want to make sure I'm looking at

11   the same --

12   A.   It goes to the end. It goes to

13   the end. There's a section called "Other

14   Consulting Experience".

15   Q.   I don't see that just yet.

16   A.   It's after "Operating Systems and

17   Executives" and "Other System Software."

18   Q.   Okay. So item 11?

19   A.   It is item 11 there. And that was

20   concerned with developing the high level -- I

21   wrote much of the run time for that compiler

22   for Alsys. I was consulting for Alsys. And

23   "consulting" meant writing. I mean, it was

24   pretty much halftime, and I was writing

25   extensive software.

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2   And one of the things I was

3   involved in --

4   Q.   Let me just ask for clarification,

5   writing extensive software. On this item it

6   says the "Ada compiler technology"?

7   A.   Right.

8   Q.   Was there anything else?

9   A.   Just so you understand, "compiler

10   technology" includes the entire run time

11   environment and the issue of mapping the Ada

12   semantics onto multiple file systems.

13   So, I was very aware of -- of the

14   development of file systems at the time and

15   their -- and their capabilities.

16   Q.   And if I ask you to review this

17   CV, can you tell me -- not constrained by '90

18   to 2005 -- your work experience with storage

19   systems or file systems? Like this is one

20   example.

21   A.   Okay.

22   Q.   And so --

23   A.   Well, I had -- one of my earlier

24   consulting connections was with Incoterm,

25   later with Honeywell. And I wrote the whole

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2   system, a whole sequence of operating

3   systems, full-blown operating systems.

4   So, to give an idea, somewhere

5   between the sophistication of MS-DOS,

6   comparable to UNIX, I would say is fair.

7   Because in some respects, they were much

8   higher level than UNIX and they had, for

9   instance, visual interfaces. I believe that

10   those operating systems I wrote were the

11   first operating systems ever built with

12   visual interfaces.

13   So, those were complete operating

14   systems, complete file systems, in some cases

15   quite sophisticated file systems with multi-

16   index files and all kinds of complex files

17   operation.

18   So, I was -- at the time, I was

19   doing that, I was very aware of file

20   technology.

21   I also developed, one of my -- one

22   of my important consulting relationships was

23   on the COBOL compiler for Realia. And there

24   I wrote the run time system, the whole run

25   time system is mine. And I wrote the entire

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2   file system, that means I -- because there is

3   almost nothing on MS-DOS, we were PC-DOS I

4   guess it was by then.

5   There is nothing there in 1980.

6   So we had to create a full-blown file system

7   on top of MS-DOS, including index files, you

8   know, the kind of things that in the

9   mainframe would have be called ISM files.

10   And we were -- we were duplicating

11   the IBM mainframe environment on a PC. So

12   that was all my creation, was that file

13   system.

14   Q.   Would it be possible, similar to

15   the way you identified item 11, to be able to

16   tell me, at least work, would you be able to

17   identify these experiences on your CV? Would

18   they have entries on your CV?

19   A.   Okay.

20   (Witness reviewing document.)

21   A.   So, I'm just seeing where I

22   mention...

23   (Witness reviewing document.)

24   A.   Yeah, look under "Compilers". And

25   if you look at item 3k, and notice that it

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2   says "and the run time library."

3   Q.   Okay.

4   A.   80,000 lines of assembly language.

5   And a major part of that 80,000 lines was

6   complete sophisticated file system. And it

7   is a run on top of PC-DOS.

8   Q.   So that was in '83?

9   A.   That was -- that was in '83. As I

10   said, I don't really know when -- you know,

11   it was released in '83.

12   Q.   Okay.

13   A.   And then we -- we -- many years

14   went back of extensive modifications,

15   improvements, additional versions.

16   I don't know from this CV when my

17   relationship with Realia COBOL -- with Realia

18   terminated. It was when they were purchased

19   by Pansophic, which is a matter of record,

20   but I just don't know that off the top of my

21   head.

22   Q.   Would you know whether it was

23   before or after 1993?

24   A.   I hate to guess.

25   Q.   Sometimes there are particular

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2   specific events that make it easier?

3   A.   Yeah, I can't --

4   Q.   That's fine.

5   A.   I...

6   Q.   Is there anything else in this CV

7   that would relate to storage systems or file

8   systems, as far as your work?

9   A.   Well, I guess one interesting

10   relevant piece of work which should be

11   reflected somewhere here, but it's -- there's

12   so much stuff it's hard to find.

13   I did work on distributed data

14   entry systems for Transac, which was the

15   Alsys -- an Alsys connection in France. and

16   that involved ---that was one of my first

17   extensive creations for distributed systems

18   because there were distributed -- distributed

19   database servers and distributed data entry

20   systems that were updating that database.

21   And there I wrote that whole program. It was

22   a demonstration program.

23   Q.   Is that item 9?

24   A.   Item 9 of what?

25   Q.   Where you had the 11, two items

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2   up.

