BEFORE THE PATENT TRIAL AND APPEAL BOARD
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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| TRIAL NO. | IPR 2014-00057 |
| IN RE: | U.S. PATENT No. 5,978,791 |
| PATENT OWNERS: | PERSONALWEB TECHNOLOGIES, LLC & LEVEL 3 COMMUNICATIONS |
| PETITIONER: | RACKSPACE US, INC AND RACKSPACE HOSTING, INC. |
| INVENTORS: | DAVID A. FARBER AND RONALD D. LACHMAN |

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ORAL DEPOSITION OF
M. RAY MERCER
JUNE 24, 2014

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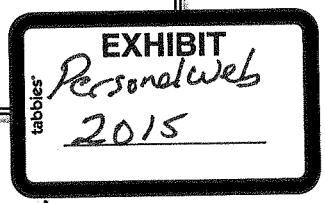
At the offices of Haynes & Boone, LLP, 2505 N. Plano Road, Suite 4000, Richardson, TX 75082, commencing at 8:56 a.m. and ending at 5:15 p.m..



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BEFORE THE PATENT TRIAL AND APPEAL BOARD
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

TRIAL NO. IPR 2014-00058

IN RE: U.S. PATENT No. 8,099,420

PATENT OWNERS: PERSONALWEB TECHNOLOGIES, LLC & LEVEL 3 COMMUNICATIONS
PETITIONER: RACKSPACE US, INC AND RACKSPACE HOSTING, INC.

INVENTORS: DAVID A. FARBER AND RONALD D. LACHMAN

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ORAL DEPOSITION OF
M. RAY MERCER
JUNE 24, 2014

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BEFORE THE PATENT TRIAL AND APPEAL BOARD
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

TRIAL NO. IPR 2014-00059

IN RE: U.S. PATENT No. 6,415,280

PATENT OWNERS: PERSONALWEB TECHNOLOGIES, LLC & LEVEL 3 COMMUNICATIONS
PETITIONER: RACKSPACE US, INC AND RACKSPACE HOSTING, INC.

INVENTORS: DAVID A. FARBER AND RONALD D. LACHMAN

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ORAL DEPOSITION OF
M. RAY MERCER
JUNE 24, 2014

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BEFORE THE PATENT TRIAL AND APPEAL BOARD
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

TRIAL NO. IPR 2014-00062

IN RE: U.S. PATENT No. 7,802,310

PATENT OWNERS: PERSONALWEB TECHNOLOGIES, LLC & LEVEL 3 COMMUNICATIONS
PETITIONER: RACKSPACE US, INC AND RACKSPACE HOSTING, INC.

INVENTORS: DAVID A. FARBER AND RONALD D. LACHMAN

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ORAL DEPOSITION OF
M. RAY MERCER
JUNE 24, 2014

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BEFORE THE PATENT TRIAL AND APPEAL BOARD
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

TRIAL NO. IPR 2014-00066

IN RE: U.S. PATENT No. 6,928,442

PATENT OWNERS: PERSONALWEB TECHNOLOGIES, LLC & LEVEL 3 COMMUNICATIONS
PETITIONER: RACKSPACE US, INC AND RACKSPACE HOSTING, INC.

INVENTORS: DAVID A. FARBER AND RONALD D. LACHMAN

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ORAL DEPOSITION OF
M. RAY MERCER
JUNE 24, 2014

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PERSONALWEB TECHNOLOGIES, LLC

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M. RAY MERCER,
having been first duly sworn, testified as follows:
EXAMINATION
BY MR. RHOA:
Q. Please state your name and address.
**A. Melvin Ray Mercer, 10801 Branch Oaks Circle, Dallas, Texas 75230.**
Q. Are you represented by counsel today?
**A. I don't know the answer to that question.**
MR. RHOA: How about if we -- can we have everyone in the room introduce themselves?
MR. STORM: Paul Storm and Raghav Bajaj for Rackspace.
Q. (BY MR. RHOA) Are you currently employed?
**A. I work for M. Ray Mercer & Associates, Incorporated.**
Q. Anyone else?
**A. Only to the extent that someone else retains the services of M. Ray Mercer & Associates, Incorporated.**
Q. How long have you been employed by M. Ray Mercer and Associates, Inc.?

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**A. I think -- I think that was 2008 or 2009 when I incorporated.**
Q. Is most of your work through that company expert witness work?
**A. Yes, it is.**
Q. How long have you been an expert? How long have you been doing expert witness work?
**A. 30 years.**
Q. In what fields?
**A. Mostly electrical engineering, but not entirely electrical engineering.**
Q. Mostly district court cases?
**A. Mostly district court cases, but ITC cases, hearings, a pretty full spectrum of things.**
Q. What is your -- do you do more work for patent owners or accused infringers over the years?
**A. Over the years I think it would be fair to say that in most cases I have worked for patent owners, but not necessarily in all.**
Q. You understand that this deposition today is for five different IPR procedures, correct?
**A. I do.**

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Q. And you submitted a declaration in each of those five IPR's, right?
**A. I did.**
Q. And the declaration was different in each one; is that correct?
**A. That's correct.**
Q. And have you been retained by Rackspace in connection with these IPRs?
**A. I don't know the answer to that question either. The letter of appointment or whatever you want to call it I signed was crafted by Haynes & Boone, but it did cite Rackspace as a customer to Haynes & Boone.**
Q. So you've been retained by either Haynes & Boone law farm or Rackspace, one or the other?
**A. I would agree with that.**
Q. How much money have you billed so far in connection with these IPRs?
**A. I don't know.**
Q. More than $10,000?
**A. I don't know that either.**
Q. You don't know if you've billed more than $10 for these activities?

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**A. $10?**
Q. Yeah.
**A. I've billed more than $10.**
Q. You don't know if you've billed more than $10,000?
**A. No, I don't.**
Q. Do you know how much you've been paid so far?
**A. I've been paid everything that I invoiced except for this month.**
Q. Do you know if that's more or less than $10,000?
**A. No, I don't know. I know that this month the invoice will exceed $10,000, but in the past I didn't bother to look at it.**
Q. Have you ever worked for Haynes & Boone prior to these IPRs?
**A. Yes.**
Q. How many times?
**A. I don't know the answer to that, but I would say on the order of four or five.**
Q. All in patent cases?
**A. By "patent cases" you're including re-exams of**

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**one form or other?**
Q. Yes.
**A. I believe that's true.**
Q. What areas of technology were your previous cases for Haynes & Boone involving?
**A. Generally, computer engineering.**
Q. Have you ever done work for Rackspace for these IPRs?
**A. Not that I remember.**
Q. So as far as you know, this is the first time you're providing testimony on behalf of Rackspace?
**A. Yes, I think that's true.**
Q. Have you ever been retained by a company called NetApp, N-e-t-A-p-p?
**A. Yes, I have.**
Q. In connection with what cases?
**A. In connection with an IPR, and I think there were other defendants in addition to NetApp.**
Q. What IPR?
**A. I mean, I can tell you this, the IPR that NetApp was the defendant, but I don't memorize the numbers.**

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Q. Did it involve any of the patents at issue in these five IPRs?
**A. Not to my knowledge. I don't think so. In fact, I'm positive.**
Q. So the IPR that you testified for NetApp on did not involve any of the Trinity patents?
**A. No, I don't believe it did. I remember the number as '346. The last four digits -- the last three digits are '346.**
Q. Those are the last -- '346 patent?
**A. That's the best of my recollection.**
Q. So you've only worked for NetApp for one -- in one case?
**A. To my knowledge.**
Q. Would -- how many times would you say you've been deposed, more than 50?
**A. I never bother to count it up, but I think that's a pretty good guess.**
Q. Do you have a law degree?
**A. Do I have a law degree? No, I do not.**
Q. Have you ever taken any law classes?
**A. I think -- in fact, I'm almost positive the**

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**answer to that question is yes, but irrelevant.**
Q. But they're irrelevant?
**A. Yeah.**
Q. Can you explain the process of how your five declarations in these IPRs were prepared? For instance, who prepared the first draft, how many drafts did you go through, et cetera.
MR. STORM: Object to the form.
**A. So the best of my recollection, obviously, I was contacted by Haynes & Boone. I looked at certain materials that were provided to me. In August I had a meeting with Haynes & Boone attorneys in Austin, Texas, and at that meeting we discussed all five of the IPRs. We talked about strategy, we talked about fairly high-level things, and we got down to fairly detailed things.**
**I believe that in September there was a meeting here in Richardson. Met again with Haynes & Boone attorneys, and by that time some of the suggestions that I had made had been crafted by those attorneys into draft versions. Those drafts were actually written by them, not by me, but they were**

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**directed by me. I don't remember when I started to review copies of those drafts, but that must have been pretty soon after they started to be generated, probably before the -- before the September meeting.**
**The number of drafts that I reviewed, I didn't bother to keep count of, but I have a standard and customary practice that every draft receives a letter starting with A and going through Z, and then they're double letters beyond that. All of the drafts, I'm sure, were single letters, but I don't remember how many there were. So there were less than 26, but more than a couple.**
Q. Did you exchange draft declarations for these IPRs with the Haynes & Boone attorneys by way of e-mail?
**A. I think the chances are good that I did because we certainly were not in a room when these things were drafted. I think we sent e-mails back and forth.**
Q. Do you still have those drafts in your e-mail?
**A. No, I don't.**
Q. You deleted them all?
**A. It's not my customary and standard procedure to keep those drafts.**

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Q. Did you delete the drafts?
**A. As far as I know, I did. Every -- if I didn't, then I failed to follow my standard and customary practice.**
Q. Your standard practice is to delete drafts of declarations?
**A. I want -- I want the latest draft, and that's all I want. The rest of it is just confusion.**
Q. So your standard practice is to delete drafts and declarations?
**A. Yes, it is.**
Q. Did you communicate with lawyers from any law firm other than Haynes & Boone in connection with these five IPRs?
**A. During what time frame?**
Q. Ever.
**A. Ever? Yes.**
Q. What lawyers --
**A. Well --**
Q. -- other than -- let me -- let me back up.
You know Mr. Storm here, right?
**A. I do.**

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Q. Mr. Storm, do you know if he works for Haynes & Boone or not?
**A. I believe he does not work for Haynes & Boone.**
Q. Do you know what firm he works for?
**A. Gardere. But I don't know how to pronounce it.**
Q. Have you communicated with lawyers from any law firm other than Haynes & Boone or Mr. Storm's firm in connection with these five IPRs?
**A. Not that I remember.**
Q. You understand these patents are involved in litigations with a lot of different defendants?
**A. I have a vague understanding of that.**
Q. Have you communicated with any of the other defendants about these IPRs?
**A. And so -- about -- did you say "about these IPRs"?**
Q. Yes.
**A. Not that I can remember.**
Q. You don't recall any communications where any other defendants, or attorneys for any other defendants, were communicating with you about the substance of your declarations?

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**A. No. I don't have such a recollection.**
Q. You've been paid money in connection with these IPRs, right?
**A. I have.**
Q. Has that money come from the Haynes & Boone firm?
**A. The checks are written on Haynes & Boone, yes.**
Q. No other sources of money?
**A. No, not that I'm aware of.**
Q. No other defendant in any of the litigations has written you checks in connection with these IPRs, right?
**A. I think that's a true statement.**
Q. Have you been retained by any company other than Rackspace or the Haynes & Boone firm in connection with any of the patents involved in these IPRs?
**A. Not to my knowledge.**
Q. Are you aware of drafts of your declarations in these IPRs ever being sent to any attorneys for companies other than Rackspace?
**A. No, I'm not aware of that.**
Q. There were not attorneys you didn't recognize

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from other law firms on any of the e-mails?
**A. You're talking about where they were in the "To" rather than in the "From" e-mail, right? You understand what I'm saying?**
Q. No, I don't.
**A. Okay. So it may be that some attorneys wrote some e-mails with some -- something to do with EMC, for example, and I might have seen a copy of some of those e-mails. I don't know one way or the other. But in terms of the e-mails being sent to any of those EMC attorneys or any of those Apple attorneys, I'm not aware of that at all.**
Q. Were any of the draft declarations that you exchanged with the Haynes & Boone firm in connection with these IPRs ever sent or copied to any lawyers from other law firms other than Mr. Storm?
**A. I don't know.**
Q. What EMC e-mails have you seen?
**A. I don't -- I don't have a specific recollection of e-mails, but I do have a specific recollection of seeing documents that had to do with the EMC IPR, and that might have involved e-mails. I don't know one way**

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**or the other.**
Q. Do you know who sent you those documents?
**A. Oh, it would be Haynes & Boone if I received them. Or I might have downloaded them from the USPTO.**
Q. How long did you prepare for today's deposition?
**A. I began the preparation for this deposition, of course, in the generic sense, the first day I started working on this because I knew I was going to have a deposition. But I think the focus of your question is when was the primary focus of my activity in preparation for this deposition, and the answer to that would be Thursday of last week.**
Q. Is that the only day you focused on preparing for this deposition?
**A. No.**
Q. So Thursday of last week, Friday of last week?
**A. Yes.**
Q. Saturday?
**A. Yes.**
Q. Sunday?
**A. Yes.**

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Q. And yesterday?
**A. Yes.**
Q. So you prepared five days for today's deposition?
**A. I think that's fair to say, yeah.**
Q. Who did you meet with during that preparation?
**A. Certainly, Mr. Storm and Mr. Bajaj.**
Q. Anyone else?
**A. Yes, Andy Lowes. I had lunch with David O'Dell, but that was not...**
Q. David O'Brien?
MR. STORM: David O'Dell.
**A. David O'Dell.**
Q. (BY MR. RHOA) Who's he?
MR. STORM: It was David McCombs.
THE WITNESS: David McCombs, you're correct. I apologize.
MR. STORM: Too many Davids running around.
THE WITNESS: Too many Davids. That's right.
**A. Do you know who David McCombs is?**
Q. (BY MR. RHOA) He's a Haynes & Boone lawyer.

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**A. He's a Haynes & Boone lawyer.**
Q. Did you talk to Mr. McCombs about these IPRs?
**A. I don't think so unless they -- he was saying, How is the preparation going? or something like that. It was -- it was a casual conversation, it was not a tactical conversation.**
Q. Was he involved in your preparation for any of these --
**A. No.**
Q. -- depositions or IPRs?
**A. No.**
Q. How do you know Mr. McCombs?
**A. I guess every time I've worked for Haynes & Boone, I have in one way or another had some sort of involvement with Mr. McCombs.**
Q. Did Mr. McCombs mention anything about NetApp to you?
**A. In what context --**
Q. When you were --
**A. -- at what time?**
Q. Over the last five days.
**A. I don't know the answer to that question.**

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Q. Did you meet with anyone else during the last five days in preparing for today's deposition?
**A. Those were certainly the principals. They were the only ones that had any major part. I can't remember anyone else.**
Q. In preparing for today's deposition over the last five days, did you review any documents that are not cited in your declaration?
**A. What do you mean by documents?**
Q. What's your understanding of what a document is?
**A. My understanding of a document is sort of any collection of written material in any format whatever.**
Q. Let's use that definition.
**A. Okay. We'll use that definition. I looked at lots of documents that are not referenced.**
Q. Like what?
**A. Like definitions of things like MD5, like definitions of exactly how you do a CRC, like materials that relate to that from work that I had done previously to calibrate exactly how those related. Definitions of terms that I wanted to see, whether I thought they were**

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**terms of art or not, and I wanted to find something that would be give me an indication of that. Standard dictionary definitions. I just did due diligence.**
Q. Anything else you can remember?
**A. No, not anything that comes immediately to mind.**
Q. What did you talk about with the Haynes & Boone attorneys and Mr. Storm over the last five days in preparing for today's deposition?
MR. STORM: And I will instruct him not to answer that on the basis of work product.
Q. (BY MR. RHOA) Are you going to follow the instruction not to answer?
**A. I will.**
Q. What's your understanding of why Rackspace retained you for these IPRs?
**A. My understanding is that in these IPRs often there are opinions that are necessary that are rendered by an expert who can opine on understanding of one of skill in the art about the effective date of the patent, and I think I'm pretty well known as having that capability, within certain technical abilities.**

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Q. When was the first time you saw any of the patents at issue in these IPRs?
**A. Sometime before August the -- sometime very, very early in August, or a little bit before then.**
Q. Is it safe to say that you never saw any of these patents before 2013?
**A. I don't have a specific recollection. I've looked at a lot of patents in my life.**
Q. Do you recall ever seeing any of the patents involved in these IPRs prior to 2013?
**A. I do not have a specific recollection.**
Q. I'm going to now hand you a large number of documents.
**A. I understand.**
Q. The first document I'm going to hand you is U.S. Patent No. 5,649,196 to Woodhill.
(Discussion off the record.)
Q. (BY MR. RHOA) Do you have a copy of the Woodhill patent in front of you?
**A. Yes, I do.**
Q. Are you familiar with the Woodhill patent?
**A. Yes, I am.**

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Q. And this is the Woodhill patent that you refer to in your declarations, correct?
**A. Yes, it is.**
Q. So if I say "Woodhill" during this deposition, you understand I'm talking about that Woodhill patent?
**A. Yes, I will.**
Q. The next document I'm going to hand you is U.S. Patent No. 4,845,715 to Francisco.
(Discussion off the record.)
Q. (BY MR. RHOA) Do you have the Francisco patent in front of you?
**A. Yes, I do.**
Q. And is this the Francisco reference that you refer to in your declarations?
**A. Yes, it is.**
Q. So if I say "Francisco" during this deposition, you're understanding that this is the document I'm referring to?
**A. Yes, I will.**
Q. I'm going to hand you U.S. Patent No. 6,135,646 to Kahn, K-a-h-n.
**A. I have it.**