3   (Witness reviewing document.)

4   A.   Right. Yes, it was.

5   Q.   And how did that involve storage

6   systems or file systems?

7   A.   Because we were actually really

8   creating file -- local and remote file

9   systems that stored the relevant data. This

10   was a system for a bank. And it was -- it

11   wasn't the final software, but it was a model

12   for the entire data -- distributed data

13   system, data processing system, and data

14   handling system for Société Générale, which

15   is a bank that's spread all around France.

16   Q.   Were there any other pieces of --

17   A.   Pieces of stuff --

18   Q.   Yes.

19   A.   -- that's available?

20   Q.   Consulting work that would --

21   A.   Really, let me look through this

22   almost item-by-item.

23   (Witness reviewing document.)

24   A.   Ooh, that's out of date. There

25   are other fully validated Ada compilers.

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2   There are other fully validated Ada 95

3   compilers, a minor point.

4   (Witness reviewing document.)

5   A.   Again, the -- and that compiler,

6   on which I still work every day today, one of

7   the --

8   Q.   Where are you pointing?

9   A.   I'm at 3p.

10   Q.   This is under "Compilers"?

11   A.   Right.

12   Q.   Okay?

13   A.   I mean, 3p is a much bigger item

14   than it appears here. Because we took that

15   technology and founded the company on the

16   basis of this technology 20 years ago, and

17   we've been developing it ever since. And

18   I've been a major technical contributor to

19   that development for the last 20 years -- in

20   the context of the company. Before that, it

21   was 20 years in the context of the

22   university, or 15 years in the context of the

23   university.

24   And a lot of what we need, a lot

25   of what we do is worry about how to build the

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2   file systems that Ada needs on top of all

3   kinds of different file systems from

4   different...

5   So, I'm very familiar with the

6   file systems of all current operating

7   environments because I have -- part of my job

8   is to figure out how to interface, build on

9   top of those, layers on top of the file

10   systems.

11   Q.   You --

12   A.   So I'm still --

13   Q.   -- need to design the file system

14   interface to the operating system?

15   A.   Exactly. Yes. I mean, we have a

16   set of requirements in Ada that the file

17   system and the high level of extraction

18   should look like this. We are presented with

19   this, and this completely different stuff. I

20   mean, let's say UNIX and DOS. Radically

21   different -- well, not radically, but

22   different in their view. VMX, radically

23   different in its view.

24   So, we have all kinds of different

25   operating systems, so we somehow have to map

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2   the file system, extract file system view of

3   Ada to all these different file systems.

4   So, while I didn't write all these

5   different file systems, I have to understand

6   them very well.

7   Q.   You used them?

8   A.   In addition, I've been involved in

9   the distributed aspects of the Ada compiler,

10   so I've -- I've written -- I've written and

11   designed some of the critical components that

12   relate to implementing distributed view.

13   And again --

14   Q.   I'm listening.

15   A.   Oh, and again, that's a case where

16   we're building the Ada model on top of

17   distributed capabilities. For instance, we

18   have -- an implementation of Ada's view of

19   the distributed systems on top of CORBA,

20   C-O-R-B-A, Common -- I don't even know what

21   it stands for. I can't.

22   Q.   I know what you're talking about.

23   A.   Okay. So, CORBA is an

24   international standard for low-level data

25   communication, and we build on top of that.

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2   So I'm still answering your

3   question so, by just checking everything else

4   that's listed here. I can't necessarily

5   be...

6   (Witness reviewing document.)

7   A.   That's earlier, but I guess a

8   little bit relevant is I was the author of

9   the Spacemaker™ utility, it was actually

10   featured on the cover of PC Magazine. It was

11   the first compression utility for executable

12   files on DOS, self-unpacking executable

13   files.

14   So that's -- that's another place

15   which I had to -- I mean, I very thoroughly

16   understand the MS-DOS, PC-DOS file system.

17   Q.   And which --

18   A.   And in those days, when it was

19   MS-DOS, PC-DOS, I pretty much knew every bit

20   of that operating system.

21   Q.   And what entry were you looking

22   at?

23   A.   That's 5e.

24   Q.   So, I'm trying to circle the ones

25   we were talking about. We had 5e, 3p.

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2   They're not necessarily in the order --

3   A.   3p.

4   Q.   Not necessarily in the order you

5   mentioned them, it's just the way I circled

6   them.

7   You had 5e, 3p, 3k.

8   A.   Right.   The whole --

9   Q.   Number 9; number 11.

10   A.   Pretty much everything in

11   Section 4.   You know, I had said I wrote a

12   series of operating systems, so that's really

13   the whole of Section 4.

14   And again, I'm not sure of the

15   termination dates of that work.   I would have

16   to check.   I think they're moderately

17   accurate the date ranges here.   So let's see

18   what else.

19   (Witness reviewing document.)