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Q. Is this the Kahn reference that you refer to in at least one of your declarations?
**A. Yes, it is.**
Q. So if I mention "Kahn" today, you're understanding I'm talking about this document?
**A. I will.**
Q. I'm going to hand you a copy of U.S. Patent No. 6,928,442, and that includes a reexamination certificate at the back. Let me know when you have that in front of you.
**A. I have it.**
Q. If I refer to the '442 patent during this deposition, will you understand that this is the document I'm referring to?
**A. I will.**
Q. And this patent is the focus of one of the IPRs, correct?
**A. It is.**
Q. And you submitted a declaration in that IPR?
**A. I did.**
Q. I'm going to hand you a copy of U.S. Patent No. 5,978,791, and please let me know when you have that

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in front of you.
**A. I have.**
Q. If I refer to the '791 patent in this deposition, will you understand I'm referring to this document?
**A. I will.**
Q. And the '791 patent is the focus of one of the IPRs, correct?
**A. It is.**
Q. I'm going to hand you a copy of U.S. Patent No. 6,415,280. Let me know when you have it in front of you.
(Discussion off the record.)
**A. I have this in front of me.**
Q. (BY MR. RHOA) If I refer to the '280 patent today, you will understand I'm referring to this document?
**A. I will.**
Q. And this '280 patent is the focus of one of the IPRs where you submitted the declaration, correct?
**A. It is.**
Q. I'm going to hand you a copy of U.S. Patent

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No. 7,802,310. Please let me know when you have it in front of you.
**A. I have it in front of me.**
Q. If I refer to the '310 patent today, will you understand I'm referring to this document?
**A. I will.**
Q. And the '310 patent is the focus of one of IPRs at issue, correct?
**A. Yes.**
Q. These patents that I gave you are the patents that you refer to in your declarations, correct?
**A. Well, there were five IPRs.**
Q. I have not given you a copy of '420.
**A. Yes. Oh, so you don't mean the entirety, you mean these are a subset of.**
Q. Correct. These four patents -- the '310 patent, the '442 patent, the '280 patent, and the '791 patent -- you refer to these documents in your declarations; is that correct?
**A. They're a subset of all the documents that I refer to, yes.**
Q. And the other one that you refer to is the '420

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patent for one of the IPRs?
**A. Well, that's one of them. That's one of the documents.**
Q. That's the fifth focal patent IPR document?
**A. I would agree with that.**
Q. I'm going to hand you a copy of your declaration for the IPR involving the '310 patent, which is marked Rackspace Exhibit 1009. Can you let me know when you have that in front of you?
**A. I have that document.**
Q. Is this the declaration that you submitted in the '310 patent IPR?
**A. Based on a cursory review, I would say the answer to that is yes.**
Q. Is it your signature on Page 111 at the end?
**A. That is my signature.**
Q. I'm going to hand you a copy of another declaration that you submitted in the IPR involving the '791 patent, which is marked Rackspace Exhibit 1007. If you can let me know when you have that in front of you.
**A. I have that.**
Q. Is this the declaration you submitted in the

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IPR involving the '791 patent?
**A. Yes, it is.**
Q. Is your signature on Page 74 of this document?
**A. Yes, it is.**
Q. I'm going to hand you a declaration that you submitted in the IPR involving the '280 patent. Please let me know when you have that in front of you.
**A. I have that document.**
Q. Is this the declaration that you submitted in the IPR involving the '280 patent?
**A. Yes, it is.**
Q. Is the signature on Page 73 of this declaration your signature?
**A. Yes, it is.**
Q. I'm going to hand you a declaration that you submitted in the IPR involving the '420 patent. Please let me know when you have that in front of you.
**A. I have that.**
Q. Is this -- this is marked as Rackspace Exhibit 1008, correct?
**A. Yes -- well, it's marked RACK, R-A-C-K, dash, 1008.**

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Q. Is it your understanding that means Rackspace Exhibit 1008?
**A. That would be a very logical interpretation. I'm not sure I have a -- I don't want to ever make assumptions, but that's logical.**
Q. Is the signature on Page 59 of this declaration yours?
**A. It is.**
Q. Is this the declaration you submitted in the IPR concerning the '420 patent?
**A. Yes, it is.**
Q. I'm going to hand you a copy of a declaration you submitted in the IPR regarding the '442 patent, which is labeled Rackspace Exhibit 1010. Please let me know when you have that in front of you.
**A. I have that.**
Q. Is the signature on Page 62 of this declaration yours?
**A. Yes.**
Q. Is this the declaration you submitted in the IPR involving the '442 patent?
**A. Yes, it is.**

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Q. You contend that it would have been obvious to have modified Woodhill.
**A. I think we're kind of starting a new -- is this a reasonable time for a very short break?**
Q. Sure.
(Recess 9:35 a.m. to 9:39 a.m.)
Q. (BY MR. RHOA) You contend that it would have been obvious to have modified Woodhill in view of Francisco to meet the challenged claims of the '310 patent, correct?
**A. Okay. So could I ask you to repeat the question now that I have it.**
MR. RHOA: Could you read the question back, please.
(Requested portion was read.)
**A. Yes. The only thing I don't know is if you mean -- I don't know whether "contend" is a legal term or not, but in terms of the vernacular in English, the answer to that is yes.**
Q. (BY MR. RHOA) How do you allege that one would have modified Woodhill in view of Francisco to have met the challenged claims of the '310 patent?

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MR. STORM: Object to the form; compound, ambiguous.

**A. Well, those details, those contentions actually appear in this document over a set of a number of pages. And so obviously the document speaks for itself. I don't think you want me to read this document back to you. So the details of how that would happen actually is discussed with respect to every claim that is analyzed.**

Q. (BY MR. RHOA) So let's take Claim 1 of the '310 patent.

**A. Right.**

**So Paragraph 135, Page 76. It says, "As summarized above, Francisco describes the system in which identifiers and that unique and selective for individual program files are used to determine those users that are authorized to use the program."**

**And the paragraph continues to explain how the concepts of Woodhill would be used in conjunction with the teachings of Francisco to meet this limitation of Claim 1.**

Q. What I'm looking for is what changes are you

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alleging would have been obvious to Woodhill based on Francisco. And I'm talking right now about Claim 1 of the '310 patent. What modifications do you allege would have been made to Woodhill based on Francisco regarding Claim 1 of the '310 patent?

**A. Well, if your question involves realization, then I don't have any such contentions. If your question involves what sort of teachings from Woodhill would be combined with Francisco, I can answer that question.**

Q. What do you mean by "if your question involves realization"?

**A. Well, what I'm saying is my opinion doesn't require that I actually take some entity that's produced based on Woodhill and modify, physically modify that, conceptually modify that based on the teachings of Francisco. What it requires is that I take the ideas, the teachings in Woodhill and I combine those as appropriate with the teachings in Francisco, and the result of those is a set of teachings which teach every limitation in Claim 1.**

Q. What is the result of those teachings? That's

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got to be a modification of Woodhill, right?

**A. Are you saying that some aspects of Woodhill have to be changed?**

Q. Well, Woodhill by itself does not meet Claim 1 of the '310 patent, right?

**A. I have not suggested that that's the case, I agree.**

Q. So then --

**A. But I haven't rendered an opinion that it does not.**

Q. Then what are you modifying in Woodhill so that the resulting modification meets Claim 1 of the '310 patent?

**A. I would characterize it as I'm augmenting the teachings of Woodhill to include the teachings of Francisco that specifically apply to determining whether or not to authorize access to a given file according to the teachings of Francisco.**

Q. So you're not alleging that one would have made any modifications to Woodhill; is that correct?

MR. STORM: Object to the form.

**A. Actually I don't understand what you mean by**

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**"make modifications to Woodhill."**

Q. (BY MR. RHOA) You don't understand what a modification is?

**A. Well, I understand modifications broadly, but I don't understand what you mean when you use that in the context of doing a 103 analysis where you have a combination of two pieces of prior art.**

Q. I'm trying to find out what the alleged final result is of Woodhill and Francisco, according to your allegations.

**A. The final result is a set of teachings that describe or teach each and every limitation of Claim 1.**

Q. But you can't tell me what changes would be made to Woodhill as a result of your combination?

**A. I think I used the word "augment," and I said that I would take the teachings of Woodhill and I would augment those teachings with the teachings of Francisco, and based on that, I would have a result that teaches the limitations for Claim 1 of the '310 patent.**

Q. And this result that you're referring to, you have no understanding of what that result is, correct?

**A. I have no what?**

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Q. You referred to a result, right?
**A. Yes.**
Q. Do you have an understanding of what that result is?
**A. Yes. It's a set -- it's a combined set of teachings which together render obvious Claim 1 of the '310 patent.**
Q. (BY MR. RHOA) Which teachings in Francisco are you relying on?
**A. Well, first, I look in Francisco to see if the teachings are compatible and, for example, I find that both Woodhill and Francisco essentially have a method for forming substantially equivalent descriptors for a file of interest. So the point is that that activity is described in both Francisco and Woodhill. Woodhill does not specifically teach the use of that particular identifier to determine whether or not a particular file with that given identifier would be allowed -- would be allowed to be accessed by a requester or would be rejected to be accessed by a requester.**
Q. Anything else?
**A. Clearly both Woodhill and Francisco calculate**

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**hashes. I think at the bottom of Page 75, last sentence, I say, "However, Woodhill fails to disclose determining based on the content-based name based ascertaining whether or not to access the provided binary object is authorized as required by Claim portion 1D."**
Q. Do you allege that it would have been obvious to have used Figure 2 of Francisco in Woodhill?
**A. I allege that it would have been possible -- it is my opinion that it would have been possible to incorporate the teachings that are recognized -- that are demonstrated that are indicated to one of ordinary skill in the art, and Figure 2 of Francisco to incorporate those teachings into or combine those teachings with the teachings of Woodhill.**
Q. So you're saying that it would have been obvious to use the Figure 2 system of Francisco in Woodhill to do authorization checks?
**A. I think the problem is that the way you asked that question, you make it sound like it has to be a actual physical replacement that the modalities of these combinations somehow have to do with something physical,**

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**and to the extent that that is your inference, my answer is no. The combination is the combinations of teachings and ideas, not actual real physical entities.**
Q. But that combination of teachings and ideas gives you a resulting system, right?
**A. It gives you the ability to understand what a system like that would be and to compare that particular understanding with the claims that are being asserted.**
Q. So I would like you to assume a file that has a thousand binary objects in Woodhill, okay?
**A. A file with a thousand binary objects in Woodhill.**
Q. How would Woodhill, as you allege to be modified by Francisco, operate to determine whether access to that file is authorized or not?
MR. STORM: Object to the form.
**A. So my understanding is that the units that Woodhill works with are binary objects, and so to the extent that those 1,000 binary objects are eventually determined to be allowed to be accessed, Woodhill would in fact use the teachings of Francisco to essentially identify what Francisco calls the indicia, what Woodhill**

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**calls the binary object identifier, would use those things to determine whether -- or -- and to determine whether or not to release or to authorize the release of those 1,000 binary objects to a requester.**
Q. (BY MR. RHOA) So you're saying that the combination of Woodhill and Francisco would use the binary object identifiers to determine whether or not access was allowed to a particular binary object?
**A. Would you repeat that question.**
**(Requested portion was read.)**
**A. Well, I would say would combine the concepts that are represented by object identifiers but also are represented by indicia would use that same concept which is compatible in both of them to make a determination about whether a requester was in fact authorized to receive that particular binary object.**
Q. (BY MR. RHOA) What identifiers would be used to make the determination? That's all I'm trying to ask. In this resulting combination, what identifiers are going to be used to make the determination?
**A. A set of identifiers that are determined based on the teachings of binary object identifiers in**

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**Woodhill and the teachings of indicia in Francisco.**

Q. So what is the set of identifiers? Does it have to be Woodhill's binary object identifiers or is it some other identifiers?

**A. I don't see that it has to be any one, as a matter of fact. I think there are a full spectrum of ways that this could be implemented once the ideas of Woodhill and Francisco are combined.**

Q. Let's take a look at Claim 1 of the '310 patent. You can keep Woodhill and Francisco out also.

**A. Okay.**

**You want Claim 1?**

Q. Uh-huh.

**A. Okay.**

Q. I would like you to review Claim 1 and let me know when you're familiar with it.

**A. Okay. I have that.**

Q. You understand Claim 1?

**A. I believe I do.**

Q. What in Woodhill as allegedly modified by Francisco do you contend corresponds to the first computer in Claim 1 of the '310 patent?

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**A. So the first computer obtains a content-based name for a particular data item from the second computer, and Woodhill teaches that. The control -- the content-based name, being based, at least in part, on a function of at least some of the data which comprises the contents of the particular data item. And that is taught by Woodhill. Wherein the function comprises a message digest function or a hash function, and wherein two identical data items will have the same content-based name.**

Q. I'm just asking what you're saying the first computer is in Woodhill is allegedly modified by Francisco.

**A. So essentially that computer looks into a -- uses a content-based name, the one of interest, and it likes to see if there's such entry in the database, which has a plurality of such identifiers. And then it decides whether or not, it ascertains whether or not to access the particular data item is authorized, whether access to the particular data item is authorized. That's what the first computer does.**

Q. Can you point to Woodhill and show me what in Woodhill you are saying is the first computer?

**A. Well, if you look at Figure 1, obviously the distributed data manager resides in each of the computers and there's a plurality of local computers and there's a backup file server.**

Q. You're not going to identify a particular computer you're talking about in Woodhill or are you just going to identify all computers in Woodhill?

**A. Well, I think one of those.**

Q. So you're saying it could be any computer in Woodhill?

**A. It can be any computer as long as it's not the second computer that's being discussed in Woodhill in this claim. It can be any computer in Woodhill that's not discussed -- that's not the second computer in this claim. But if you want an example, the remote backup file server 12 could be the computer that's going to decide whether it makes available.**

Q. So you're saying an example the first computer could be the remote server 12?

**A. It could be -- it's an example, yes.**

Q. What is an example of the second computer?

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**A. A computer that's not the remote backup computer. So it, for example, could be one of the local computers, like local computer 20, of which there are two, on the other side of the wide area network and attached to the local area network 16.**

Q. Do you see where Claim 1 says that the first computer obtains a content-based name for a particular data item from a second computer?

**A. Yes.**

Q. Can you identify where Woodhill allegedly teaches that?

**A. So if you look at Figure 5J, which is the audit procedure, these are the steps that Woodhill teaches. First, you randomly initiate a restore of a selected binary object. And you continue -- and so in the process of restoring the object, obviously you have to access that particular object before you can calculate the binary object identifier.**

Q. I'm just asking you where in Woodhill you're alleging that the first computer obtains the content-based name for the particular data item from the second computer.

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**A. Are you asking me where does it obtain the content based descriptor that it's going to request or are you asking me how does it request that from the second computer? There are two separate things. One is the --**

Q. If you look at Claim 1 of the '310 patent, there's a little subset A right there. Do you see that?

**A. I do.**

Q. The first three lines after the A. I'm just asking you where that subject matter is allegedly in Woodhill, in your opinion.

**A. Okay. Where is it found?**

Q. Yeah.

**A. There's a file database 25 in Figure 2, and that file database contains the content based identifiers for all the known, at that time particular time, identities, which in this case are binary objects in the system. Not just in -- not just in the first computer, but within all of the computers in the system. And so if it goes and looks in that database, it randomly picks one. And it knows from selecting that, that, number one, it knows the value of the content**

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**identifier, and number two, it knows where that second computer is where a request can be made.**

Q. So you're relying on Woodhill's self-audit procedure to meet this portion of the claim; is that right?

**A. That is an example. I don't think that's exclusively what I would have to rely on.**

Q. Can you point to any other place in Woodhill that you're relying on to meet this portion of the claim?

**A. So if you look at Column 3, and you begin at Line 45, "The Distributed Storage Manager program 24 of the present invention builds and maintain the File Database 25 on one of the disk drives 19 on each local computer in the networked computer system according to the structure illustrated in Figure 3," which I showed you. "The File Database stores information relating to each file that has been backed up by the Distributed Storage Manager program 24 since the initiation of that program in each local computer."**

**So that's the place that this first computer can go and look for that binary identifier,**

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**binary object identifier.**

Q. Is there any other place in Woodhill that you're relying on to meet these three lines of Claim 1 we just talked about?

**A. Actually I think about the teachings of Woodhill in total, and so I could actually read through the whole thing, if you like, and find any other teachings that specifically relate to that activity. I didn't bother to memorize those in application of this deposition.**

Q. You didn't think I would be asking you where the alleged combination discloses what's in the claims in this deposition?

**A. Well, I guess what I would say is that this discussion appears in my report. And I assume that you would read that and if you had questions that you would ask me specific questions about that report. And something that I say in this report forms the basis for all of the teachings for, for example, Claim 1 of the '310 based on the combination of Woodhill in view of Francisco. But I did not expect that you would ask me what is every single teaching in Woodhill which supports**

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**that opinion. No, I didn't expect that.**

Q. Claim 1 of the '310 patent refers to a content-based name, correct?

**A. Yes, it does.**

Q. What in Woodhill, as allegedly modified by Francisco, do you allege corresponds to the content-based name in Claim 1 of the '310 patent?

**A. Content-based name is, for example, one of the binary object identifiers 74.**

Q. Anything else?

**A. It could be something different than that that's accomplished by combining the teachings of Francisco with the teachings of Woodhill.**

Q. Anything in Woodhill other than the binary object identifier 74?

**A. Well, I think that -- well, obviously the binary object identity record could be used, but the binary object identity record includes the binary object identifier as a subset.**

Q. Anything else?

**A. Anything that's in -- essentially in file record 25 that might be useful. Woodhill describes**

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**using this particular data structure to accomplish the tasks that it accomplishes.**

**So certainly anything in that data structure might be usable at one time or another in order to accomplish the tasks that Woodhill teaches.**

Q. You're saying anything in database 25 could be the content-based name?

**A. No. I didn't say that. I thought you asked me what would be used.**

Q. I'm asking -- I'm simply trying to find out what you're saying the content-based name is from Claim 1 of the '310 patent in Woodhill as you're saying is modified by Francisco. And my understanding is you said the binary object identifier 74.

**A. Yes, and then you said is there anything else.**

Q. Is there anything else that you're saying is the content-based name?

**A. Well, the binary object identity record certainly includes that content-based name.**

Q. Anything else?

**A. The entirety of that -- the file 25 contains that content-based name.**

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Q. 25 is a database.

**A. Yes.**

Q. You're saying the entire database?

**A. No. I'm not saying the entire database, I'm saying it contains these binary object identity records and it contains these binary object identifiers.**

Q. Anything else that does not contain a binary object identifier 74?

**A. No, I don't think so.**

Q. Can you look at Claim 24 of the '310 patent?

**A. I have that. You said 24.**

Q. 24 of the '310 patent.

**A. I have it.**

Q. Claim 24 calls for a request. Do you see that?

**A. A request regarding, I see in Column 40, Line 5.**

Q. Right. It says, "receiving at a first computer from a second computer, a request regarding a particular data item, said request including," and so forth. Do you see that?

**A. I do.**

Q. My question is, what in Woodhill as you allege

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modified by Francisco corresponds to the request in Claim 24 of the '310 patent?

**A. Well, the request is something that requested a particular data item, and it doesn't say exactly what is there, but it has to include a content-dependent name for the data item.**

Q. Where does Woodhill or Francisco disclose the request required by Claim 24?

**A. Well, for example, in the audit procedure there's a request from one computer to another computer Definitely Woodhill's system has the capability to do that. And it has the capability to do that based on designating that particular piece of information that's wanted, that particular binary object, by its binary object identifier.**

Q. So you're saying the request is in Woodhill's self-audit procedure in Column 18?

**A. Actually, I'm not saying it's restricted to that, but that's an example of it, yes.**

Q. Are there any other examples in Woodhill of what your calling this request from Claim 24?

**A. If you look at Figure 5B, Element 200, it says,**

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**"Compile list Of Binary Objects To Be Backed Up."**

**The compilation of those binary objects to be backed up will include the binary object that Woodhill would request, using the corresponding binary object identifier.**

Q. Are there any other examples in Woodhill of what you're calling this request from Claim 24 of the '310 patent?

**A. If you look at Figure 5F, you will see that Woodhill teaches that you -- that determines a -- Step 336 determines the highest priority binary object, and if a compression routine is available, it will transmit a message to the backup restore routine.**

**The other part of the teaching that Woodhill includes for the request in the transfer of binary objects between two of the computers is teachings about granularization, which I think just precedes the audit procedure, which I think is in Column 17. Let's see where it starts. Yeah, in Column 16 is where it starts. And there it starts to describe this process of granularization which is also a basis for which request for parts of the binary object can be made. The result**

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**will be the acquisition of such a binary object convention.**

Q. Anyplace else?

**A. I think that certainly the only two that I discuss in my report are access using granularization and access using auditing for purposes of auditing.**

Q. So Claim 1 and Claim 24 --

**A. I'm sorry. I want to say one other thing. You understand these things are not separate. These things are describing one entity which is the backup manager, okay. And these -- this is a piece of software that works in concert together. So I'm not ruling out the other pieces of the backup manager by any stretch of the imagination. I'm just saying that's where that backup manager specifically teaches two days to make requests for binary objects to and to receive binary objects.**

Q. And you're referring to the self-audit procedure and the granularization restore procedure?

**A. Yes.**

Q. The granularization restore procedure is in Column 17, right?

**A. It starts on 16, I think.**

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Q. 16 and 17?

**A. And the top of 18.**

Q. And the self-audit procedure is in 18, right?

**A. That's true.**

Q. The self-audit procedure deals with binary objects only, correct? In other words, the self-audit procedure does not go into granules?

**A. I think that's true because granules are only -- yeah, the answer is yes.**

Q. But the restore procedure is on a granule basis?

MR. STORM: Object to the form.

**A. If the restore procedure is the updating of part of a database, which is in another computer, and it is passed down to the backup, remote backup file server, then granularization is used.**

Q. (BY MR. RHOA) The audit procedure transmits a binary object, right?

**A. Well, one or more binary objects. I mean, it -- this gives details about one, but obviously the audit procedure is not restricted to just one.**

Q. But Woodhill's self-audit procedure is

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transmitting a binary object in a self-audit; is that a fair statement?

**A. That's one of the things that the self-audit procedure does, but it's not restricted to one.**

Q. Woodhill's granularization restore procedure transmits granules; is that a fair statement?

**A. Well, yes, the objective is to transmit granules rather than to transmit binary objects.**

Q. And different comparisons are used in the two procedures, right?

**A. That also is true.**

Q. So these are different procedures?

**A. There are different teachings of Woodhill, yes, they are.**

Q. If you look at Claim 24 of the '310, that requires a particular data item, do you see that?

**A. Yes, I do.**

Q. Claim 1 also requires a particular data item --

**A. Yes.**

Q. -- of the '310 patent?

**A. Yes.**

Q. What are you saying the particular data item is

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in Woodhill as allegedly modified by Francisco?

MR. STORM: Object to the form.

**A. A particular data item can either be a binary object as shown in -- well, can either be a binary object or can be a granule, though the binary object can be divided into streams.**

Q. (BY MR. RHOA) Really? What is --

**A. Well, actually it's the other way around. Streams are divided into binary objects.**

Q. Take a look at Francisco Figure 2.

**A. I have that.**

Q. I think you said earlier that Francisco teaches determining whether access to a file is authorized or not; is that right?

**A. That's correct.**

Q. What in Figure 2 of Francisco does that?

**A. I would say that when you -- Box 32, when you have the electronic identification indicia generator, that's part of what he teaches. When there's an electronic identification library, that's what he teaches. There's a user identification, and there's a decision of whether or not to authorize that user shown**

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**in Block 42. And eventually there's a comparator, which is Block 40, which combines this information and makes the choice where "yes" there says "program released" and "no," of course, means the program is not released.**

Q. So comparator 36 has nothing to do with it?

MR. STORM: Object to the form.

**A. That's not what I said.**

Q. (BY MR. RHOA) Does comparator 36 have anything to do with determining whether access is authorized?

**A. If -- my understanding is that if there's not a yes that comes out of that comparator and goes into the authorized user profile, then eventually there will not be a program released.**

Q. So when you say that Woodhill teaches determining whether authorization is allowed, let me repeat that -- strike that, please.

When you say that Woodhill teaches determining whether access is authorized or not for a file, is 36, the comparator 36 in Francisco doing that or not?

MR. STORM: Object to the form. I think it's vague and ambiguous. And mischaracterizes the

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testimony.

**A. I can try to explain what I think. I think you combine the teachings of Woodhill with the teachings of Francisco, and when you combine that, part of those teachings are Figure 2 in Francisco. The comparator, 36, is part of that 32, and the activities that character performs -- comparator performs are described in Francisco. Those two together make the determination, make the set of teachings which meet the requirement that cover -- that teach the limitations that we're talking about when the decision is made either to allow or not to allow the distribution of a piece of data.**

**(Recess 10:34 a.m. to 10:45 a.m.)**

Q. (BY MR. RHOA) Do you still have Francisco in front of you?

**A. I do.**

Q. Is it safe to say that Comparator 36 in Figure 2 of Francisco compares an identifier from 32 with an identifier from the indicia library?

**A. I would say it compares the result of the generation of that electronic indicia with the indicia**

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**that exists in the library.**

Q. It compares one thing to another thing to see if there's a match?

**A. That's right.**

Q. So the Generator 32 sends an identifier to the Comparator 36, and the library sends an identifier to the Comparator 36, and those two identifiers are compared in 36 to see if there's a match, right?

**A. That's correct.**

Q. And then there's yes/no, correct?

**A. Correct.**

Q. What's the no referring to out of Comparator 36?

**A. It says that those two inputs do not match.**

Q. So what happens then?

**A. Well, I'll -- maybe -- let's see. I can read and see exactly what it says, but I can tell you what doesn't happen, and that is that the access is not -- is not allowed. But if you want to know more details about what happens besides that...**

Q. So if Comparator 36 says no, it goes out to right in Figure 2 and access is not allowed, correct?

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**A. That's correct, for that -- for that particular -- for that particular selected program.**

Q. And if there is a match, it says yes and it goes down to Box 42; is that right?

**A. Yes, control does.**

Q. Then we have another comparator, 40, right?

**A. We do.**

Q. And what does 40 compare?

**A. Well, the first thing it does is it compares the user identification with the authorized user profile. And the result of that will determine whether or not the particular selected program is authorized.**

Q. Take a look at Francisco. I want you to refer to various places. You're familiar with Figure 2 of Francisco, right?

**A. Yes.**

Q. Take a look at Francisco in Column 2, Line 65. If you could read that, Column 2, Line 65 through Column 3, Line 18. And just tell me when you're familiar with that.

**A. Okay.**

**Okay.**

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Q. Are you familiar with that?
**A. Yes.**
Q. If you could also read Claim 1 of Francisco in its entirety.
**A. Okay. I finished Claim 1.**
**(Discussion off the record.)**
Q. (BY MR. RHOA) Do you understand Claim 1?
**A. I believe I do.**
Q. So in Claim 1 of Francisco in Column 4, Lines 18 through 29, Francisco is referring to a comparison and then an accessing, right?
**A. Yes.**
Q. That comparing is referring to the comparison by Comparator 36 in Figure 2, right?
**A. I agree.**
Q. So Francisco here is teaching that you only allow access to a file if that file has not changed from a prior version, right?
**A. As indicated by a match of the electronic indicia.**
Q. You would agree with what I said, as indicated by your -- the match?

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**A. Right, but you didn't -- you said had not changed, and that's -- that's what he's trying to figure out, but...**
Q. Francisco is trying to figure out if the file changed, right?
**A. Yes.**
Q. And if Francisco system thinks that the file changed, then Francisco will not allow access?
**A. That's correct. It will come out of -- the flow will come out of 36, and it will go the no direction.**
Q. If we could pick up Woodhill again. Does Woodhill describe hashes?
You don't have to identify where. I'm just asking you: Does Woodhill describe a hash?
**A. Yes.**
Q. Do you have an understanding of whether there's a difference between a hash and a cryptographic hash?
**A. Well, certainly, the -- okay. So some hashes have value in terms of obfuscating the contents and also minimizing collisions for different sources. Those are cryptographic hashes. Hash is a more generic term that**

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**does not have those restrictions.**
Q. So some hashes are cryptographic hashes, other hashes are not cryptographic hashes. Is that a fair statement?
**A. That would be a fair statement.**
Q. Woodhill mentions a hash in Column 8, right?
**A. And I assume that you're referring to the description that begins about Line 22 and concludes at about 31.**
Q. Is it your understanding that Woodhill describe a hash there?
**A. Yes.**
Q. Is that a cryptographic hash or not?
**A. Actually, I don't know one way or the other. I don't think it matters with respect to these claims. Maybe you can show me where one of the claims requires a cryptographic hash.**
Q. Is it your opinion that no claim requires a cryptographic hash?
**A. Well, I guess I can -- I can go through all of the --**
Q. Is an MD5 a cryptographic hash?

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**A. An MD5 is a cryptographic hash.**
Q. Do you have an understanding of what distinguishes a cryptographic hash from a hash that is not cryptographic?
**A. I think I already answered that question, that essentially, a hash that is cryptographic is one that is valuable for obfuscating the contents that have been characterized and making it very difficult to produce a different set of inputs that produce the same output.**
Q. MD4, MD5, and SHA, S-H-A, are they all cryptographic hashes?
**A. Well, they -- at least they were considered to be --**
Q. At the time of the invention?
**A. -- at some time.**
Q. Is a CRC a cryptographic hash?
**A. I think the answer to that is yes.**
Q. How about addition modulo 32?
Modulo is spelled m-o-d-u-l-o, and then 32 is just the number.
**A. I would think that addition 32 is a rather weak cryptographic hash. And that's usually called a**

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**checksum and it's used for a different purpose.**

Q. So would you say addition modulo 32 is a hash or not?

**A. Yes, addition 32 is a hash because you -- you can put a lot of stuff in and get a small amount of stuff out.**

Q. But it's not a cryptographic hash?

**A. I don't think it has the properties that are desirable for a cryptographic hash.**

Q. So, in your opinion, it's not a cryptographic hash?

**A. Yeah, that's true.**

Q. Is Woodhill's Binary Object Identifier 74 a cryptographic hash or not, in your opinion?

**A. I think I answered that question before by saying I haven't really thought about that, I haven't rendered an opinion about that. I understand that -- well, I'll get to the bottom line. I guess reasonable minds could argue about whether that particular hash has the properties that we talked about.**

Q. How many different hash functions were known in the art in April of 1995?

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**A. An infinite number.**

Q. An infinite number?

**A. Yes.**

Q. Over a thousand?

**A. Well, infinite is bigger than a thousand.**

Q. So way more than 1,000?

**A. Infinite is way more than a thousand.**

Q. Of the infinite number of hashes known in the art in April of 1995, what percentage of them would have been cryptographic hashes?

**A. Almost all of them, at least of the set that I'm thinking about.**

Q. Can you pull the '791 patent up in front of you?

**A. I have it.**

Q. At Column 12, Line 60, through Column 13, Line 9 of the '791 patent, there are five properties that the patent says a message digest function must have. Do you see those five properties?

**A. I'm looking.**

**Okay. I've read those five properties.**

Q. Do you have an understanding of what those properties involve?

**A. I have an understanding of what those objectives are. I'm not sure that I necessarily think it would be ever possible to establish that -- the properties themselves, but I know what the objectives are.**

Q. Why not?

**A. Why not? Because these things are phrased in the absolute. For example, 3 says, "The results of MD(B) must be evenly and randomly distributed over the range of N, in such a way that simple or regular changes to B are virtually guaranteed to produce a different value of MD(B)." That's -- that's not a -- I mean, there's the word "virtually" in there.**

**The -- in 4, "It must be computationally difficult to find a different value B' such that MD(B)=MD(B')." That statement is also -- I mean, what does "computationally difficult" mean? And actually, that changes with time, as a matter of fact. That's the reason the kinds of hashes that exist as cryptographic hashes change. So those are objectives, but they're not necessarily anything that can be guaranteed to**

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**absolutely be achieved.**

Q. Now, does the specification indicate that MD4, MD5 and SHA hashes meet these requirements?

**A. It's a -- let's see. I guess it's -- I know that it suggests those. I don't know exactly whether it says that those meet the requirements or not. I guess I can find that -- if you want me to direct to it, or I can sit here and read it.**

Q. Is it your understanding that there's at least a suggestion that MD4, MD5, and SHA meet those five requirements?

**A. I think those were suggested because the thinking was, at the time of the writing of this document, that those would be examples of hash -- cryptographic hashes that might be used.**

Q. Do you have an opinion on whether the Binary Object Identifier 74 in Woodhill would meet those five properties?

**A. It certainly meets 1. It certainly meets 2. As I've indicated, it's pretty much indeterminant whether it meets 3 or not because 3 is not really a definitive examinable question. I think 4, the answer**

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**is the same as for 3, it's indeterminant because you cannot make a definitive determination. And I think it does satisfy 5. It's efficient, that's for sure.**

Q. What is your understanding of "evenly and randomly" in No. 3?

**A. So generally speaking, I believe the way this is described, there's a field, and the cardinality of that field is N. And so the "evenly and randomly" has to do with, if I have a way of organizing that field, thinking about it, then I will find that those hashes for some number less than N will be very nicely distributed, will not be clustered together with respect to that criteria of clustering, whatever it may be.**

**And "randomly" would say that it's essentially very difficult or impossible to predict, given one of these inputs, what -- where in that field the resulting hash will lie. But very brilliant minds argue about these issues, believe me.**

Q. Let's turn to the '280 patent.

**A. I guess one -- I don't know. You didn't ask this, but I don't think the objective of the teaching here is that its use would be for cryptographic**

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**communication. We're talking about using to form, essentially, identifiers, for what it's worth. Okay. You wanted to go to '280.**

Q. Yeah. Tell me when you've got '280 in front of you.

**A. Okay. I have it.**

Q. Do you contend that Woodhill anticipates Claims 10, 15, 16, 18, 25, 36, and 38 of the '280 patent?

**A. I think you said "28," but you mean '280.**

Q. '310 patent, yes.

**A. And you said "Woodhill anticipates."**

Q. The question was: Do you contend that Woodhill anticipates Claims 15 -- I'm sorry, Claims 10, 15, 16, 18, 25, 36, and 38 of the '310 patent patent?

THE WITNESS: Could you read those numbers back to me very slowly?

(Requested portion was read.)

**A. Yes. With that caveat that -- you said -- you told me that "contend" was just English vernacular, it doesn't have a specific legal meaning.**

Q. (BY MR. RHOA) Argue.

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**A. Argue.**

Q. "Contend" means argue --

**A. Okay.**

Q. -- allege.

**A. Right. Fair enough. Then I -- the answer is yes.**

Q. Claim 10 of the '310 patent patent calls for a particular data file, correct?

THE WITNESS: Could you read the question?

(Requested portion was read.)

**A. That's correct.**

Q. (BY MR. RHOA) What in Woodhill do you allege corresponds to the "particular data file" in Claim 10 of the '310 patent patent?