20   A.   If we're thinking in terms of file

21   systems and communication systems and

22   distributed systems -- which I think come a

23   little bit related -- another relevant thing

24   would be 5a, again, earlier work in the

25   Incoterm days.

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2   And that's -- these were to do

3 with remote batch emulators, so the

4 technology of the day, where you had remote

5 terminals that were programmed to look like

6 local card readers, really, for remote

7 mainframes. But that involved understanding

8 communication protocols of the day.

9   Q.   Have you ever worked with Archie?

10   A.   I never worked with Archie

11 specifically.

12   Q.   Or WAIS?

13   A.   Or WAIS. That I remember. I

14 mean, it doesn't -- those terms don't ring a

15 bell, and I wasn't really -- although I was a

16 very early extensive user of the Internet, I

17 wasn't really in the business of fox'ing with

18 Bulletin Board systems except in very

19 specific cases, Bulletin Board systems that I

20 was involved with.

21   So there were no general search

22 capabilities of the kind that we have now

23 with Google. And those would have been

24 useful at the time.

25   Q.   Right.

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2   A.   Very useful. But I wasn't really

3   in the -- in the business of doing what I

4   understand Archie to be doing, which is

5   saying, Hey, do you know about any files that

6   contain this keyword?

7   Q.   Have you ever taught any classes

8   whose primary subject was storage systems?

9   A.   Many, many times. Well, Operating

10   Systems classes where -- a major component of

11   operating systems is the file system. So

12   I've taught those courses forever.

13   Q.   Does that have a number associated

14   with it, like a course number, that you can

15   think of?

16   A.   Ooh. I don't -- I have a huge

17   list somewhere of courses I've taught. I

18   don't -- did I put that in this?

19   Q.   If you don't remember the number,

20   I'm just --

21   A.   Well, I can tell you that I taught

22   the -- both the graduate and undergraduate

23   Operating Systems course at the Illinois

24   Institute of Technology, and I taught both

25   the undergraduates and graduate Operating

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2   Systems courses at NYU.

3   And I taught many other related

4   courses. I mean, I -- I was there for a long

5   time. I was one of the main teachers. I

6   taught pretty much every course in the

7   catalog, and various of those courses have

8   various intersections with file systems.

9   But certainly, the Operating

10   Systems courses would go into file systems in

11   great detail. And I taught a Microprocessors

12   courses, the basis of my book. That also

13   goes into some detail on files, on support,

14   the hardware level of file system operation,

15   so...

16   Q.   When you taught your Operating

17   Systems courses, do you remember what

18   textbooks you used?

19   A.   No. I didn't really use -- I

20   mean, I would -- I would put some standard

21   operating systems textbooks. I don't want to

22   try and recall from memory, because it is

23   just one of many course I taught.

24   I make those books, you know,

25   available and say, "Oh, this is reading you

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2   should do." But I never really followed the

3   textbook in any of my courses, except my

4   course in microprocessors where I followed my

5   own textbook. That was really the only

6   course I taught where I followed a textbook.

7   Otherwise, I taught -- you know, I

8   taught a course where I created the -- I

9   created the sequence of topics; I created the

10   sequence of notes; I created the sequence of

11   slides. I really never used a textbook very

12   closely. I -- I more regarded textbooks as

13   something a student should read to get

14   another perspective of what's going on.

15   Q.   Do you know the Peterson and

16   Silberschatz textbook?

17   A.   Yeah. I mean, it's a while since

18   I looked at any textbooks. I mean, remember,

19   I've been retired from the university for

20   some time now so...

21   But Peterson certainly. I'm

22   not -- you know, it is interesting, I think

23   Peterson had books on his own earlier than

24   that. Vague memory.

25   Q.   But it is certainly a known, well

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2   regarded textbook?

3   A.   It is certainly a known, yes.

4   Q.   What about Tanenbaum, are you

5   familiar with Tanenbaum's work?

6   A.   He's a good friend, and I do

7   know -- yes, I'm familiar with his books.

8   Q.   And his Operating Systems textbook

9   is well regarded as well?

10   A.   Yes. And, in fact, I'm pretty

11   sure that Tanenbaum was my primary

12   recommended reading for one or more of my

13   courses. I mean, I know that book too well

14   for that not to be the case. I don't sit

15   down and read textbooks except to see whether

16   they's suitable for teaching a course.

17   Q.   Have you ever designed a system

18   that uses hashes to uniquely identify files?

19   A.   I'm just trying to see if that

20   ever came up. No, not on my systems.

21   Can I just add to a previous

22   question? Because you're asking all my

23   experience. I mean, I just want to say one

24   other aspect of experience is legal cases

25   that I've been involved in.

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2   Q.   Uh-hmm.

3   A.   Like the -- the Boston case,

4   Akamai and Digital Island was -- as we all

5   know, you become sort of experts in specific

6   areas.

7   And that's when I became, you

8   know, very familiar with the whole business

9   of -- the kind of business that Akamai is in,

10   of content replication. And in fact, the

11   '791 patent was in dispute there, the '791

12   patent was in part of that case.