**A. Woodhill teaches binary objects, and Woodhill teaches granules.**

Q. Anything else?

**A. No, not that I can think of.**

Q. Is that the same for Claims 18 and 25, which also recite "a particular data file"?

**A. You said 18 and 25?**

**Well, the difference between 18 and the**

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**other two is that it specifies a location in the network where the data file may be located. So that -- that's certainly true for binary objects, no doubt about that.**

Q. So are you saying that for Claim 10 the particular data file could be either a binary object or a granule?

THE WITNESS: Okay. Could I have that question -- does it relate only to Claim 10?

(Requested portion was read.)

(Discussion off the record.)

**A. Yes.**

Q. (BY MR. RHOA) And likewise, you're saying that for Claim 25 of the '310 patent patent, the particular data file could be either a binary object or a granule, right?

THE WITNESS: Okay. Would you repeat the question, please?

(Requested portion was read.)

**A. 25, yeah.**

Q. (BY MR. RHOA) That's your allegation, right?

**A. Yes.**

Q. Now, for Claim 18, are you saying that the

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particular data file is only the binary object, or that it could be either the binary object or the granule?
**A. I understand the question.**
THE REPORTER: Sorry?
THE WITNESS: I understand the question.
**A. It includes a granule. 18 also includes a granule.**
Q. (BY MR. RHOA) So it could be either one, that's your allegation?
**A. It could be either one for all three.**
Q. For all three of those claims of the '310 patent patent -- strike that, please.
Claim 10 of the '310 patent patent calls for a data identifier, right?
**A. Yes, it does.**
Q. What in Woodhill do you allege corresponds to the data identifier in Claim 10 of the '310 patent patent?
**A. So one possibility is the binary object identifier that you see in Figure 3. And the other is a content identifier associated with the granule such as you find in Column 17. An example is at Line 38.**

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Q. Anything else?
**A. No.**
Q. Same allegations regarding data identifier in Claim 25?
**A. Yes.**
Q. Claim 10 of the '310 patent patent calls for a set of data files, correct?
**A. So in this particular case when you use the word "call for," I'm assuming that you mean -- well, do you mean recite, or do you mean requires?**
Q. Both.
**A. So that depends on whether Limitation 10(a) is purely a preamble or whether it has a -- whether it actually is a limitation to Claim 10.**
Q. It's not in the preamble to Claim 10.
Let me ask you -- let me just bypass this. Please assume that it's a positively recited limitation of the claim. Okay?
**A. Okay.**
Q. So Claim 10 recites a set of data files, correct?
**A. It does.**

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Q. What in Woodhill do you allege corresponds to the set of data files in Claim 10 of the '310 patent patent?
**A. Binary objects and granules.**
Q. Anything else?
**A. No.**
Q. Claims 18 and 25 also recite a set of data files, correct?
**A. 18 recites a set of data files. 25 recites a set of data files.**
Q. Is your allegation about what in Woodhill makes up the data files, the same for Claims 18 and 25 as it was for Claim 10?
**A. Yes.**
Q. Claim 10 recites a request for the particular data file, correct?
**A. It does -- a request for a particular data file, yes.**
Q. What in Woodhill do you allege corresponds to that request recited in Claim 10 of the '310 patent patent?
**A. And you're now asking me this just as that --**

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**with respect to that term, or are you asking that with respect to that term in the context of all of the limitations of Claim 10?**
Q. Claim 10 recites a request for the particular data file.
**A. Yes.**
Q. I'm asking you what in Woodhill you allege corresponds to that request which is recited in Claim 10.
**A. So in -- on Page 36 of RACK-1007...**
**Do you have that?**
Q. Yes.
**A. Okay. So if you notice the second sentence in the second column, it says, "For example, the data processing system of Woodhill allows restores, client requests, of binary objects, data files, using their binary object identifiers during the backup restore routine."**
Q. So are you saying that this request is the update request in Column 17 of Woodhill in the restore procedure?
**A. I'm just looking -- I'm looking for the word**

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**"restore" in this section. You said the restore section.**

Q. I'm referring to Column 17 of Woodhill.

**A. Okay. So Column 17 is discussing granules and how they are used to do the backup procedure, but the request is just a part of that.**

Q. Woodhill at Column 17, Line 42, calls for an update request, right?

**A. Yes.**

Q. Are you saying that that update request is what corresponds to the request called for in Claim 10 of the '310 patent patent?

**A. Well, yes. This request includes binary object identifier identification record for the previous version of each binary object, as well as the list of contents identifiers, yes.**

Q. Is there anything else in Woodhill that you're saying corresponds to this request from Claim 10 of the '310 patent patent?

**A. Okay. Well, if you look in Column 18 in auditing and reporting, you'll see again, let's say, starting about Line 16, "Program control begins at**

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**step 500, where the Distributed Storage Manager program 24 initiates a restore of a randomly selected binary object identified by a Binary Object Identification Record 58 stored in File Database 25."**

Q. Woodhill has a remote backup server 12, right?

**A. Yes.**

Q. Are binary object identifiers 74 stored at the remote backup server 12 in Woodhill?

**A. So at Column 4, Line 12 it says, "Associated with each Backup Instance Record is one or more Binary Object Identification Records. The Distributed Storage Manager Program views a file as a collection of data streams," and it talks about the data streams. So I believe that the backup server as well as all other of these local computers uses and has binary object identifiers.**

Q. So you believe that remote backup server 12 stores binary object identification records 58?

**A. It certainly has that information for the binary objects that it contains. I have to read the description a little farther to see whether this file database 25 is affirmatively recited in the remote**

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**backup file server.**

Q. Figure 2 of Woodhill includes database 25, right?

**A. Yes.**

Q. And binary object identification records 58 are in database 25; is that correct?

**A. That's true.**

Q. Is the remote backup server 12 a storage device?

**A. It can be a collection of storage device, not necessarily a unitary storage device.**

Q. It's at least one storage device?

**A. Yes, it is.**

Q. And the remote backup server 12 is illustrated in Figure 1, correct?

**A. Yes, it is.**

Q. So please refer to Woodhill at Column 2, Lines 56 to 62.

**A. Yes, that's an affirmative recitation because that is a storage device, and it says "on each of the storage devices."**

Q. So the binary object identification records 58

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are stored in remote backup server 12 in Woodhill, right?

**A. Right.**

Q. Go to Column 17, Lines 43 to 44. I want to focus on the portion that says "remote backup file server 12 which includes the Binary Object Identification Record 58." Do you see that?

**A. You started at what line?**

Q. Column 17 --

**A. Yes.**

Q. -- Line 43 to 44.

**A. I do.**

Q. Now, we've established that the backup file server 12 does have the binary object identification record 58, right?

**A. It has all of them apparently, all of them that are in the file 25.**

Q. So my question here is: In Woodhill, at Column 17 from Lines 42 through 44, is Woodhill saying that the binary object identification record 58 is part of the update request or is Woodhill saying that the binary object identification record 58 is at the remote backup

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server 12?
**A. Would you repeat the question.**
**(Requested portion was read.)**
**A. So starting at Line 40, it says "Program control then continues with step 446 where the Distributed Storage Manager program 48 transmits an 'update request' to the remote backup file server 12 which includes the Binary Object Identification Record 58 for the previous version of each binary object."**
**So what that says to me is that there may also be a binary object identification record in the backup server, but part of this request is that binary object identification record or a set of binary object identification records.**
Q. (BY MR. RHOA) Do you think that language is ambiguous as to what it's talking about?
**A. No.**
Q. Go back to Claim 10 of the '310 patent patent, please.
**A. Okay. I have that.**
Q. In the last paragraph there are two providing steps in Claim 10, right?

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**A. Yes.**
Q. What in Woodhill do you contend corresponds to those two providing clauses in the last four lines of Claim 10?
**A. Well, you provide binary object and you provide granules. You can provide granules. You don't necessarily always, but you can.**
Q. Please refer to Figure -- Claim 15 of the '310 patent patent.
**A. Okay.**
Q. What in Woodhill do you allege corresponds to Claim 15 in the '310 patent patent?
If you just want to cite to your declaration, to a particular part, that's fine also.
**A. Sure.**
THE WITNESS: Could you read the question for me, please.
(Requested portion was read.)
**A. Well, are you asking me specifically about resolving the request? Are you asking me about a measure? Are you asking me about the entirety of that 15 limitation?**

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Q. (BY MR. RHOA) The entirety of 15.
**A. Okay. So first, we have to actually go back to -- since this is a dependent claim, it depends from 10, and so the entirety of 15 includes the entirety of 10. Okay?**
Q. (BY MR. RHOA) Okay.
**A. Okay.**
Q. I'm talking about -- let's just take the following language in Claim 15, "resolving the request for the particular data file based on a measure of availability of at least one of the servers." Okay. Where do you allege that is in Woodhill?
**A. Okay. So in the second column of Page 41, you'll see that there with 15A it says, "As described above with respect to element 10C during the restore operation the content-based binary object identifiers are used to retrieve stored copies of binary objects from other storage resources in the network." And then "As described below, Woodhill discloses the well-known techniques of coordinating the actions of the servers, some of the resources within the network based on measures such as availability and limited resources."**

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Q. Please refer to Claim 18 of the '310 patent patent.
**A. If it's okay, can we again take a very short break?**
Q. Sure.
(Recess 11:49 a.m. to 11:52 a.m.)
Q. (BY MR. RHOA) Do you have Claim 18 of the '310 patent patent in front of you?
**A. I do.**
Q. Claim 18 recites "a particular data file having a particular name." Do you see that?
**A. Yes.**
Q. What do you allege corresponds to the particular name in Claim 18 in the '310 patent patent?
**A. If you look on Page 44 exactly that corresponding column, it says, "As set forth in the text below, Figure 3 in Woodhill," and we go down to Figure 3 "discloses the use of a file identification record," that's 34 in Figure 3, "as a name specifying a location in the network" with the data -- at which, that should be "at which the data file may be located." And obviously, Entry No. 38 that you see there of file**

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**identification record 34 is file location, but it could be the entirety, it don't have to be necessarily just that one entry.**

Q. So you're saying that file location field 38 is the particular name from Claim 18?

MR. STORM: Object to the form; mischaracterizes testimony.

**A. Oh, no. I'm not saying that. I will choose file identity record 34 and I will not restrict myself to file name 40.**

Q. (BY MR. RHOA) So you're saying that the particular name in Claim 18 of the '310 patent patent is the entirety of file identification record 34 in Figure 3 of Woodhill?

**A. I will say that Figure 34 in fact specifies a location in the network at which the data file may be located.**

Q. I'm just trying to figure out what your allegation is concerning what in Woodhill is the particular name in Claim 18.

**A. Okay. So if you look at Column 3 beginning at Line 57, it says, "File identification record 34**

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**contains the following elements: Record Type 36 (identifies the file as either a directory file or a regular file); File Location 38 (name of the directory in which the file resides); File Name 40 (name of the file). "Migration Status" is 41 and "Management Class" is 43.**

**Now, the claim says, "specifying a location in the network at which the data file may be located." So of those entities, there might be something special about how directory files are stored in certain systems. I don't know one way or the other, but that may or may not be used in certain systems. It could be considered to be an affirmative teaching that you know the type of file and therefore you know where to go look for it. That would be something that one skilled in the art would be aware of. Then the name of the directory in which the file resides, I think that would certainly be useful too. The name of the file obviously is useful. And if we go and read about migration status and management classes, especially migration status, that might tell you things about exactly what the situation is in terms of how it's moved around and so forth. So I**

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**think you can use all -- you could potentially consider each of those to be a teaching about how a particular name specifying a location in the network may be located.**

Q. So I am understanding your answer to be that you are alleging that file identification record 34 in Figure 3 of Woodhill corresponds to the particular name recited in Claim 18 of the '310 patent patent; is that right?

**A. Where that name specifies a location in the network at which the date file may be located, yes.**

Q. Is there anything else in Woodhill that you allege corresponds to this particular name recited in Claim 18 of the '310 patent patent?

**A. No.**

Q. Do you see where Claim 18 of the '310 patent patent, reading further down, requires "determining another name for the particular data file"?

**A. Yes.**

Q. So Claim 18 requires two different names for the same data file, correct?

**A. Well, there's a name and another name, and**

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**those are two different names. They're characterized as two different names in the claim.**

Q. And they're for the same data file, right?

**A. They are for the same data file.**

Q. What do you allege in Woodhill corresponds to the "another name" recited in Claim 18 of the '310 patent patent?

**A. Well, there might not be just one, there might be a multiplicity. You can meet this limitation with a multiplicity of binary object identification records or binary object identifiers. In other words, there's not a one-to-one relationship between a file identification record and the -- this third thing here, which is binary object identification record. So according to the court's construction, a file can be a binary object or it can be a granule. So this file location here, if it's a predecessor to one of these binary object identification records, will be the matching name for the second name, which is the content-based name which you find in the binary object identification record.**

Q. I'm just trying to figure out what in Woodhill you allege corresponds to the "another name for the

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particular data file" that is recited in Claim 18 of the '310 patent patent.

**A. And I think what I'm saying is that that file identification record can be -- there are multiple instances which meet this limitation. Okay. Each one of them, if you combine 18B and 18C, will involve a file identification record and a binary object identification record.**

Q. Are you saying that the "another name" is a binary object identification record 58?

**A. So this refers back to 10B. And in 10B the emphasis here is on the binary object identifier, rather than the binary object identification record. But necessarily, if the binary object identifier satisfies this requirement, then by virtue of the fact that that binary object identifier is a subset of the binary object identification record, the binary object identification record also specifies the same information, since it contains the same information.**

Q. So your allegation is that either the Binary Object Identifier 74, or the Binary Object Identification Record 58 in Woodhill, corresponds to the

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"another name" recited in Claim 18 of the '310 patent patent; is that correct?

**A. I think I would change your word "either" to "both."**

Q. Is there anything else in Woodhill that you allege corresponds to the "another name" recited in Claim 18?

**A. So the reason I'm thinking about this is because so far we've talked about binary objects and binary object identification records or binary object identifiers. However, Claim 18 says, "a particular data file having a particular name specifying a location in the network at which the data file may be located." I believe that in addition to -- not shown in this figure, but in the description around Column 17 there's this discussion of content identifiers. Those content identifiers are described as residing in the same database as the binary object identifiers.**

**And so if you're going to go looking for a binary object, you use a binary object identification record or a binary object identifier. If you're going to go looking for a granule, then you look for a content**

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**identifier to satisfy the second part, this 18(b), the second name.**

Q. Is there anything else in Woodhill that you allege corresponds to the other name recited in Claim 18?

**A. Just those two.**

Q. Claim 18 recites the other name at Column 41, Line 11. Do you see that, where it says, "the other name including a data identifier," et cetera?

**A. Okay. So you want me to look now --**

Q. Yeah. Look at the claim. Look at the claim.

**A. -- at the claim in '310 patent. 18.**

Q. Tell me when you've got Claim 18 in front of you.

**A. I have Claim 18 in Column 41.**

Q. It first recites "another name." Do you see that? Line 10.

**A. Yes.**

Q. And then in Line 11 it says, "the other name." Do you see that?

**A. Yes.**

Q. Is it your understanding that "the other name"

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is referring to the previously recited "another name"?

**A. Yes. I believe -- I believe "another name" provides antecedent basis for "the other name."**

**(Discussion off the record.)**

Q. (BY MR. RHOA) Keep going down in Claim 18. At the end it calls for "providing the particular data file from a given one of the servers." Do you see that?

**A. Yes.**

Q. What in Woodhill do you allege corresponds to that?

**A. The particular data file?**

Q. "Providing" --

**A. Oh, the "providing."**

Q. -- "the particular data file" in response to the request.

**A. So on Page -- well, first, with respect to Claim 18, you'll find that, with respect to this limitation, there's a reference to Limitation 10(c), which appears on Page 36. And there it says, "Woodhill discloses responsive to a client request for the data file. The request includes a hash of the contents of the data file, causing the data file to be provided to**

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**the client. For example, the data processing system of Woodhill allows restores client request of binary object data files using the binary object identifiers during the backup restore routine."**

Q. Anything else?

**A. Well, if you follow on, this discussion is about granulization, and therefore, in addition to the binary object identifiers you have the content identifiers.**

**Content identifiers, yes.**

MR. RHOA: Up to you. We can break for lunch now or go for 15 more minutes. Your call.

THE WITNESS: I have no circadian rhythm.

MR. RHOA: Let's do lunch.

(Recess 12:15 p.m. to 12:52 p.m.)

Q. (BY MR. RHOA) Could you refer to the '442 patent, please?

**A. Okay. I have that.**

Q. Please refer to Column 5, Lines 28 to 32. Are you there?

**A. Yes.**

Q. Do you see the word "hierarchy" --

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**A. Is it okay -- since it refers to Figure 2, is it all right if I just look --**

Q. Sure.

**A. -- at Figure 2? To be absolutely certain of the total contents.**

**Okay. Good. Sorry to interrupt you.**

Q. Do you see the word "hierarchy"?

**A. I do.**

Q. Do you have an understanding of what a hierarchy is?

**A. I believe I do.**

Q. What is your understanding?

**A. A hierarchy is an organization. The items that are being organized are very, very broad. It can be a -- it could be human beings. In this particular case, I believe it's storage elements. And there's a relationship between the members in the hierarchy, and generally, there's a concept of above -- there's a concept of at least above and below.**

Q. Is the '442 patent's use of the word "hierarchy" consistent with your understanding of the word?

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**A. It is.**

Q. So here does the '442 patent differentiate between files and segments? And again, I'm referring to Column 5, Lines 28 to 31, and Figure 2 of the '442 patent.

**A. Well, clearly, Figure 2 is probably the easiest way to see this. The next-to-the-bottom level in the hierarchy has the label File 120, or a collection of Files 120. The lowest level has a collection of Segments 122.**

Q. So the '442 patent uses Reference No. 120 to refer to files and Reference No. 122 to refer to segments?

**A. I believe that's true.**

Q. That's shown in Figure 2, right?

**A. It is. And then you find it on down around 33 to 35 in the text.**

Q. So the '442 patent is differentiating between files and segments, correct?

**A. I would say that in this particular case -- I'm not saying that this is an example of differentiation. I'm not saying that it universally does so, but there --**

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**I think it would be hard to argue that there are files and there are segments, and they're at different levels of the hierarchy in this figure.**

Q. Do you see Figure 2 of the '442 patent?

**A. I do.**

Q. It also refers to regions and directories, correct?

**A. Yes.**

Q. Does the '442 patent differentiate between regions and directories?

**A. I think in the same way.**

Q. So regions are Reference No. 117, directories are Reference No. 118, files are Reference No. 120, and segments are Reference 122, right?

**A. Yes.**

Q. And at the top it says, "File System 116." Do you see that?

**A. Yes.**

Q. Is it your understanding that the file system is made up of the regions, the directories, the files, and the segments?

**A. Right. I think this hierarchy is based on**

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**containment.**

Q. What do you mean by containment?

**A. The file system contains regions, regions can contain directories, directories can contain files, files can contain segments.**

Q. Is there anything in Woodhill that is equivalent to a Directory 118 in the '442 patent?

**A. At the very least, and we talked about this earlier today, in Column 3 at Line 58, "File Identification Record 34" -- this is describing part of Figure 3 -- "contains the following elements:" Record Type, which identifies the file as either a directory file or a regular file; File Location, name of the directory in which the file resides.**

**So that shows the same relationship between the -- between directories and files as we see in Figure 2 of the '442 patent. Migration Status is not important and Management Class is not important.**

Q. Do you still have Figure 2 of the '442 patent in front of you?

**A. I do.**

Q. Would one consider a file to be the same thing

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as a file system?

**A. Now, this question I need some context for. Is this question to be answered in view of the constructions that were provided by the board, or is this question to be answered in another context?**

Q. Your understanding of how one of ordinary skill in the art would view the '442 patent at the time of the invention, that's the context.

**A. Okay. I'm of ordinary skill in the art. I'm looking at File System, and I'm looking, I believe you said, at File. And the question is: Are those the same things?**

**Well, they have the commonality that they're all -- that they're both formed of sequences of ones and zeros. So there's that commonality to them. But as we see in Figure 2, in at least Figure 2, the hierarchy shows that a file system has the possibility of containing one or more files. But according to this hierarchy, these kinds of files would not contain a file system, in general, I think. But that doesn't preclude a file also being a set of one or more -- a collection of a sequences of ones and zeros.**

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Q. Is it fair to say one of ordinary skill in the art at the time of the invention would not have considered a data file to be a file system?

**A. In the context of the board's construction, or just -- not in the context having anything to do with -- you still want the '442, right?**

Q. Yeah, the -- I want the context I just gave you.

**A. Okay. So both of these entities are a series of ones and zeros, and they both have names. But the containment relationship between "file system," as that term exists in this particular figure, and "file" as it appears here, is different because they're at different levels of the hierarchy. So, no, you couldn't consider them to be the same.**

Q. Likewise, one of ordinary skill in the art at the time of the invention would not have considered a segment to be the same thing as a file system?

**A. Well, they have the same kind of commonality; they're a series of ones and zeros. They have names associated with them, so they're a named series of ones and zeros. That could -- in this context both of them**

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**could be considered to be files, but in this picture here, Figure 2, they're not -- they're not depicted in that way, they're depicted as having a different identity. And the identity has to do with their place in the hierarchy.**

Q. One would not have considered a segment to be a file system, right?

**A. I guess I have to -- the answer to that is: In the abstract, no; within the teachings of the '442, a harder question.**

Q. '442 in Figure 2 shows them as completely different things, right?

**A. That's exactly --**

**(Discussion off the record.)**

Q. (BY MR. RHOA) So in Figure 2 of the '442 patent, you see the segments, right?

**A. I do.**

Q. Is there anything in Woodhill that is equivalent to a segment in the '442 patent?

**A. I don't want to interrupt you, but I think there was a question pending when you left, and if you want that answer, I'm happy to answer it, but I just**

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**want your record to be what you want your record --**
Q. I will reask that later.
**A. Okay.**
Q. Let's just go with the question that's pending right now.
**A. Very good. Okay. So repeat that one then, please.**
Q. Is there anything in Woodhill that is equivalent to a segment in the '442 patent?
**A. Well, a binary object is equivalent to a segment in the sense that both of them are a sequence of ones and zeros that are named.**
Q. How does Woodhill determine how many binary objects are in a file?
**A. There are two quotes that I have seen with respect to that, and I'm not going to go to the trouble of pulling them up, but I will if you want me to. But let me give you the top of this. The first one is it suggests that a stream could very well be -- it's suggested it's something on the order of a megabyte of information from a stream, and those streams together would form a file. And then the other suggestion is**

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**that you can adjust these things, depending on the technology, to optimize the utilization of resources, so it's not fixed, but there are suggestions.**
Q. Could we go to the '310 patent patent, please?
**A. Yes.**
Q. Column 5.
**A. Okay. Okay. I'm there.**
Q. Please refer to Column 5, Lines 41 to 44 of the '310 patent patent. Are you there?
**A. I am, and I'm -- but you wanted me to go through 44, right?**
Q. (Nods head up and down.)
**A. Okay. I have finished reading that.**
Q. This is referring to a pathname for a file, correct?
**A. It is.**
Q. Is this a reasonable definition of a pathname for a file?
**A. I have no reason to argue with this, especially since there is the phrase "usually" here.**
Q. Do you have any reason to disagree that this is what one of ordinary skill in the art would have

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understood a pathname to be at the time of the invention in 1995?
**A. I think it is one possibility for a pathname.**
Q. This pathname includes a final file name, correct?
**A. It does.**
Q. Is that final file name the name that is given to the file by the user?
**A. I believe that is correct. In other words, I think about this as an application file name.**
Q. What is the purpose of the pathname containing the final file name? In other words, what's the purpose of the final file name in the pathname?
**A. Right. So its purpose is to essentially -- the naming invention allows a multiplicity of hierarchies, and at the very bottom of the hierarchy, a file is the bottom. Then there will be different individual file names, and so that differentiates the entity at the bottom of this hierarchy from other entities at the bottom of that hierarchy. But also because it's an application kind of thing, good programming practice would probably generally infer some sort of meaning, if**

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**possible, to make the reading the code more understandable.**
Q. Do binary objects have headers in Woodhill?
**A. If I look at Figure 3, I don't see a particular listing of the term "header."**
Q. Can users name binary objects in Woodhill?
**A. I think binary objects have a name that depends on the content of that binary object but not in that -- so the answer is with great trouble I could probably do that, but it wouldn't be normal practice.**
Q. Woodhill does not describe the user can name a binary object, right?
**A. No, I think the binary object has an identifier, and that identifier is calculated based on the content of the binary object.**
Q. It has nothing to do with the user, right?
**A. Well, I mean, if you've talking about the name, the user does not determine the name except by determining the contents of the binary object file.**
Q. Can users name granules in Woodhill?
**A. No. Users don't name granules, those are also determined -- their -- and I forget this word, but**

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whatever it is, their content identifier, I believe. Their content identifier is determined by the content of the granule.

Q. Do granules have headers in Woodhill?

A. Again, I think that the answer to that is I don't remember finding an explicit teaching that that was the case. Maybe I should ask you to be absolutely certain that we're -- would you tell me what you mean by "header."

Q. A file header.

A. So are you talking about the earlier part of the pathname?

Q. That's an example.

A. Well, if you make header broad enough, of course, I can find one, but I'm not trying to be contentious, I just -- you understand, there needs to be a reasonable restriction on the term "header."

Q. Do binary objects or granules have path names in Woodhill?

A. Well, that's a little harder question to answer because these binary object identity records belong to a backup instant record which belongs to a file identity

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record, where that file identity record I believe would have a pathname. And so there is a relationship between those, so that for every binary object there will be a corresponding but probably not a unique pathname.

Q. So that pathname in Woodhill, would it include a final file name?

A. Oh, sure. I mean, like No. 40 in Figure 3.

Q. No. 40 in Figure 3 is a file name, right?

A. Yes.

Q. Does that identify one particular binary object?

A. No, I thing it most likely will identify or will be associated with a collection of binary objects.

Q. That are in one file?

A. I believe they correspond to one file. "In" is a thing you also have to -- conceptually they're in, but you've got to use the right interpretation for "in."

Q. Does Woodhill ever call a granule a file?

A. I don't have a recollection of Woodhill calling a granule a file.

Q. Do you recall if Woodhill ever calls a binary object a file?

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A. I don't think that Woodhill specifically called a binary object a file. I do think though that there is equivalence under the board's construction.

Q. Does Woodhill ever refer to granules as having file names?

A. I think only to the extent that one of ordinary skill in the art who reads the description of Figure 3 would make the association that we talked about already.

Q. In Woodhill can a user retrieve a granule and then send only that granule to another computer?

A. Can you tell me exactly what you mean by "retrieve"? Just get it from somewhere?

Q. That's fine.

A. I think that is possible, yes.

Q. Explain where Woodhill describes that.

A. Well, you want me to look it up or you want me to paraphrase it?

Q. Whatever you feel more comfortable with.

A. I always feel more comfortable looking it up. So you look at starting at Column 14, under the heading Granualized Files, I do want to just paraphrase that this particular concept is used for transferring or

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updating information that's in the -- updating the current information that exists in the remote backup server.

Granules are taught as a way of handling very large files like databases, and the philosophy is that because the transfer requires bandwidth, if there's not a change to a small part of, let's say, that database, there's no reason to resend all that information. So granules allow you to identify only the small parts that have changed, to transmit those small parts to the remote backup server. There's nothing that would -- could preclude for one of these activities.

One of ordinary skill in the art would understand that one of these activities might be a situation where only one granule in the entirety of the database changed between an update. And if that's true, the only granule that would be transmitted is that one that changed.

Q. This is the backup procedure at Woodhill you're talking about, right?

A. Yes.

Q. And the user is not controlling that, right?

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**A. I have a feeling that the backup might be initialized that way, but maybe it could be automated too. As I remember it, it can go either way, I think.**

Q. In Woodhill can a user access a granule by itself and then delete only that granule?

**A. I don't believe I've seen any affirmative teaching of that activity.**

Q. How about a binary object?

**A. I think the answer to that would be only -- in fact, in both cases the answer to that would be only in the instance where old binary objects or old granules are replaced by new ones, and eventually those are removed from the system. But that kind of thing may be initiated by a human, but that activity is not targeted. It's just what happens as an artifact of the normal running of the system and the control of the user.**

Q. Does Woodhill describe using a binary object identifier 74 for checking to see if access to a file is authorized?

(Discussion off the record.)

(Requested portion was read.)

**A. Absolutely explicitly, no. In light of**

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**teaching to one of ordinary skill in the art, maybe, but I believe that -- what I need to look at here very carefully though, is I need to see, in the case of two -- I just can't remember.**

**I think -- I think that it was only -- yeah. I think that all of the discussions in the '310 patent that had to do with determining whether or not release was authorized are referenced in Fernando. And so --**

Q. Francisco?

**A. Francisco, I'm sorry. Francisco.**

Q. If I was to ask you the same question about contents identifiers in Woodhill, would your answer be the same?

**A. Yes, I believe it would.**

Q. So looking at Woodhill alone, that is not an intended purpose for a binary object identifier or a content identifier, according to Woodhill?

**A. Well, I think if you look at Woodhill, you'll see that there exist these things called ACLs, access control lists. They're in a list of the kinds of files that Woodhill handles. To one of skilled in the art,**

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**access control lists are well-known to involve the control of access to files, but I'm not saying that's an affirmative teaching, that's just a suggestion to one of skilled in the art.**

Q. Can you show where these ACLs are?

**A. Sure.**

Q. Do you want a possible?

**A. Yes, if you can.**

Q. I see the phrase "access control list" in Woodhill Column 7, Line 46.

**A. Okay. Yeah, exactly. That's exactly what I was referring to. Beginning at 44, "Those of ordinary skill in the art will recognize that these data streams may represent regular data, extended attribute data," and then "access control list data, etc."**

Q. And then those data streams make up the binary objects, right?

**A. The binary objects make up the streams, right.**

Q. Those streams make up the binary objects, right?

**A. Yes. It says, "each of the data streams currently being processed is larger than the maximum**

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**binary object size (currently one megabyte)."**

Q. So what's the purpose of this access control list data?

**A. Well, there's no affirmative teaching that I could find for what it would be, but if you look, you find that "access control list" is, I believe, a term of art, and that term of art has to do with controlling access, just like it says, generally controlling -- it could be controlling access to files, among other things.**

Q. Based on whether access is authorized?

**A. Yeah. I can't think of another way. I would think the access control lists are actually documenting or recording or substantiating authorization.**

Q. So then with this, Woodhill would have some time of access control system; is that a fair statement?

**A. At least with respect to teaching, right.**

Q. So if Woodhill already had an access control system, would there have been a reason to modify Woodhill to add another access control system?

**A. And the answer to that is, this is what I would call light evidence, okay. But when you combine that**

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with the teachings of Francisco, in my mind, you find much more strong authoritative evidence. And so if you're going to go forward with an invalidity argument, you obviously want to bring in everything that's necessary to make a strong description in general.

Q. But here, this access control list data in Woodhill is part of the file itself and exists before the binary object identifiers are even created, right?

A. Yes, it is part of the file, or it is the entirety of the file is another possibility when you read that sentence, I think.

Q. So if the access control list data at Woodhill exists before the binary object identifiers are formed, couldn't one say that that teaches away from using the binary object identifiers as your access control feature?

A. Well, the fact that -- I mean, many things are going on here at the same time. It may be that the access control list that's being talked about here is not the access control list associated with the data that's being partitioned into streams and binary objects. Do you know what I'm saying or not? Maybe I

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should say it a different way.

I think when it's talking about things that you're going to deal with, it gives you a list. One of the things on that list is an access control list. I mean, other things, regular data, extended data attributes, all kinds of things. I think this is generally talking about just any kind of data, including access control lists. Those access control lists, when we are backed up or moved around are going to be partitioned into streams, are going to be represented by a binary object identification record, but that's not going to be their only purpose. They're probably in the system for another reason, and I think the reason that one would -- of ordinary skill in the art would suspect is because they are there to be referenced to determine whether a particular file is authorized for access by some entity.

Q. If you were designing a system to determine whether access to a given file is authorized, and you could use one comparison on the one hand or a thousand comparisons on the other hand, which one would you pick?

A. 1995? Automated. It's purely a design

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decision. I understand that the cardinal value one is less than the cardinal value a thousand, right, that's absolutely true. But if -- what's really much more significant than that is what is the fraction -- the total fraction of the processing time that's dedicated to that particular activity. And basically doing a table lookup is usually a very small part of doing the file transfer. As a matter of fact, getting into the dad-gum operating system in the first case probably takes much more time than anything that follows that.

Q. If one involved a single table lookup and the other involved a thousand table lookups, which one would you pick if each table lookup took the same amount of time?

A. Well, the point is that the issue is not, let's say, how many microseconds that it takes or how many milliseconds or how many nanoseconds that it takes. When one is making these design decisions, they're looking for efficiencies, they're looking for -- I don't mind if I increase things by one-tenth of 1 percent. I do mind it if I have to multiply it by a fact of a thousand. So the question is, how big is that

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particular activity compared to the other activities that are going to be going on. And I think the -- in 1995 chances are very good people were already being really, really sloppy about these things. And so the time is really going to be dominated by something rather than just looking at an access control list and seeing whether or not that allows access.

Q. Generally speaking, would you want to minimize the number of comparisons or maximize the number of comparisons?

A. Well, to the extent that the number of comparisons matter, I would want to minimize them. And how much they matter would determine how much I wanted to minimize them.

MR. RHOA: Take a break.

(Recess 1:47 p.m. to 1:55 p.m.)

Q. (BY MR. RHOA) Can you please refer to Claim 24 of the '310 patent?

A. Okay. I have that.

Q. That claim requires or recites that "two identical data items will have the same content-dependent name," right?

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**A. Yeah. The last part of Section B. It says, "wherein two identical data items will have the same content-dependent name."**

Q. Is it fair to say that that would not be possible if the content-dependent name was based on external information, such as server information or something like that?

**A. Well, I think that certainly does go to, I think, what was the thrust of the idea of this particular one.**

Q. For example, if the content-dependent name was based on server identification, then two identical data items on different servers would have different names, right?

**A. I think that's absolutely true unless there's this process called --**

Q. And if that was the case, the claim would not be met?

**A. That's absolutely true.**

Q. Does Woodhill describe a contents identifier as being a name for anything?

**A. In the context of the court's construction --**

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Q. I'm not asking about the court's construction, I'm asking just: Does the Woodhill document describe a contents identifier as being a name for anything?

**A. And if you're asking is the word, let's say, "binary object identifier" ever explicitly and literally referred to as "name," to my knowledge, the answer is no, it is not. If you look at is there an isomorphism between the claim and Woodhill, then a different picture.**

THE REPORTER: I'm sorry, I can't hear you.