13   So, that's another situation in

14   which, you know, I was a general expert going

15   into that consulting experience. I was

16   specific expert by the time I came out in

17   understanding those content delivery systems

18   very well.

19   Q.   And that was in connection with

20   the '791 and '280 patent, right?

21   A.   I don't recall the '280 patent

22   as--

23   Q.   Let's just focus on the '791.

24   A.   I think it was just 'the 791 that

25   was on the table. It wasn't the primary

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2   focus.   The primary focus was patents on

3   content delivery systems that were held by

4   Digital Island and by Akamai.   It was kind of

5   a side thing, 'the 791.

6   So, my primary testimony was with

7   respect to the main patents that were

8   fighting one another on the -- on the whole

9   issue of content delivery systems.

10   'The 791 was kind of on the side.

11   It was one of those things where they were

12   suing us for patent infringement. So, okay,

13   you're infringing one of our patents, too, so

14   we put...

15   Q.   Let me get that straight.

16   In that lawsuit, were you employed

17   or engaged by the owner of the '791 patent or

18   was it the other way around?

19   A.   Oh, by the owner, yes. Yes.

20   Q.   And did you offer any opinions

21   about the '791 patent?

22   A.   I did.

23   Q.   And do you remember whether you

24   offered an opinion about the field of

25   technology of the '791 patent?

1   - DR. DEWAR - CROSS -

2   A.   Well, that certainly was a general

3   background to the testimony. But the -- the

4   more significant part of that testimony, and

5   I'm reaching back to memory, was -- had to do

6   with infringement, whether there was

7   infringement.

8   Q.   Whether who was infringing?

9   A.   Whether -- we owned the patent.

10   Whether Akamai was infringing.

11   Q.   But in terms of that, you had to

12   form an opinion about the patent, right?

13   A.   Right.

14   Q.   And do you remember what your

15   opinion was about the field of technology for

16   the '791 patent?

17   A.   The field of technology? I mean,

18   I was asked to specifically address claims of

19   prior art and infringement. I mean, it --

20   again, a little bit similar to this case with

21   very specific focus. It said, these -- these

22   are items of prior art that are alleged, are

23   any of them -- you know, do any of them

24   qualify as prior art?

25   Q.   But you don't remember whether you

1   - DR. DEWAR - CROSS -

2   offered a specific opinion about the field?

3   If you don't, I'm sure --

4   A.   No, I don't think -- I'm not even

5   sure exactly what that would mean, so I -- I

6   better say no to that since I don't quite

7   understand the question, and I'm not sure

8   it's worth pushing.

9   MR. DICHIARA: Okay. How about if

10   we take a short break and see if we can

11   wrap up after that?

12   (Whereupon, a recess was taken

13   from 11:29 a.m. to 11:42 a.m.)

14   BY MR. DICHIARA:

15   Q.   Doctor, are you ready?

16   A.   Ready go back on.

17   Q.   So, earlier in the deposition you

18   told me that you had assumed the Board's

19   claim construction in preparing your report?

20   A.   Right. I was instructed to do

21   that.

22   Q.   So, you have no opinion one way or

23   the other whether the Board's constructions

24   are correct?

25   A.   In a -- I wasn't asked to -- I

1   - DR. DEWAR - CROSS -

2   wasn't asked to answer that question

3   specifically. It has come up in the

4   discussions a couple of times that there's

5   some dispute over the claims, so, I'm --

6   claim constructions.

7   So I'm aware of some of the cases

8   where -- and I thought, I think one came up

9   in our testimony yesterday of the definition

10   of "True Name", so I'm aware of that issue.

11   But I wasn't asked to second-guess

12   the Board's construction.

13   Q.   And you have no opinion one way or

14   the other whether the Board's construction

15   should be changed or supplemented in any way,

16   right?

17   A.   Well, I do have the one opinion

18   that I think it's a mistake to ignore a

19   paragraph 4 in the construction of "True

20   Name", but it is not my job. You know, I

21   have not been asked to do that job.

22   So, if you ask me, are there any

23   cases that I know of where, if it was my job,

24   I would dispute the claim constructions of

25   the Board? The only case that I'm aware of,

1   - DR. DEWAR - CROSS -

2   I think -- it is not off the top of my head.

3   The only case that I'm really aware of is the

4   True Name's case.

5   Q.   And the opinions that you

6   expressed in your report, do they use your

7   construction of "True Name" or the Board's

8   construction?

9   A.   Always the Board's construction.

10   I always follow the constructions that I've

11   been given.

12   Q.   And you relied on the Board and on

13   PersonalWeb's lawyers to identify the

14   constructions you should use in evaluating

15   the issues?