**A. If there is an isomorphism between Woodhill and the claim --**

Q. (BY MR. RHOA) What do you mean by that?

**A. I mean if you --**

Q. That's a long word.

**A. Okay, isomorphism, it means the same thing. If you're -- in essence it's the same thing in the view of one of ordinary skill in the art, but it has a different -- it has a different literal name, and I think that's your question. If that's your question, the answer is no literal name. Okay. If you're asking meaning to one who is skilled in the art, these two**

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**things in Woodhill and the claim do -- are talking about the same thing.**

Q. From the point of view of one ordinary skill in the art in 1995, would there have been a difference between a name and an identifier in this art?

**A. Oh, that's a line that's too -- that's too close for me to call. I think engineers are pretty sloppy about words. Lawyers are not, and so I think you would probably have to do a lot of research and probably come up with the fact that engineers couldn't agree about that one way or another.**

Q. You don't have an opinion on it?

**A. My opinion is that engineers are sloppy, and so I can't make a binary decision one way or the other.**

Q. In Woodhill is there a difference between a file name and a binary object identifier? They are both illustrated at different locations in Figure 3, right?

**A. They are, that is true. One of those, Element 40, is called "File Name." And "Binary Object Identifier" is Element 74. And those are different and disjoint, at least disjoint with respect to their appearance in Figure 3.**

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Q. Are granules in Woodhill's granularization procedure named files, in your view?

**A. Well, again, to the extent that a file is a sequence of ones and zeros, and to the extent that every granule has a content identifier, in that way, they are named, yes.**

Q. Do you think one of ordinary skill in the art in 1995 would have considered one of Woodhill's granules to be a named file?

**A. In the context of the asserted patents?**

Q. In the context of Woodhill, looking at Woodhill.

**A. Only Woodhill, not --**

Q. Look at Woodhill. Would one of ordinary skill in the art have considered one of Woodhill's granules to be a named file in 1995?

**A. Right. If we're talking about, you know, sort of the terms of art as they exist, the answer is no. If we're talking about the ideas, then the answer is probably yes. Once they understand the ideas, they could call that a file.**

Q. What do you mean "the ideas"?

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**A. Well, a granule is a unit of data, and it has a name, and I can do operations on it. And the file would be understood to be a unit of data that has a name that's there to allow one to do operations on it. Those things are similar. The particular words are clearly different, but there is certainly a commonality to the ideas.**

Q. You said that if you're talking about the terms of art as they existed in 1995, one of ordinary skill would not have considered a granule to have been a named file. My question is why not?

**A. Well, if you look at the concept of a file in 1995, most people are really thinking about an application term, it's a name that somebody has to manipulate the contents of this thing. If you're looking at it at the lower level, if you're looking at it at the operating system level, then I don't think it's necessarily such a problem. Because now that business about what a file is and how it gets moved around and so forth has a different kind of connotation because it's not designed for human interface, it's just designed for utilization by the operating system.**

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Q. Does Woodhill describe binary object identifiers as being names for binary objects anywhere other than in the claims?

**A. I would have to research that question. I don't know the answer.**

Q. Do you have an opinion on that?

**A. No.**

Q. In 1995 how large would one of ordinary skill in the art have considered a large database file to be?

**A. 1995, a large database file. Could be bigger than a gigabyte but smaller than a terabyte, and it certainly depends on the context you're talking about, whether you're talking about a personal computer or whether you're talking about a centralized large system of a company with a bunch of IBM machines around it.**

Q. How about in the context of Woodhill?

**A. Well, Woodhill I don't think speaks specifically to what kind of company would utilize this. As a matter of fact, I got the sense that he didn't necessarily want to restrict it to a particular application. And clearly, there's that broadening statement that you always find just before the claims,**

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**which would indicate that, you know, that was one of the things he wanted to do is make his description and its utilization as broad as possible. So I don't think it would be restricted.**

Q. Woodhill's backup server 12 would have stored a whole lot of files, right?

**A. I would agree with that. Yeah. I would agree with that.**

Q. Database files in addition to data files?

**A. I think the reason that granules come into existence is because you're going to be making copies of database files.**

Q. In Woodhill a given binary object could be in many different files, correct?

**A. It's not -- it's not impossible. I don't know how likely it is, though, because the question really is -- you've got to have the same data, it's got to be at the same place, it's got to be broken into the same streams, and so...**

Q. Let's say someone was drafting a real long expert report.

**A. Oh, I understand that.**

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Q. And Page 1 is the same in 30 different versions. That same binary object would be present in 30 different files, right?

**A. It's -- that's a reasonable hypothesis. Given the size, you understand that the quantum is one page, or something less than one page.**

Q. Does the binary object identifier in Woodhill identify anything other than a given binary object?

**A. Well, I would say the only other thing that I can think of that a binary object identifier would identify, other than a binary object, are components of that binary object, which have been partitioned into granules.**

Q. Now, you agree that a binary object could be in many different files in Woodhill, right?

**A. Yes, it's possible.**

Q. Likewise, a given granule could be in many different files in Woodhill, right?

**A. I think it's even more likely.**

Q. In Woodhill, is the contents identifier that identifies a granule, part of that granule?

**A. So on Column 15, starting in Line 20, "If so,**

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**program control continues with step 404 where the Distributed Storage Manager program 24 creates a 'shadow file' which contains a 'contents identifier' for each 'granule' in the binary object."**

**So I think that one of ordinary skill in the art, when reading that, would think that, the way it's described, the shadow file contains the contents identifier. It may be that the granule is in the side of the shadow file, too. It's not absolutely determinative one way or the other, but that's what it says. That's what the teaching is.**

Q. There's no description in Woodhill of the granule ever being in the shadow file, correct?

**A. I would agree with that; in other words, you find in Figure 3 this taxonomy, but it's not extended down to granules. That's true. Now, in terms of teachings, I don't -- I don't remember -- I remember this about it being in a shadow file. I remember that that these content identifiers are associated with granules, but whether they're associated with by being part of -- that may be here and I've overlooked it, but --**

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Q. A content identifier is calculated from the contents of the granule, right?

**A. It is.**

Q. So by definition it can't be part of the granule; isn't that right?

**A. I think -- I guess you're right because that would make it recursive.**

Q. The same thing with binary object identifier, it's calculated from the contents of binary objects?

**A. Therefore, you would have to have them be separate.**

Q. So by definition, the binary object identifier cannot be part of the binary object that it's identifying?

**A. Yeah. I would agree with that.**

Q. Is a binary object identifier in Woodhill a named file?

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

Q. Are you familiar with Woodhill's backup procedure?

**A. I mean, generally.**

Q. Would you agree it's described, at least in

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part, in Column 9?

**A. Under Concurrent Onsite/Offsite Backup, that's what you're talking about?**

Q. Both above and below that.

**A. Okay. So above Concurrent Onsite/Offsite Backup, I think the focus here is that the binary object identifiers are used to determine which of the binary objects are current in a given time and which need to be backed up. That's true.**

**Would you like for me to read further, or is that --**

Q. Are you familiar with all of Column 9?

**A. I haven't committed it to memory, but I have read it many times.**

Q. In Woodhill's backup procedure, how many prior binary object identifiers is a new binary object identifier compared to?

**A. Well, in Column -- in Line 20 it says, "the Binary Object Stream Type field 62 and the Binary Object Offset field 72) is compared to the Binary Object Identifier 74 (associated with the next most recent Backup Instance Record."**

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**Now, there may be some discussion of comparison to earlier ones, but I don't remember. And I've thought about this, as I read it, as previous version and the new version.**

Q. Does Woodhill compare a binary object identifier with anything other than another binary object identifier, to your knowledge?

**A. No, I don't think so. Those two binary object identifiers may be in different systems.**

Q. Would there have been any reason to have done that?

**A. To compare it to something other than?**

Q. Other than a binary object identifier.

**A. That's a hard question to ask. I mean, it's a very complex world, and there are lots of things that go into computing systems. Well -- but you always said "another binary object identifier," and it seems like to me the purpose of binary object identifiers is to determine uniquely what this particular binary object is and whether two of them are equivalent for whatever reason. So in that case, you're comparing one binary object identifier to another binary object identifier.**

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Q. Woodhill has a granularization backup procedure also, right?
**A. Yes.**
Q. Is that the same as or different than the backup procedure in Column 9 that uses the binary objects?
THE WITNESS: Well, maybe I'll ask you to repeat that question.
(Requested portion was read.)
**A. If the objective is to back up a binary object, and if that binary object is part of a database or another large file, then that binary object may be partitioned into granules. So it's not exactly the same thing, it's part of what's going on in that particular case.**
Q. (BY MR. RHOA) Some files use the Column 9 binary object procedure, other files use the granulization backup procedure. Is that a fair statement?
**A. Well, the only thing I'm trying to -- that I haven't determined is, if I look in the teaching of 9, does it specifically preclude the backing up of large**

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**files to Element 12, which is the remote backup server -- file server? If that's specifically precluded, then those two are disjoint. If it's not, then what we see further on in Column 17 is part of what's being described here, but the granular part is certainly not being described in Figure 9. It just may be part of it.**
Q. Let's talk about Woodhill's backup procedure and this binary object identifier comparison. Okay?
**A. Yes.**
Q. During a backup does Woodhill compare a binary object identifier with a prior binary object identifier for the same file or for a different file?
**A. For the same -- for the same binary object.**
Q. For the same file?
**A. To the extent that the -- I don't know about that. We've got to be clear about which file we're talking about now.**
Q. Take a look at Woodhill Column 9, Lines 17 to 21.
**A. Okay.**
Q. Actually, make it 10. Column 9, Lines 10

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to 21. So take a look at that, and I'll ask the question again.
**A. We want to go to 22, did you say?**
Q. That's fine. 10 to 21 is what I said.
**A. Okay. So the answer is that that comparison is done by what I would call different versions of the same binary object -- binary object in the same file. This is not specifically teaching about the case where they're -- no.**
Q. So when -- Woodhill's backing up on a file-by-file basis, correct?
**A. And here we're using the term "file" --**
Q. The way Woodhill uses the word "file."
**A. Okay. Okay. I understand. He's backing up on a file-by-file basis.**
Q. So Woodhill is backing up binary objects on a file-specific basis, correct?
**A. Yes. He's doing -- he's looking at a collection of binary objects, which I think he happens to use the term "file" here for, and I think he's backing those things up.**
Q. So during backup, Woodhill can only tell if a

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binary object for a given file is in that particular file, correct?
**A. I'm not sure whether that's the case or not because, as you pointed out, a binary object may appear in multiple files.**
Q. But Woodhill's comparison is only for binary object identifiers for that same file, right?
**A. Well, there is one binary object identifier, and that binary object identifier is for all.**
Q. It says here in Column 9, and you previously testified, that during the backup Woodhill is comparing a binary object identifier with a binary object identifier for a previous version in that same file.
**A. Yes.**
Q. So if that's the case, Woodhill can't tell if that binary object identifier matches things for other files.
**A. I don't know. I think he lists as one of his objectives, only having one copy of a binary object identifier in the system as a matter of efficiency.**
Q. Where does he say that?
**A. Let me just look at the objectives.**

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**So I think you're right. I don't see that listed as an objective. But I do find that it says here that it might do comparisons with one or more of the backups, which we didn't find in Column 9.**

Q. For one file?

**A. Right.**

Q. My point is that Woodhill has no idea if a given binary object is in the other files on the system. Is that a fair statement?

**A. I don't know about that one way or the other, but I would agree that Woodhill is teaching specifically for the purposes of backup and not for the purposes of unitary copies of the binary object identifier.**

MR. RHOA: Can we go off the record for a second?

(Recess 2:27 p.m. to 2:35 p.m.)

Q. (BY MR. RHOA) So Woodhill's granularization procedure relates to large database files, right?

**A. Yes.**

Q. Would you agree that one of ordinary skill in the art at the time of the invention would have assumed that a large database file contains many granules and

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many binary objects?

**A. Yes.**

Q. In Woodhill in Column 17 --

**A. As -- in the generic use of the term "file," right.**

Q. In Woodhill's Column 17, there is a granularization restore procedure described, correct?

**A. Yes. It starts a little earlier, but it's certainly all of 17.**

Q. I think it starts at Column 16, Line 18, right?

**A. Yeah, but the discussion of granules themselves starts back in 16 -- in fact, 15.**

Q. The reconstituting procedure starts in Column 16, Line 16, and goes through Column 17, Line 16, right? That's the Figure 5h procedure?

**A. You'll have to reask that question. I just missed something. I just didn't get all of it.**

Q. The granularization reconstituting procedure starts in Column 16, Line 16, and goes through Column 17, Line 16, right?

**A. Right.**

Q. And then at Column 17, Line 18, the

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granularization restore procedure begins, right?

**A. Yes.**

Q. And that goes to Column 18, Line 9, right?

**A. Yes. That is Figure 9h.**

Q. Now, in Woodhill's granularization restore procedure, the local computer 20 already has the most recent or current version of the large database file at issue, right?

**A. It's logical to assume that, though I don't see that statement in this section. But I think that's a reasonable assumption.**

**Oh.**

Q. Take a look at Column 17, Lines 39 to 40.

**A. Okay. Here we go. Yes. Right, computer 20. I'm with you.**

Q. So the local computer 20 already has the most recent or current version of the file at issue, right?

**A. Yes.**

Q. And in step 444 content identifiers are calculated for granules in the current version at the local computer, right?

**A. That is correct.**

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Q. And those content identifiers are in this update request at Column 17, Line 42, right?

**A. Yes. It includes the list of content identifiers that we see in Column 46.**

Q. Granules identified by those content identifiers that are in the update request are never provided to the local computer 20 in response to the update request, right?

**A. I don't think they have to be provided because they're already there. Right.**

Q. It's only changed granules for other content identifiers, as a result of this comparison at Lines 52 to 55, that end up getting sent back to the local computer 20; is that right?

**A. Okay. I agree.**

Q. Does Woodhill ever describe applying a hash to multiple binary objects?

**A. I don't remember reading that.**

Q. No opinion?

**A. No opinion. I haven't specifically researched it, but I would say, off the top of my head, I remember binary object identifiers being applied to binary**

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**objects.**
Q. Please refer to Figure 5A of Woodhill.
MR. RHOA: Can we go off the record for a second?
(Discussion off the record.)
Q. (BY MR. RHOA) So we're referring to Figure 5A of Woodhill?
**A. Yes.**
Q. What does Box 132 illustrate in Figure 5A of Woodhill?
**A. This is the situation where you separate the data into a collection of streams. So, you know, a large set of data, maybe it's over a megabyte or something like that, and it's select -- and it's divide -- so you separate the file information into a set of streams.**
Q. It says "Separate File Into Data Streams," right?
**A. Correct.**
Q. So according to this, a file would be separated into multiple data streams?
**A. It depends on the size of the file.**

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Q. That's what this says.
**A. In the instance of a large file, yes.**
MR. RHOA: Could we take a break?
(Recess 2:46 p.m. to 2:50 p.m.)
Q. (BY MR. RHOA) Please refer to Woodhill Column 4, Lines 14 and 15.
**A. Okay. I'm there.**
Q. Woodhill states that "The Distributed Storage Manager program 24 views a file as a collection of data streams," correct?
**A. Correct.**
Q. Does that indicate to you that a file is viewed as a plurality of data streams?
**A. Well, this is saying that a file is a collection of data streams. But applying construction, both of these things are a collection of ones and zeros, and they have a name. They're named -- they're named data fields.**
Q. All I'm -- do you agree that the ordinary meaning of "collection" is a group?
**A. Yes.**
Q. So would you agree that Woodhill here is

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stating that the program views a file as a group of data streams?
**A. Yes, but that doesn't mean the data streams aren't necessarily files.**
Q. Then if you look at Column 4, Lines 22 to 23, does that state that the program then divides each data stream into one or more binary objects?
**A. Yeah. It says that you essentially take a data stream, and that data stream is represented by a binary object.**
Q. And take a look at Woodhill Column 7, Lines 41 to 43. Do you see that?
**A. I do.**
Q. That states that program 24 separates the file identified into its component data streams. Do you see that?
**A. Yes, I do, but --**
Q. Is that consistent with what we just talked about?
**A. They're all consistent because -- and it's also ^ ck sense contend with the board's construction because "file" is a recursive concept. A file could contain a**

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**file. A file can be divided into files.**
Q. Does Woodhill ever describe a file being divided into only one data stream?
**A. My understanding is, if the size of the file is less than one meg or something like that, then that particular data stream is the only one. You don't -- you don't need more than one.**
Q. Does Woodhill ever describe dividing a file into only one data stream?
**A. I think the point is that what it describes is the mirror image. And so clearly, the other thing is taught to one who's skilled in the art.**
**This is the business where it checks to see if it's less than a constant, if it's a meg, and if it is, it divides into streams. If it doesn't, it doesn't divide it into streams. We can see that very clearly in, for example, Figure 5A down at the bottom.**
Q. I suggest that you relook at Figure 5A --
**A. Yes.**
Q. -- and note the order between the separating into data streams and the determining the size.
**A. Uh-huh. So my point is, if you have file...**

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**Oh, you're -- you're saying that you could have a small file, less than a meg, and you would still separate it into a multiplicity of data streams, according to this Figure 5A. Is that what you're saying?**

Q. That's what it looks like to me. The separation occurs in step 132, which occurs prior to step 134, where the size is analyzed.

My question would be: Do you agree with that?

**A. Well, I think this is an example. You might call this one embodiment. But the way I understood this embodiment is it's meant to be an embodiment that's as generic as it can possibly be. It doesn't mean that you would necessarily follow this same paradigm if you're dealing with a small file.**

Q. In Figure 5A of Woodhill, the separation into data streams occurs prior to the size analysis, right?

**A. In this particular preferred embodiment, yes.**

Q. So my question -- I'll go back to a previous question. Does Woodhill ever describe separating a file into only one data stream?