16   A.   Right. They gave me a list of

17   constructions. They said, "This is how the

18   Board has construed these things." A couple

19   of times, when we would discuss some of

20   those, as I said, the only one that sticks in

21   my mind from those discussions -- since those

22   discussions weren't really relevant to my --

23   to my job which -- but it was assuming those

24   claim constructions. The only one that

25   sticks in my mind is the "True Name", and its

1   - DR. DEWAR - CROSS -

2   not a huge issue in this context anyway.

3   Q.   I'd like to ask a few further

4   questions about your discussions with

5   PersonalWeb's lawyers yesterday and today.

6   Okay?

7   A.   Yesterday and today?

8   Q.   Right.

9   So you told me earlier that you

10 had not had any discussions about the

11 substance of the case --

12   A.   Right.

13   Q.   -- with PersonalWeb's lawyers?

14   A.   We avoided that because we

15 understood that that was, by agreement, not

16 permitted.

17   Q.   And since the deposition --

18   A.   Frustrating, but we still -- we

19 stuck to it.

20   Q.   Since the deposition has started,

21 have you had any discussion with Mr. Rhoa or

22 Mr. Siritzky or any of the other lawyers

23 about the deposition process in general?

24   A.   Not -- the deposition process in

25 general? You know, I think Mr. Rhoa had

1   - DR. DEWAR - CROSS -

2   reminded me on one occasion to pause before

3   answering questions. Only at that level.

4   Q.   Did he say anything else?

5   A.   Not that I recall.

6   Q.   And since the deposition started,

7   have you had any discussions with any of

8   PersonalWeb's lawyers about any of my

9   questions?

10   A.   No.

11   Q.   And since the deposition has

12   started, have you had any discussions with

13   PersonalWeb's lawyers about approaches or

14   strategies in answering questions?

15   A.   No. Other than "pause before

16   answering", and that...

17   Q.   Okay. Have you had any

18   discussions with any of PersonalWeb's lawyers

19   about compressed or uncompressed ZIP files?

20   A.   No. Again, you're always saying

21   "since the beginning"--

22   Q.   Not that question.

23   A.   -- "of the deposition".

24   Q.   Not that question. That question

25   is more generic.

1   - DR. DEWAR - CROSS -

2   A.   Have I had any discussions with

3   PersonalWeb lawyers on the issue of

4   compressed versus uncompressed files? Most

5   certainly, yes.

6   Q.   And during that discussion, did

7   you discuss whether ZIP files include

8   uncompressed files?

9   A.   Right. Yes, we did.

10   Q.   And was that the result reflected

11   in your declaration when you said that ZIP

12   files almost always are compressed?

13   A.   The statement that ZIP files

14   almost always are compressed comes from

15   external knowledge and experience, not from

16   the -- not from any discussions with the

17   lawyers or not from any materials

18   specifically here.

19   I mean, I've been working -- I've

20   been working with ZIP files for 30 years.

21   There is nothing -- they're a very well-known

22   quantity to me.

23   Q.   Have you ever worked with

24   PersonalWeb before in any capacity?

25   A.   No, I don't think so. I mean,

1   - DR. DEWAR - CROSS -

2 I -- you know, I tend to think more in terms

3 of who. I've worked with Mr. Siritzky

4 before, but I'm pretty sure at that time

5 PersonalWeb wasn't in the picture.

6   Q.   Do you have any understanding of

7 PersonalWeb as a company, what they do or

8 anything like that?

9   A.   No. Well, I -- I understand

10 generally that they're -- that it is a

11 company that has to do with patents, but I --

12 no, no more detailed knowledge than that.

13   Q.   Have you worked with a company

14 called Brilliant before?

15   A.   Sorry?

16   Q.   Have you worked with a company

17 called Brilliant before?

18   A.   How is that spelled, just

19 B-R-I-L-L-I-A-N-T?

20   Q.   I think so.

21   A.   Not that I recall.

22   Q.   And have you worked with a company

23 called Digital Island before?

24   A.   Digital Island I have. Digital

25 Island was -- if I'm recollecting correctly,

1   - DR. DEWAR - CROSS -

2   was one of the litigants in the Akamai case.

3   Q.   Have you worked with them in

4   anything other than in that case?

5   A.   No.

6   Q.   Do you know any of the founders,

7   officers, investors, employees or agents of

8   PersonalWeb?

9   A.   I can't be sure because I don't

10   know who they are. But I would be pretty

11   sure no, and certainly not to my knowledge.

12   Q.   Not to your knowledge.

13   A.   Maybe I find out someone lives

14   next to me in Vermont, but it would be an

15   amazing coincidence.

16   Q.   And how much have you invoiced or

17   expected to invoice for your work in this

18   case?

19   A.   All right. I haven't invoiced

20   anything because I'm always lazy in getting

21   around to that, and I don't know how much I

22   expect to invoice because I haven't done the

23   invoice yet. But I've put a fair amount of

24   work over the last two months on this.

25   Q.   Do you have a rough idea?

1   - DR. DEWAR - CROSS -

2   A.   I guess that it will be, including

3   or during this week, I guess it will be more

4   than 100 or 200 hours.

5   Q.   Hours you said?

6   A.   Hours, yes. But that -- that

7   really is a guess. As I do the -- as I go

8   through all the -- I have records, but they

9   need all assembling. I mean, it needs to be

10   done urgently. In fact, you just reminded me

11   that I should do that.

12   Q.   Do you have any form of financial

13   interest in PersonalWeb or the patents or any

14   of the founders or investors?

15   A.   No and no.

16   Q.   And one more no?

17   A.   I'm sorry. What?

18   Q.   It was PersonalWeb?

19   A.   No.

20   Q.   The patents?

21   A.   No.

22   Q.   Or with any of the founders or

23   investors?

24   A.   No.

25   MR. DICHIARA: I believe we're

1   - DR. DEWAR - CROSS -

2   through with our cross-examination.

3   Per the agreement we had with

4   Mr. Rhoa, you two, and the lawyers in

5   general shouldn't talk to you about any

6   testimony or any questions in case

7   Mr. Rhoa is going to ask you any

8   questions.

9   THE WITNESS: Okay.

10   MR. DICHIARA: This instruction

11   stands until the end of the whole

12   examination process.

13   THE WITNESS: So, the sequestering

14   ends until he declares that he's

15   finished?

16   MR. DICHIARA: And we might have

17   an opportunity after that to do

18   something called re --

19   THE WITNESS: Until you both agree

20   that it is finished --

21   MR. DICHIARA: Yes.

22   THE WITNESS: -- then it is

23   finished.

24   MR. DICHIARA: Yes.

25   THE WITNESS: Okay. I consider

1   - DR. DEWAR - REDIRECT -

2   myself under that constraint.

3   MR. RHOA: I have some questions.

4   REDIRECT EXAMINATION

5   MR. RHOA:

6   Q.   Do you have any typos you want to

7   correct in any of your declarations?

8   A.   Oh, yes, there is one typo. Let's

9   see if we can find it.

10   MR. DICHIARA: I'm going to just

11   lodge an objection that it's outside

12   the scope of the cross-examination.

13   THE WITNESS: But I should still

14   answer, right?

15   MR. DICHIARA: It is just I have

16   to --

17   THE WITNESS: Okay, fine.

18   (Witness reviewing document.)

19   A.   I thought I had this tab. But the

20   tab fell off.

21   (Witness reviewing document.)

22   A.   It is very minor, it is not

23   substantive, but it was a definite mistake.

24   (Witness reviewing document.)

25   A.   Oh, maybe that's the tab. Ah,

1   - DR. DEWAR - REDIRECT -

2   okay.

3   It is the declaration on the '544

4   patent.   And this is in the section titled

5   "Kantor does not anticipate Claim 1."   And in

6   paragraph 48 --

7   MR. DICHIARA: Can I just ask -- I

8   was just trying to follow.

9   Paragraph 48.

10   A.   Paragraph 48, the last sentence of

11   paragraph 48, that should -- this is all

12   talking and Kantor, and that should say

13   Kantor and not Woodhill.

14   It is just -- it is sort of an

15   obvious slip from context without any great

16   significance.   But that -- that's the only

17   thing I noticed in answer to your question,

18   so...

19   Q.   You remember talking about Langer

20   today?

21   A.   Yes.

22   Q.   Would one of ordinary skill of the

23   art at the time of the invention reading

24   Langer interpret the files in a package to be

25   compressed or uncompressed?

1   - DR. DEWAR - REDIRECT -

2   MR. DICHIARA: Objection.

3   Leading.

4   A.   Compressed.

5   Q.   Why?

6   A.   Well, he talks --

7   MR. DICHIARA: Same objection.

8   A.   He talks about uncompressing them,

9   and he talks about the need to apply the code

10   to the uncompressed file instead of the

11   compressed file. So, he certainly has in

12   mind, as we read Langer, that there's

13   something to do when -- that step doesn't do

14   nothing.

15   MR. DICHIARA: You spoke a little

16   too soon for my objection.

17   THE WITNESS: I'm sorry.

18   MR. DICHIARA: I understand. But

19   I was also going to object to it being

20   outside the scope of the cross-

21   examination.

22   Q.   Does the same apply to Kantor?

23   MR. DICHIARA: Same objection.

24   A.   Yes. The same applies to Kantor.

25   Again, Kantor talks about the need to compute

1   - DR. DEWAR - REDIRECT -

2 on the basis of the uncompressed files, so he

3 clearly has in mind that he's dealing with

4 compressed files.

5   And to -- I further formed that

6 opinion, based on the environment of very

7 slow communication lines, which are expensive

8 to use, everyone compressed.

9   Q.   Do you remember talking about

10 Woodhill?

11   A.   I do.

12   Q.   Assume that a file stored in

13 Woodhill's backup server has ten binary

14 objects numbered 1 through 10.