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**A. I don't know whether there's a phrase in here somewhere that says, For small files, a single data stream is used. I don't remember looking for it, to see whether it was there or not. That's a matter of fact, one way or the other.**

Q. As you sit here today, are you aware of any statement in Woodhill that describes separating a file into only one data stream?

**A. No. I don't see that as an explicit teaching, but I would say when one of ordinary skill in the art look at this thing, there's no reason in the world why he's going to go and separate files, small files into multiple data streams. Why would you do that.**

Q. You're familiar with Woodhill's granularization procedure, right?

**A. Yes.**

Q. Is the purpose of Woodhill's granularization procedure to avoid transmitting entire large database files and entire binary objects?

**A. Large ones. Large ones.**

Q. So the goal is to -- the goal of the granularization procedure is to transmit the granules that are subject to the change?

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**A. That's -- I would agree with. But you wouldn't obtain that advantage if you took a small file and you broke it up into a bunch of little files. As a matter of fact, it would probably go the other way. It would be more expensive rather than less expensive.**

Q. Did you review the file history of the '310 patent?

**A. Yes.**

Q. You've alleged an obviousness argument in connection with '310, right?

**A. Yes.**

Q. Are you familiar with what the secondary considerations are?

**A. I am.**

Q. Do you recall a discussion of long-felt need in the file history of the '310 patent?

**A. I don't think I do recall that. I do believe that that was in a document -- well, I don't know. I mean, the file histories are enormous, okay. And so I don't remember explicitly everything that's in the file history.**

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Q. I am going to hand you an excerpt from Rackspace Exhibit 1002 in the '310 IPR that includes Page 379 and 380 of that exhibit. Do you have that in front of you?

**A. I do.**

Q. 379 and 380 are part of a document that was submitted in the file history. You can take my representation on that.

**A. I'll accept that.**

Q. On Page 379 there is reference to "The examiner indicated that he had made them of record to show how others had copied applicants' invention. The examiner agreed that copying was an indication of long-felt need for the invention." Do you see that?

**A. So this is a document that was produced not by the examiner himself but someone who is characterizing what the examiner had done, right?**

Q. You can assume that.

**A. Okay.**

Q. The signature for the document is on the next page which is why I gave it to you, on Page 380.

**A. This is Brian Sertzsky or something like that.**

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**Which, let's see, this is 380 that we're talking about here. '320 -- 10.**

MR. STORM: I think you're looking for '310. He was the prosecuting attorney.

**A. Yeah. Yeah. Right. So he was the prosecuting attorney. Yeah, well --**

Q. (BY MR. RHOA) You can assume that.

**A. Okay.**

MR. STORM: We'll agree to that.

**A. We'll agree to that.**

Q. (BY MR. RHOA) My question is: Did you consider these statements concerning copying and long-felt need in your obviousness analysis regarding the challenged claims of the '310?

**A. Yes. I mean, not just this. Well, okay. So the answer to that is, yes. If there was anything about obviousness and there was something about indicia of -- I forget what it's called, but it means that you -- that this is such a wonderful thing until even there might -- normally you might put these things together, and you don't because it's been so terribly successful or it's received so many laws or all that sort of thing. That I**

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**do remember thinking about, yes. Not just this.**

Q. Have you reviewed either the Carpentier reference or the '807 patent mentioned on Page 1002?

**A. I don't remember reviewing the '807.**

Q. Did you review Carpentier, which is 200500130792?

**A. I don't remember reviewing that either. Was it in the file history itself?**

Q. They're referenced here in the file history.

**A. Okay. If it was in the file history, then I looked at it.**

Q. I don't know if they were in the file history that was submitted with the petition. I'm not sure.

**A. Okay.**

Q. Do you have an opinion regarding whether either the '807 patent or Carpentier copied applicants' invention?

**A. No, I have no opinion about that one way or the other.**

Q. Do you have any opinion regarding whether copying was an indication of long-felt need for the invention?

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**A. I think copying in its own right is an indicia of nonobviousness. So when I deal with these issues, I talk to lawyers to make sure I understand the parts and how they're broken out. But my recollection is, and I may even have this in -- this may be written down in the legal section, but I'm not sure that we did anything about secondary indicia. But at any rate, I thought they were separate things. I thought that long-felt need is long-felt need. Maybe it's this long-felt need as demonstrated by such and such, blah blah blah blah blah. I can't remember. But at times when I'm reviewing prior art, I try to make sure that in my mind are those criteria those secondary indicia. But this, for example, maybe I'm wrong, but isn't this hearsay?**

Q. There's a statement about secondary considerations in the file history. I'm just asking if -- to what extent you considered that and how you applied it in your obviousness opinions.

**A. You know, I looked at a lot of stuff. I don't have a instant recollection of exactly what I thought when I looked at this document. But if I thought the same thing that I thought today, I looked at it and it's**

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**the wrong source of information, the source of information of the guy who prosecuted the patent rather than the patent examiner himself.**

Q. If you don't have an opinion on whether either Carpentier or the '807 patent copied applicants' invention, how could you have an opinion on the secondary consideration referenced here?

**A. There may be any one of a large number of patents that copied this invention or purportedly copied this invention. In order to do a reasonable evaluation of secondary indicia, you take those cases, in my mind, where I understand it to be, you know, a rather formal, rather clear, rather unambiguous support for the contention of copying. And so I don't know that I was -- in this particular case, I don't know what the law was. I don't remember asking the lawyers whether I needed to go look at that or not. But I think the lawyers I was dealing with were pretty legitimate people, and I don't know.**

MR. STORM: I don't know any.

**A. I would have hoped that they would bring such things to my attention, that I didn't have to do that on**

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**my own volition. If there's something in the law that says, Ray, in a situation like this, you're supposed to go and look at the fine details of the '807, they would let me know that.**

Q. Do you have any reason to disagree with the statement here that "The examiner agreed that such copying was an indication of long-felt need for the invention"?

**A. I don't have a comment about that or an opinion about that one way or the other. But it seems like to me if it was such good news we wouldn't be looking at this document, we would be looking at what the examiner said himself of the file history.**

Q. Well, that document is talking about a personal interview, which presumably involved oral statements.

**A. Okay. I understand.**

Q. Can we look at Woodhill Column 11? And when you get there, let me know and I'll tell you the line.

**A. Okay. I've got Column 11.**

Q. A quick tangent. Have you reviewed the deposition transcript of Apple's witness in the '310 IPR filed by Apple?

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**A. No, I have not. But I have looked at I believe secondary indicia, comments about secondary indicia that were made in the Apple IPR and one of the documents that was related to Apple. I don't remember which one it was. But there were comments about secondary indicia among those documents.**

Q. Did you review questions that were asked to Apple's witness and his answers in the Apple IPR?

**A. No, I did not.**

Q. Did anyone tell you what questions were asked to Apple's witness in the Apple IPR?

MR. STORM: I don't know how answers that without getting into our preparation, so I'm going to instruct him not to answer on the basis of work product.

MR. RHOA: I'll agree it's not a waiver if you'll let him answer yes or no.

MR. STORM: Sure.

**A. So --**

MR. STORM: You can answer yes or no. That's it.

**A. Okay. There was a discussion --**

MR. STORM: You already gone past yes or

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no.

**A. Oh. Hum. Well, I guess the literal answer to that is no, nobody quoted questions and answers.**

Q. (BY MR. RHOA) Did -- yes-or-no answer, did someone describe to you general topics that were covered in the deposition of Apple's witness in the '310 IPR?

MR. RHOA: I agree it's not a waiver if he answers yes or no.

MR. STORM: And then we're going to go on. This is obviously getting awful close to the substance, yadda yadda yadda, so whatever. Yes or no, and then we're moving on.

**A. Okay. I don't have the acuity of recollection to drill it down to the question you asked. So the answer is I don't know.**

Q. (BY MR. RHOA) Do you have Column 11 of Woodhill in front of you?

**A. Yes.**

Q. Please review from Column 11, Line 65 to Column 12, Line 5 of Woodhill.

MR. STORM: Can you give me the lines again?

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MR. RHOA: Column 11, Line 65 to Column 12, Line 5.

**A. Okay. I've read that.**

Q. (BY MR. RHOA) Is Woodhill using part of the binary object identification record 58 to access a binary object here?

**A. Well, at the very least, that request includes -- your question was binary object identifier as contrasted with binary object identity record.**

Q. My question was: Is Woodhill using part of the binary object identification record 58 to access a binary object here?

**A. I don't know whether it's using it or not, but he's passing along binary object offset 72, which is part of the binary object identification record.**

Q. How about 62?

**A. Yeah, he's also passing along the binary object stream time, yes.**

Q. Are fields 62 and 72 being used here to access binary objects?

**A. It's reasonable to think those are being sent along for some good reason. And, let's see, what is the**

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**character of these things. So the issue is are they being used to do the access, right? And they certainly could be, but they could also have to do with the kind of treatment you do when you do the compression.**

Q. Is Woodhill accessing a binary object here?

**A. Well, the next sentence here says, "The binary object are placed in the compression queue (not shown) for processing by the Compression Routine." So they certainly do get to the compression queue. It's reasonable to assume that they're accessed in order to get to that place, to be moved to that place.**

Q. So you would agree that this portion of Woodhill then is accessing the binary object, most likely?

**A. It doesn't specifically say one way or the other, but I certainly wouldn't take issue with the fact that this is a possibility. If the focus really is whether or not any of the binary object identifiers are being used, well, your question is not exclusively are they using these things, but just is it likely that an access is occurring. I'd say it's certainly very, very possible that access is occurring, and the result of**

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**that is it goes into a binary queue.**

Q. Woodhill does not mention binary object identifier 74 here, does it?

**A. No. He -- it's not explicitly mentioned, that's true.**

Q. Would you have any reason to believe that binary objects would be accessed differently here compared to in the self-audit procedure or the granularization restore procedures?

**A. Only to the extent that because you're going to do another activity you might need additional information. Since you're going to do compression, you may need more than just the file itself, you may need information about the file, for example. But the fact that 74 is not there may mean that it just wasn't included but it still happens, or it may mean it's not included.**

Q. Take a look at Woodhill at Column 9, lines 18 to 20.

**A. Okay.**

Q. So here Woodhill is again stating that the binary object is identified by fields 62 and 72 from

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record 58, right?

**A. I just want to read a little more context. So if you notice up a little earlier about 9 it says, "Those binary objects that have changed are identified by comparing the Binary Object Identifiers 74 calculated in step 138 with the corresponding Binary Object Identifiers 74 associated with the next most recent Backup Instance Record 42 for the file identified by the Backup Queue Record" that's "being processed." So we certainly are -- we at least are using binary object identifier in this process. I don't think it necessarily says explicitly, but maybe we could infer, if I read more of this, whether or not there's an actual access associated with this or not.**

**(Discussion off the record.)**

**(Recess 3:36 p.m. to 3:48 p.m.)**

Q. (BY MR. RHOA) Does Woodhill disclose zip files?

**A. I don't think Woodhill describes zip files, per se, but I certainly do think that Woodhill describes files inside of files.**

Q. Woodhill describes a self-audit procedure in

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Column 18 that we talked about, right?

**A. Yes.**

Q. That's a self-checking system where the system is checking itself. Is that a fair statement?

**A. I would say they're self-audits, that's for sure, and it's to make sure that there's continuity, if you will in terms --**

Q. So -- I'm sorry.

**A. To make sure that there's continuity in the data that's floating around in the system, and to sort of purge out things that maybe need to be updated or replaced.**

Q. It's done to make sure that the system is working?

**A. As much as possible.**

Q. Is it fair to say that there are no unauthorized or unlicensed parties involved in Woodhill's self-audit procedure?

**A. I don't think Woodhill speaks to that one way or the other. I don't think it's precluded, but I don't think it's actively taught.**

Q. Would there be any reason to expect that

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unauthorized or unlicensed parties would be trying to access binary objects in a self-audit procedure?

THE WITNESS: I'm going to ask you to read that back.

(Requested portion was read.)

**A. One skilled in the art in 1995 was certainly well aware of malicious entities. They were certainly not so prevalent as they are today, but malice has been in the computing domain pretty much forever.**

Q. (BY MR. RHOA) Take a look at Figure 3 of Woodhill, please.

**A. Okay. I have it.**

Q. Field 38 refers to file location, right?

**A. It does.**

Q. Does location field 38 identify a particular binary object in Woodhill?

**A. By "a particular," do you mean one or more?**

Q. One.

**A. Exactly one.**

Q. Does file location field 38 identify one particular binary object in Woodhill?

**A. It's possible, but it's not likely. First,**

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**file location may be inadequate to make that determination. Chances are very good that it is. And second, there's a many-to-one relationship in terms of binary objects and file identity records. So there certainly could be many of them. There could be --**

**(Discussion off the record.)**

Q. (BY MR. RHOA) Does file location field 38 identify one particular granule in Woodhill?

**A. In a rare instance, it could. I don't think it would be used exclusively for that purpose, by any stretch of the imagination. And the situation would be when there was exactly one granule associated with the entirety of this file and -- no, that's not going to -- not even -- that's never even going to happen, no. How about a "no" for an answer?**

Q. So the answer to the question would be no?

**A. Would be no. Negative.**

Q. Do you contend -- we're going to switch to the '791 patent.

**A. Okay.**

Q. You contend that Woodhill anticipates Claim 41 of the '791 patent; is that correct?

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Actually, I'm sorry, I misspoke. Let me rephrase that question.

**A. Is it going to still involve '791?**

Q. Yes.

**A. I'll be working on that while you revise your question.**

Q. Tell me when you have --

**A. I have '791. Now we're looking for anticipation of Claim --**

Q. Claim 30.

**A. -- 30.**

**Okay. I'm ready for your question.**

Q. So you contend that Woodhill anticipates Claim 30 of the '791 patent, correct?

**A. Yes.**

Q. What in Woodhill do you contend or allege corresponds to the "substantially unique identifier" in Claim 30 of the '791 patent?

**A. So the substantially unique identifier is again the Binary Object Identifier 74, and the identifier for the granules which is called contents identifier.**

Q. What in Woodhill do you allege corresponds to

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the data item in Claim 30 of the '791 patent?

**A. So the data item is either a granule or a binary object.**

Q. In Claim 30 do you see the last paragraph that starts with "accessing"?

**A. "Accessing a data item"?**

Q. Yes. The last paragraph of Claim 30 reads, "accessing a data item in the system using the identifier of the data item." Do you see that?

**A. I do.**

Q. What in Woodhill do you allege corresponds to that last "accessing" paragraph in Claim 30 of the '791 patent?

**A. So in Page 55 of my report, Paragraph 90, second sentence, "Specifically, Woodhill discloses a restore mechanism by which 'Distributed Storage Manager program 24 transmits an "update request" to the remote backup file server 12 which includes the Binary Object Identification Record 58 for the previous version of each binary object' to be restored.**

Q. Anything else?

**A. Well, I think that the accessing might be**

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**interpreted broadly enough not to include just the request, as discussed here, but also the actual transmission.**

Q. You also allege that Woodhill anticipates Claim 41 of the '791 patent, right?

**A. Yes.**

Q. What in Woodhill do you allege corresponds to the current location recited in Claim 41?

I'm looking at Page 60 of your declaration, the last line in Paragraph 98. It appears to indicate that you contend that the current location is the local computer 20.

**A. That's correct.**

Q. As you sit here today, are there any other alleged current locations that you're aware of?

**A. Well, that is certainly one example.**

**So all we're really talking about here is essentially finding -- having a first and a second computer, and retrieving a copy of a piece of this data from a different computer. I think that can happen between two local computers, like local computers 20, 17 on the left side of Figure 1, and local computer 17 on**

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**the right side of Figure 1, where obviously the data itself is much likely stored in that disk below it. Those would be called 19. So I don't see a fundamentally different -- I don't see a fundamental difference with respect to this claim.**

Q. At the end of Paragraph 99 of your declaration it appears as if you allege that the remote location recited in Claim 41 is the remote backup file server 12 in Woodhill; is that correct?

**A. Yeah. It's actually -- first, it's talking about going to see if it can find in the local computer 20, and then if it's not there, then it goes to the remote backup server.**

Q. I would like for you to look at Woodhill's granularization restore process in Column 17 of Woodhill.

**A. Okay.**

Q. Take a look at the end of Column 17, the last seven or eight lines.

**A. Okay.**

**Okay.**

Q. Is it fair to say that Woodhill's restore

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granularization procedure transmits granules to the local computer 20?

**A. Yes, I think it is.**

MR. RHOA: No further questions at this time.

MR. STORM: Can we have a short break?

(Recess 4:07 p.m. to 4:41 p.m.)

EXAMINATION

BY MR. STORM:

Q. Good afternoon, Dr. Mercer.

**A. Good afternoon, Mr. Storm.**

Q. I have a few follow-up questions.

**A. Okay.**

**(Discussion off the record.)**

Q. (BY MR. RHOA) You've looked at a number of your declarations through the deposition today, correct?

**A. That's correct.**

Q. You submitted five to the patent office for each of the five IPRs we're here about today, right?

**A. One for each, a total of five.**

Q. At the time you submitted these declarations, you didn't at that point have the board's claim

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construction which it stated in the decisions to institute each of these IPRs, right?

**A. No, I did not.**

Q. Have you since reviewed the board's claim construction in the institution decisions?

**A. Yes, I have.**

Q. What effect, if any, does that have on the opinions you've stated in your declarations?

**A. In each case, there is no effect in the final conclusion of my opinions.**

Q. So applying the board's construction, as stated in the institution decisions, your opinions, as stated in the declarations, are still the same?

**A. That is true, my final conclusions.**

Q. Also, you've been asked a number of questions today about issues addressed in your declarations sometimes in the context of the declarations, sometimes independent of the declarations. Do you recall that?

**A. I do.**

Q. Did you intend to revise any of your declarations by any answers you gave today?

**A. Would you repeat that question, please?**

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Q. Did you intend to change the content of any of your declarations by answers you provided today?

**A. No. My intent was to -- for my testimony to be absolutely synonymous with, correlated with, and identical to the material that was in those four declarations.**

Q. Okay. Now let's look at the Woodhill reference.

**A. I have that.**

Q. All right. You were asked whether a file is always split into multiple data streams. Do you recall those questions?

**A. I do.**

Q. And I would point your attention to Figure 5A and to Column 4. So the bottom of 5A is where some of those questions were directed. Do you recall that?

**A. I think in particular we focused on the box numbered 132.**

Q. Right. If you'll look at Column 4 of Woodhill. Let's start with Lines 15 through 18. There's a sentence that says, "A data stream is defined as a distinct collection of data within the file that may be

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changed independently from other distinct collections of data within the file." Do you see that?

**A. I do.**

Q. If there were any given file, only data that could not be changed independently from other data, how many streams would this indicate that file should contain?

MR. RHOA: Object to the form.

THE WITNESS: And I would like to hear that question read back, please.

(Requested portion was read.)

**A. Repeat the question, please.**

Q. (BY MR. RHOA) If you'll look at that sentence that starts "A data stream is defined" in --

**A. Yes.**

Q. -- Line 15 of Column 4, read that sentence to yourself.

**A. Okay.**

Q. Let me know when you've finished, and I'll ask the question --

**A. Okay.**

Q. -- after you've had a chance to look at it.

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**A. I've looked at it.**

Q. If a file contained only data that could not be changed independently from other data, how many streams would that indicate the file should contain?

MR. RHOA: Object to the form.

**A. So if I understand the question, you're saying in this particular case we're talking about one file --**

Q. (BY MR. STORM) Yes.

**A. -- and it contains only data that could be changed or would be changed, independent of all the others.**

Q. Could not be changed independently.

**A. Could not, independently from all the others.**

**Ah. Well, it's not defined as a stream, that's sure, because a stream is defined as a distinct collection of data within the field that may be changed independently from other distinct collections of data within the file. And therefore, I think that would contain one stream.**

Q. Let's look at a few lines down, Column 4, Lines 23 through 26. The sentence that says, "If the size of the data stream is equal to or less than a

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previously defined convenient maximum binary object size (currently one (1) megabyte), then a single binary object represents the data stream."

Do you see that?

**A. I do.**

Q. Do you recall questions earlier today whether there was anything in Woodhill indicating that a file could have only one binary object?

**A. Yeah. I think we were talking about that roughly at the same time we were talking about Box 132.**

Q. All right. What does that portion of Woodhill indicate regarding?

Whether a file must contain more than one binary object?

**A. It says it contains one binary object, provided that the size of the data stream is equal to or less than the maximum binary object size, which is currently 1 megabyte. So that would say that in the case of data with less than 1 megabyte of data, there would be exactly one stream.**

Q. And how many binary objects?

**A. There would be one corresponding binary object.**

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Q. What does Woodhill suggest regarding the size that a binary object can be?

**A. Well, Woodhill suggests that one size of the binary object could be a megabyte. But that's a suggestion, that's not a requirement.**

Q. And would a person of ordinary skill in the art, reading Woodhill, conclude that that was a fixed number that could not change with the system requirement?

MR. RHOA: Objection, leading.

**A. No. One would conclude, as I already indicated, that that's a variable that could be adopted. And as a matter of fact, I believe a little later on I cited to a different part of the specification where it says you can set these sizes to whatever optimizes the efficiency of the system.**

Q. (BY MR. RHOA) You were asked a hypothetical about whether a person programming -- doing some programming in which a comparison was called for would prefer to do a single comparison or a thousand comparisons. Do you recall that?

**A. I do.**

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Q. Now, were your answers to those questions in reference to a particular combination that you opined about, or abstractly related to programming generally?

**A. Would you repeat that question, please?**

Q. Were your answers to those questions related to any particular combination of references that you opined about, or a person of ordinary skill in the art generally?

**A. Well, I think the thing that was in my mind, when I was talking about that, was Woodhill because obviously, Woodhill works on data files or binary records -- binary records. And so I thought the thrust of that question was, if you have a very, very large file, and as a result, you have many, many binary objects, would it be better to do one, or would it be better -- or would it be better to do many, or would it be better to do one?**

**And I guess -- I don't think my answer would change in either case because it's impossible to just say one way or the other which is better, that there are too many variables that are involved in implementing a system to come to any exact answer one way or the other. There are many things to consider. That's one of them, but that's not the only thing.**

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Q. You described -- in response to some of the questions today about names and identifiers, you described application level names and system level names. Do you recall that?

**A. I do.**

Q. Could you describe the difference between those two names or identifiers, application level and system level?

**A. Yes. In my mind, when I'm talking about an application level, I'm talking about something where that file name is going to be used to manipulate data by, most likely, a human being writing a piece of code or interfacing with a piece of code.**

**In contrast, when I talked about the operating system, I was talking about those names as being interfaces between the operating system and the activity that was to be done on those particular pieces of information.**

Q. And would it be fair that a person of ordinary skill in the art in 1995 might use different labels for these same data or data operation, depending on whether they were describing it from the application level or system level?

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MR. RHOA: Objection, leading and form.

**A. Right. I think I previously testified that engineers are very much focused on ideas and not on words. So it's entirely possible that they would use the same term, even though we're talking about two different entities, one at the system level and one at the operating system level -- I'm sorry, one at the application level and one at the operating system level.**

Q. (BY MR. STORM) If you will get the '310 patent patent.

**A. Hey, I have that.**

Q. Okay. I want you to look at Figure 2.

**A. Okay. I have Figure 2.**

Q. Is this describing a hierarchy at the application level or system level?

**A. No, I think this is an application level hierarchy, not a system level hierarchy.**

Q. And if you'll look at Column 5 of the '310 patent patent, starting about Line 36 through about

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Line 45.
**A. 36 through 45?**
Q. Right. Let me know when you've read that.
**A. I will.**
**Okay. I've read it.**
Q. Is that describing application level or system level?
**A. This is application level.**
Q. And you have studied, among other things, the '310 patent patent, correct?
**A. Yes.**
Q. And one embodiment of what's described in the '310 patent patent is a calculation of a true name which, after it's produced, is 160 bits long?
**A. I'm familiar with that.**
Q. Would that be used at the application level or system level?
**A. That would be used at the system level, not the application level.**
Q. Why wouldn't it be used at the application level?
**A. Well, for one thing, you have no control over**

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**what those 160 bits are going to be. So if a human being was going to interface at the application level, they would have to interface on the basis of somehow, one way or another, specifying something on the order of 160 bits. And that's not -- that's not very convenient for a human being. And also, there's no syntactic -- there's no syntactic clues that are given by those 160 binary values.**
**In contrast, when you're operating at the system level, it doesn't really care. It's going to manipulate zeros and ones, and one set of zeros and ones is pretty much invariant with respect to how easy it is for the system to work.**
Q. And you were asked some questions about path, path name, and segment, as described in this paragraph Column 5.
**A. Yes.**
Q. Do you recall that?
**A. Yes.**
Q. Do you recall considering any claims in any of the Farber patents where those terms were in the claim?
**A. I don't recall any, but I can certainly review**

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**in detail, if you wish. But I don't have any such recollection.**
Q. I'm nearly certain the answer is no, and if I'm wrong, I'm sure cross-examination will reveal the truth.
**A. Very good.**
Q. And would take a while to go through all of them, looking for that.
**A. Lots of claims.**
Q. Do you recall construing -- in preparing your declarations and opinions in these IPRs, do you recall construing path, ^ pathname (earlier global throughout) path name, or segment?
**A. No, I do not because I don't think the focus of these claims were on those applications level entities. They were on system level entities.**
Q. Okay. I think you've already said, but just to be clear, let's look at Claim 10 of the '310 patent.
**A. Okay. I have it.**
Q. Okay. Claim 10 of the '310 patent requires, among other things, the particular data file, correct?
**A. Yes. Distributing a set of data files across a network of servers.**

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Q. And then below that, determining an identifier for a particular data file?
**A. I see that.**
Q. And the particular data file is referred to in other parts of Claim 10. Do you see that?
**A. Yeah. In response to a request for the particular data file, dot, dot, dot.**
Q. And what did you identify as a particular data file in Woodhill, in rendering your opinions that involved Woodhill?
**A. Binary objects, binary -- binary entities that are represented by a binary object identifier.**
Q. If you'll look at Woodhill again --
**A. All right.**
Q. -- do you recall a question about whether the binary object could be distributed on more than one computer, independently of a file?
MR. RHOA: Object to the form.
**A. I'll ask you to repeat that question.**
Q. (BY MR. STORM) Let me withdraw that question. If you'll look at Column 8 of Woodhill.
**A. Yes, I have that.**

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Q. Okay. I'm looking at Lines 62 through 65.
**A. Okay.**
Q. Let me know when you've read that.
**A. Okay.**
**I have read that.**
Q. Okay. What does that indicate regarding how the binary object identifier could be used in the Woodhill system?
**A. Well --**
MR. RHOA: Object to the form.
**A. So what this says is that -- it's talking now about a distribution of these binary objects over different computers. And when it uses the term "heterogeneous," it's saying that actually those computers may be different. They have different characteristics, they may have different architectures.**
**Even those that's the case, the binary object identifiers would be identical from any of those computers, even though they were heterogenous, they were not the same platform.**
Q. (BY MR. STORM) And let's look at '310 patent. If you'll get your --

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**A. Okay.**
Q. -- '310 declaration.
**A. Okay. I have that declaration.**
Q. Let's start by looking at...
It looks like -- do you have your declaration as well?
**A. This is the -- this is the '310 declaration.**
Q. Look at Paragraph 131 on Pages 74 and 75.
**A. Okay.**
Q. Claim 1 -- we'll start with "Claim 1 of the '310 requires, among other things, a content based name." Do you see that in Claim 1 of '310?
**A. Right here. Yes. For example, in --**
**(Discussion off the record.)**
Q. (BY MR. STORM) We're at the content based name in Claim 1 of the '310 patent.
**A. Yes.**
Q. And what did you identify in Woodhill as being the content based name?
**A. The binary object identifier.**
Q. Anything else?
**A. The -- whatever the term is for a content --**

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**Woodhill. Content identifier, I believe is what it's called -- let me make sure -- for a granule. Yeah, a content identifier for a granule.**
Q. Okay. Earlier you also were asked some questions regarding the combination of Francisco with Woodhill.
**A. Yes.**
Q. Can you describe your understanding of the role of a physical combination of Woodhill and Francisco in your obviousness analysis?
**A. I think each time that particular combination is -- exists, I think I said that there was adequate description in the two documents to allow one of skill in the art the ability to practice those teachings in such a way that they met or rendered obvious, claims that were analyzed.**
Q. And the physical combination is not necessary?
MR. RHOA: Objection, leading.
**A. I think I stated several times that a physical combination is not necessary. And I think if you look at what the board said, it had a different phrase, but it was saying exactly the same thing, that substitution**

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**is not required, I think is the way they phrased that.**
Q. (BY MR. STORM) If you look at Figure 2 of Francisco.
**A. Okay. I have Figure 2.**
Q. We can go through this more slowly if you need to, but I want to jump to the comparator 36 and the results of that comparison.
**A. Yes.**
Q. Do you recall Figure 2?
**A. I do.**
Q. What information comes out of the comparator if there is a yes on the comparison in 36?
**A. What comes out is the permission, if you will, to do this, to release this information with respect to the issue of whether or not the -- provided that the authorized user profile matches with the user identification, so this is control app.**
Q. Yeah. The next step is Block 42, right? In Figure 2, in this flowchart --
**A. Yes.**
Q. -- the next step is 42?
**A. Yes.**

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Q. And that would be a list of users authorized to access the particular program being considered, correct?
**A. Yes.**
Q. And that list could have any number of authorized users or is it limited?
MR. RHOA: Objection, leading.
**A. I don't know. Obviously it's limited to architectural issues of the system, but it's not very limited.**
Q. (BY MR. STORM) And the list of authorized users would be program specific, right?
MR. RHOA: Objection, leading.
**A. Well, yeah. The list of authorized users would be -- if you're talking about the format of them, the format would be determined by the program, and the content would be determined by an administrative decision about who was authorized to use what.**
Q. (BY MR. STORM) And the comparator 40 below that, do you see that?
**A. Yes.**
Q. If the list of authorized users for a particular program had more than one user on it, are you

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with me so far?
**A. Yes.**
Q. How would that comparator work in terms of how many comparisons it would have to make?
**A. Well, you would make one pass through Figure 2 for each user. This user identification, the way I interpret it, is a single user identification that would be compared to the profile of all the authorized users, and as a result, you would get a release for one -- a release to that one user.**
Q. Do you recall some questions earlier about some specific portions of Woodhill that appear to make a single comparison before taking an action?
**A. Well, I guess it depends on what kind of action you're talking about, but generally speaking, what Woodhill is going to do is Woodhill is going to look at the binary object identifier and see if that matches up with another binary object identifier. The sources vary depending on what you're doing.**
Q. For a person of ordinary skill in the art in April of '95 when the first Farber application was filed, what was the level of difficulty making multiple

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comparisons as opposed to a single comparison?
**A. Essentially very, very, very little difference. In terms of programming, the difference would be that there's probably always one comparison. The question is, is that particular comparison instantiated in something like a while loop or a do for loop. And of course, you do have to provide all the things you're going to compare. But compared to the overhead of system-level operations, it's de minimus.**
MR. STORM: Understanding if I missed one or two points, subject to discussion with my counsel, and you wouldn't object to it as beyond the scope, I would pass the witness now or that we can take a break and make sure I didn't miss something.
MR. RHOA: Let's go off the record.
(Discussion off the record.)
(Recess 5:11 p.m. to 5:13 p.m.)
MR. STORM: No further questions remaining.
MR. RHOA: No further questions.
THE REPORTER: Read and sign?
MR. STORM: Yes, read and sign, please.
(Proceedings concluded at 5:15 p.m.)

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SIGNATURE BY WITNESS

I, M. RAY MERCER, have read the foregoing deposition and hereby affix my signature that same is true and correct, except as noted on attached sheet.

_____
M. RAY MERCER

THE STATE OF _____ )
COUNTY OF _____ )

Before me, _____, on this day personally appeared M. RAY MERCER, known to me (or proved to me under oath or through _____ (description of identity card or other document) to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that they executed the same for the purposes and consideration therein expressed.

Given under my hand and seal of office this _____ day of _____, 2014.

_____
NOTARY PUBLIC IN AND FOR
THE STATE OF TEXAS

CERTIFICATE OF REPORTER

I, Gail Spurgeon, Registered Professional Reporter in and for the State of Texas, County of Dallas, the officer before whom the proceedings were taken, do hereby certify that prior to the commencement of the deposition of M. RAY MERCER, the witness was by me first duly sworn to testify the truth; that said deposition were taken in Stenotype notes by me on the 24th of June, 2014 at the offices of Haynes & Boone, LLP, 2505 N. Plano Road, Suite 4000, Richardson, TX 75082, commencing at 8:56 a.m. and ending at 5:15 p.m. and was thereafter reduced to typewritten form under my supervision and that the foregoing pages 1-164 constitute a true and accurate record of the said witness.

I further certify that present on behalf of the Patent Owner, PersonalWeb Technologies, LLC was Joseph A. Rhoa, Esq. of Nixon & Vanderhye, P.C. and present on behalf of the Petitioner, Rackspace US, Inc. and Rackspace Hosting, Inc. were Raghav Bajaj, Esq. of Haynes & Boone, LLP and Paul V. Storm of Gardere.

I further certify that the original deposition will be transmitted to counsel for Rackspace US, Inc. and Rackspace Hosting, Inc. for transmission to M. RAY MERCER for reading and execution.

I further certify that I am not related to, nor associated with any of the parties or their attorneys, nor do I have any disqualifying interest, personal or financial in the actions within.

Dated this 24th day of June 2014 at Dallas County, Texas.

_____

GAIL SPURGEON
Texas CSR 1718
Expiration Date: 12/1/15

ERRATA SHEET FOR THE TRANSCRIPT OF:

Caption: Personweb Technologies, LLC & Level 3 Communications v. Rackspace US, Inc. and Rackspace Hosting, Inc.
Deponent: M. Ray Mercer
Dep. Date: June 24, 2014

I wish to make the following changes for the following reasons:

| Pg. | Ln. | Now Reads | Should Read | Reasons Therefore |
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SEE ATTACHED SHEET

Dr. M. Ray Mercer
SIGNATURE OF THE WITNESS

Subscribed and sworn to and before me
this _____ day of _____, 20____.

_____
Notary Public

| Page | Line | Now Reads | Should Read | Reason |
|---|---|---|---|---|
| 9 | 18 | **patent owners** | **accused infringers** | **Transcription error** |
| 24 | 2 | would [be] | would | **Transcription error** |
| 48 | 9 | application | anticipation | **Transcription error** |
| 54 | 2 | convention | DELETE [convention] | **Transcription error** |
| 54 | 15 | days | ways | **Transcription error** |
| 57 | 19 | When | Then | **Transcription error** |
| 71 | 11 | Q. '310 patent, yes. | 11 Q. '280 patent, yes. | **Transcription error** |

FROM PAGE 71 THROUGH PAGE 103, CHANGE ALL OCCURRENCES OF 310 TO 280

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|---|---|---|---|---|
| 104 | 15 | invention | convention | **Transcription error** |
| 113 | 16 | time | type | **Transcription error** |
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| 170 | 17 | Q. (BY MR. [RHOA] | STORM | **Transcription error** |