15   A.   Okay.

16   Q.   When binary object number one is

17 going to be backed up and Woodhill was

18 deciding to back it up, can Woodhill tell

19 whether that binary object number 1 is in any

20 of the binary object numbers 2 through 10 of

21 that file at the backup server?

22   A.   No.

23   MR. DICHIARA: Objection.

24 Leading.

25   A.   No.

1   - DR. DEWAR - REDIRECT -

2   Q.   Let me rephrase that question.

3   A.   Okay.

4   Q.   You understand that hypothetical,

5   correct?

6   A.   I understand the hypothetical.

7   Q.   When Woodhill is deciding whether

8   to backup binary object number 1 of that

9   file, can Woodhill tell whether that binary

10   object number 1 is in any of binary object

11   numbers 2 through 10 of that file at the

12   backup server, or not?

13   MR. DICHIARA: Still leading.

14   Objection.

15   A.   No.

16   Q.   Why?

17   A.   Because --

18   MR. DICHIARA: Still leading.

19   A.   Because in Woodhill, all that ever

20   happens is comparing the MD5 code of a binary

21   object with a -- I'm sorry. Not the MD5.

22   The hash code of a binary object with a hash

23   code of the corresponding binary object in a

24   corresponding file.   It's a process:

25   Compare 1 with 1, 2 with 2, 3 with 3, 4

1   - DR. DEWAR - REDIRECT -

2   with 4.

3   Q.   Do you recall Exhibit 2 to your

4   deposition?

5   A.   Right, I do.

6   Q.   And there was a file with first

7   and second binary objects?

8   A.   Right.

9   Q.   Would the same apply there when

10   the first was being backed up?

11   MR. DICHIARA: Objection.

12   Leading.

13   A.   Can you be a little more explicit

14   rather than just saying "the same"?

15   Q.   Given Exhibit 2 to your

16   deposition, the file includes first and

17   second binary objects, right?

18   A.   It does, yes.

19   Q.   When the first binary object is

20   being backed up and Woodhill is deciding

21   whether to back it up, can Woodhill tell

22   whether that first binary object is in binary

23   object number 2 of that file at the backup

24   server or not?

25   A.   No.

1   - DR. DEWAR - REDIRECT -

2   Q.   Is that for the reasons you

3   previously explained?

4   A.   It's for the reasons --

5   MR. DICHIARA: Objection.

6   A.   -- I previously explained.

7   Q.   I'd like you to refer to the '791

8   patent, please.

9   A.   Yes, I have it in front of me.

10   MR. DICHIARA: One second.

11   Q.   Please turn to column 10, line 61

12   of the '791 patent.

13   (Witness complying.)

14   A.   Column 10, line 61.

15   Q.   And I would like you to review the

16   '791 patent from column 10, line 61 through

17   column 11, line 25.

18   MR. DICHIARA: Objection. Outside

19   the scope of the cross-examination. No

20   questions were asked about this part of

21   the patent.

22   (Witness reviewing document.)

23   A.   Okay. I've read that. I read that.

24   Q.   Is the '791 patent here saying

25   that the source is a location, or not?

1   - DR. DEWAR - REDIRECT -

2   MR. DICHIARA: Objection.

3   Leading.

4   A.   It is not.

5   Q.   In column 10, line 61, it says, "A

6   source table 130 identifies a source

7   location." Do you see that?

8   A.   Right.

9   MR. DICHIARA: Objection. Outside

10   the scope and leading.

11   Q.   What does that mean?

12   A.   It means that the source table

13   gives you the information to find that file.

14   Q.   And is that source table in

15   column 11, from lines 1 through 25?

16   A.   Right.

17   MR. DICHIARA: Objection. Outside

18   the scope.

19   THE WITNESS: I'm sorry.

20   A.   Right. Yes.

21   Q.   Are there any source types in that

22   table?

23   A.   Yes, there are.

24   MR. DICHIARA: Objection. Outside

25   the scope.

1   - DR. DEWAR - REDIRECT -

2   Q.   Where are they?

3   A.   Removable storage volume, local

4   region, cache server, mirror group server,

5   cooperative server, publishing server,

6   clients.

7   Q.   I'd like you to refer to column 9,

8   line 60 of the '791.

9   A.   Yes.

10   Q.   Do you see where it says "Source

11 ID"?

12   A.   Yes.

13   Q.   Are those referring to sources or

14 not?

15   MR. DICHIARA: Objection.

16   A.   Yes.

17   Q.   Are those related to sources or

18 not?

19   A.   They're related to sources.

20   Q.   And this is in the True File

21 Registry, right, or not?

22   A.   Yes, this is in the True File

23 Registry.

24   Q.   Is a file name a physical

25 location, or not?

1   - DR. DEWAR - RECROSS -

2   MR. DICHIARA: Objection.

3   Leading.

4   A.   A file name is not a physical

5   location.

6   Q.   Does the '791 patent ever state

7   that "filename" is a physical location, or

8   not?

9   MR. DICHIARA: Same objection.

10   A.   No, it does not.

11   Q.   Would one of ordinary skill in the

12   art reading the '791 patent think that

13   "filename" is a physical location, or not?

14   MR. DICHIARA: Same objection.

15   Leading.

16   A.   No.

17   MR. DICHIARA: And just for the

18   record, I mean, presenting a question

19   as a "yes" or "no" answer with that

20   much specificity, I'm just going to be

21   on the record, is a leading question.

22   MR. RHOA: No further questions.

23   MR. DICHIARA: I have two, I think

24   two.

25   RECROSS-EXAMINATION BY

1   - DR. DEWAR - RECROSS -

2   MR. DICHIARA:

3   Q.   Mr. Rhoa was just asking you about

4   source IDs, right?

5   A.   Right.

6   Q.   And he was asking about the source

7   table?

8   A.   Right.

9   Q.   That concerns where a file comes

10   from, correct?

11   A.   Right.

12   Q.   It is not where the file is

13   stored, right?

14   (Witness reviewing document.)

15   MR. RHOA: Objection. Form.

16   A.   I don't understand the distinction

17   you're drawing.

18   Q.   The True File ID is the entity in

19   the True File Registry which says where the

20   file is stored?

21   MR. RHOA: Objection. Form.

22   (Witness reviewing document.)

23   A.   I have you to say no because it is

24   sufficient to use the file name. And the

25   file name is enough to find the file, but it

1   — DR. DEWAR — RECROSS —

2   is not enough, for instance, for a user to

3   tell where it is on the disk.

4   Q.   When it says "disk location," that

5   doesn't mean location to you?

6   A.   No. I -- it's -- True File ID, in

7   my interpretation, tells you how to find the

8   information in the file.

9   Q.   And it says it is sufficient to

10   use a file name?

11   A.   And it's sufficient to use a file

12   name.

13   MR. DICHIARA: No further questions.

14   MR. RHOA: He's going to read and

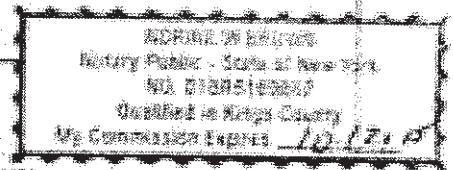15   sign. Thank you.

16   (Time noted: 12:08 p.m.)

17

18   _____

19   ROBERT B.K. DEWAR, Ph.D.

20

21   Subscribed and sworn to before me,

22   this ____ day of _____, 2013.

23

24   _____

25   Notary Public

1   C E R T I F I C A T E

2   STATE OF NEW YORK   )

3   ) ss.:

4   COUNTY OF KINGS   )

5   I, MAYLEEN AHMED (CINTRÓN), a

6   Registered Merit Reporter, Certified

7   Realtime Reporter and Notary Public

8   within and for the State of New York,

9   do hereby certify:

10   That ROBERT B.K. DEWAR, Ph.D., the

11   witness whose deposition is

12   hereinbefore set forth, was duly sworn

13   by me, and that such deposition is a

14   true record of the testimony given by

15   such witness.

16   I further certify that I am not

17   related to any of the parties to this

18   action by blood or marriage; and that I

19   am in no way interested in the outcome

20   of this matter.

21   IN WITNESS WHEREOF, I have hereunto set

22   my hand this 27th day of September, 2013.

23

24   _____

25   MAYLEEN AHMED (CINTRÓN), RMR, CRR, CLR

442

1   ERRATA SHEET
2   VERITEXT REPORTING COMPANY
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3   212-279-9424

4   NAME OF CASE: EMC CORP. VS. PERSONALWEB
     DATE OF DEPOSITION: SEPTEMBER 26, 2013
5   NAME OF DEPONENT: ROBERT B.K. DEWAR, Ph.D.

6   PAGE   LINE(S)   CHANGE   REASON

7   310   17   insert "not" before "quite"

8   334   24   replace "I'm not being" with "I was not"

9   315   3   replace "extensibly" with "extensively"

10   327   16   insert "thing" after "good"

11   343   16   delete "high"

12   355   6   replace "some" with "one"

13   386   19   replace "or" with "in"

14   387   13   replace "posit" with "pose"

15   394   4 and 5   replace "in" with "of"

16   401   16-17   replace "files operation" with "file operations"

17   402   7   replace "index" with "indexed"

18   402   9   replace "ISM" with "ISAM"

19   407   22   replace "VW" with "VMS"

20   427   4   replace "100 or 200" with "100 but less than 200"

21   430   22   replace "and" with "about"

22   ROBERT B.K. DEWAR, Ph.D.

23

24   SUBSCRIBED AND SWORN TO BEFORE ME
     THIS _12th_ DAY OF ____Oct_____, 2015.

25

26   (NOTARY PUBLIC)   10-12-15
                                  MY COMMISSION EXPIRES: