

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

NETFLIX, INC.,)
Petitioner,)
v.) Case IPR2023-00891
Patent No. 8,605,794
VIDEOLABS, INC.,)
Patent Owner.)
_____)

VIDEOTAPED DEPOSITION OF
DR. BENJAMIN B. BEDERSON
APPEARING REMOTELY

April 25, 2024

10:00 a.m.

Reported by: Eileen Mulvenna, CSR/RMR/CRR

DIGITAL EVIDENCE GROUP
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1 REMOTE VIDEOTAPED DEPOSITION of
2 DR. BENJAMIN B. BEDERSON, Expert witness on behalf
3 of Petitioner in the above-titled action, held on
4 Thursday, April 25, 2024, commencing at
5 approximately 10:00 a.m., before Eileen Mulvenna,
6 CSR/RMR/CRR/RDR, Certified Shorthand Reporter,
7 Registered Merit Reporter, Certified Realtime
8 Reporter, Registered Diplomate Reporter, and Notary
9 Public of the State of New York.

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

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1	I N D E X		
2	WITNESS	EXAMINATION BY	PAGE
3			
4	WITNAME		
5		MR. CARDENAS-NAVIA	5
6			
7	E X H I B I T S		
8			PAGE
9			
10	Exhibit 1001	Previously marked	10
11	Exhibit 1003	Previously marked	10
12	Exhibit 1004	Previously marked	10
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1 (Witness sworn.)

2 THE REPORTER: Counsel, please state
3 your appearances for the record.

4 MR. CARDENAS-NIVIA: Jaime
5 Cardenas-Navia of Reichman Jorgensen Lehman &
6 Feldberg, on behalf of the patent owner,
7 VL Collective IP LLC.

8 MS. ALIZA CARRANO: Aliza George
9 Carrano of Willkie Farr & Gallagher, on
10 behalf of petitioner, Netflix. Also with me
11 is my colleague, Dane Sowers.

12 THE REPORTER: You may begin, Counsel.

13 DR. BENJAMIN B. BEDERSON,
14 having been duly sworn by Eileen Mulvenna,
15 a Notary Public of the State of New York,
16 was examined and testified as follows:

17 EXAMINATION

18 BY MR. CARDENAS-NAVIA:

19 Q. Could you please state your full name?

20 A. Benjamin B. Bederson.

21 Q. Do you understand, Dr. Bederson, that
22 you're under oath?

1 A. Yes.

2 Q. Okay. And you understand that means
3 that you are to testify accurately and truthfully?

4 A. Generally, yes, that sounds right.

5 Q. Is there anything that you're unsure
6 about in answering that question?

7 A. I'm not informed about the legal
8 requirements of testifying under oath, but I assume
9 that I will have to testify accurately and honestly.

10 Q. Is there any reason you cannot testify
11 accurately and honestly here today?

12 A. No.

13 Q. If at any time -- at any point in the
14 deposition today you are unable to testify
15 accurately and honestly, could you please let me
16 know?

17 A. Yes, that's fine.

18 Q. Okay. And where are you located right
19 now?

20 A. I'm in Washington, D.C., at the
21 offices of Willkie Farr.

22 Q. Is anyone else in the room with you?

1 A. Yes, Aliza Carrano.

2 Q. Anyone else?

3 A. No.

4 Q. And since this is a Zoom deposition, I
5 have a couple of additional ground rules for today.

6 One, do you have any physical documents or other
7 materials in front of you?

8 A. Yes, I brought some clean paper copies
9 of some documents related to this deposition, and
10 specifically my declaration, the '794 patent, and
11 the four pieces of prior art that I primarily
12 referenced, which I call Comps, Wan, Ahn, and Kim.

13 Q. Okay. And so just for the record and
14 for purposes of clarity, do you understand that
15 those documents you have in front of you correspond
16 to exhibits in this IPR proceeding?

17 A. Yes, I believe they do.

18 Q. Okay. And the declaration -- your
19 declaration that you have in front of you, that's
20 Exhibit 1003; correct?

21 A. Yes, that's how it's labeled. I
22 believe that's right.

1 Q. And you mentioned the '794 patent
2 that's a U.S. Patent No. 8,605,794; right?

3 A. Yes, that's correct.

4 Q. And we'll refer to it as the
5 '794 patent. Okay?

6 A. Yes, thank you. That's good.

7 Q. And the '794 patent is Exhibit 1001?

8 A. That's how it's listed in the exhibit
9 list in my declaration, which is the -- well, it's
10 listed as page I at the bottom, but I also see that
11 there's a table of contents that also has an I.

12 So aside from that little bit of
13 confusion, that's how it's listed in the exhibit
14 list in my declaration.

15 Q. As Exhibit 1001?

16 A. That's right.

17 Q. Okay. And you referred to a Comps.
18 That's U.S. Patent No. 7,386,782; correct?

19 A. Yes, that's right.

20 Q. And that corresponds to Exhibit 1004?

21 A. Yes, that's right. That's how it's
22 listed in the exhibit list in my declaration.

1 Q. Okay. And to make sure we're on the
2 same page, we'll refer to that document either as
3 Exhibit 1004 or as Comps; is that correct?

4 A. Yes.

5 Q. And you are -- you're connected to the
6 Zoom session through your computer; correct?

7 A. Yes, I am.

8 Q. And do you have any other applications
9 running on your computer besides the Zoom session?

10 A. Just confirming. No, I do not.

11 Q. Okay. And if you could, make sure
12 that during your deposition, don't use your computer
13 to do anything other than interact and communicate
14 through the Zoom session. Is that okay?

15 A. When you say "interact with the Zoom
16 session," if you were to share a document, then I
17 would look at that document in a separate
18 application. I'm assuming that's okay. You're
19 considering that to be part of this interaction?

20 Q. That would be okay.

21 A. Great, thank you.

22 Q. Okay. And I guess really can you

1 agree not to use your computer to communicate with
2 anyone outside of this Zoom session?

3 A. Yes.

4 MR. CARDENAS-NIVIA: Okay. I'm going
5 to go ahead and drop the electronic version
6 of these exhibits we've been discussing, at
7 least some of them, into the Zoom chat box.

8 I'll start off by dropping
9 Exhibit 1003, your declaration.

10 (Exhibit 1003, Previously marked.)

11 MR. CARDENAS-NIVIA: And, Aliza, let
12 me know if you don't get any of these.

13 Now I'm going to drop Exhibit 1001,
14 which is the '794 patent.

15 (Exhibit 1001, Previously marked.)

16 Now I'm going to drop Exhibit 1004,
17 which is the Comps reference.

18 (Exhibit 1004, Previously marked.)

19 BY MR. CARDENAS-NIVIA:

20 Q. Dr. Bederson, could you please get
21 your declaration handy and turn to paragraph 5,
22 which is on page 2?

1 Can you let me know when you're there?

2 A. Okay, I'm here.

3 Q. Okay. And it says, "I am being
4 compensated at my standard consulting rate for my
5 time spent working on issues in this matter."

6 Do you see that?

7 A. I do.

8 Q. What is your standard consulting rate?

9 A. \$600 an hour.

10 Q. Okay. And that's what you're being
11 compensated for -- for your time in this IPR
12 proceeding?

13 A. Yes, that's correct.

14 Q. Okay. Would you turn to page 16 of
15 your declaration, and then take a look at
16 paragraph 31? And let me know when you're there.

17 A. Okay.

18 Q. And the first sentence of paragraph 31
19 says, "I understand that terms appearing in the
20 patent claims are to be interpreted according to
21 their 'ordinary and customary meaning' in an IPR
22 proceeding."

1 Do you see that?

2 A. Yes, I do.

3 Q. What do you mean by that?

4 A. Well, I explain that in the following
5 sentences, where I say that, "In determining the
6 ordinary and customary meaning, the words of a claim
7 are first given their plain meaning as they would
8 have been understood by a POSITA," a person of skill
9 in the art, "at the time of the alleged invention,
10 in light of the specification and file history. I
11 understand that treatises and dictionaries may be
12 consulted, albeit under limited circumstances, to
13 determine the meaning attributed by a POSITA at the
14 time of the alleged invention."

15 Q. Let's now turn to page 37 of your
16 declaration, paragraph 65. Let me know when you're
17 there.

18 A. Okay.

19 Q. And paragraph 65 says, "I have
20 reviewed the entirety of the '794 patent and its
21 prosecution history. For the purposes of my
22 analysis, I have been asked to assume that no

1 constructions are necessary, and that the ordinary
2 and customary meanings of the claims terms to a
3 POSITA at the time of the alleged invention of the
4 '794 patent apply."

5 Do you see that?

6 A. I do.

7 Q. Okay. And then in paragraph 66, you
8 reference the Starz Entertainment LLC v. VL
9 Collective, LLC, district court litigation; right?

10 A. That's right, I do.

11 Q. Okay. And I'll refer to that
12 litigation as the Starz litigation. Okay?

13 A. That's fine.

14 Q. Okay. You understand that in the
15 Starz litigation, the court issued a claim
16 construction order; correct?

17 A. Yes, that's right.

18 Q. Okay. And you include those -- you
19 include claim constructions from the Starz
20 litigation for the '794 patent in paragraph 67 of
21 your declaration; right?

22 A. That's right.

1 Q. Okay. And so on page 40, it shows
2 that the court in the Starz litigation construed the
3 terms "output" or "outputting" as "transmitted,
4 stored together, or passed on to a processing unit"
5 or "transmitting, storing together, or passing on to
6 a processing unit."

7 Do you see that?

8 A. I do.

9 Q. Did you apply this construction of the
10 terms "output" and "outputting" in your declaration?

11 A. Well, as I said in the sentences we
12 discussed in my paragraph 65, for the purposes of my
13 analysis, I've been asked to assume that no
14 constructions are necessary and that the ordinary
15 and customary meanings of claim terms to a POSITA
16 apply. And so that's what I did.

17 But I do go on in paragraph 69 to
18 explain that, in my opinion, the asserted prior art
19 references teach all of the elements of the
20 challenged claims under any of the above discussed
21 constructions, and that includes the Starz
22 construction that you just mentioned.

1 Q. What is the difference, if any,
2 between the plain and ordinary meaning for this
3 "output" and "outputting" term and from the court's
4 construction from the Starz litigation?

5 A. I did not perform that analysis. So I
6 don't have a way to give you any possible
7 distinction between those -- the plain and ordinary
8 meaning and the construed construction offered by
9 the Starz court.

10 Q. So you did not analyze -- in your
11 declaration, Exhibit 1003, you did not analyze any
12 differences between your view of the plain and
13 ordinary meaning of the terms in the claims and the
14 court's construction in the Starz litigation of
15 terms that were construed; is that right?

16 A. Well, my opinion is in my declaration,
17 but sitting here right now, I'm not recalling any
18 specific analysis of any potential distinction
19 between the plain and ordinary meaning and, as I
20 said, the Starz constructions.

21 But as I said, in my analysis, I
22 showed how the asserted prior art references teach

1 all of the elements of the challenged claims, and I
2 believe it does show under any of these -- well,
3 under the plain and ordinary meaning, as well as the
4 Starz court's construction.

5 Q. Okay. And so in putting together your
6 declaration, you were aware of the court's
7 constructions from the Starz litigation, and you
8 analyzed those constructions, as well; is that
9 right?

10 A. I'm not sure what you mean by
11 "analyzed those constructions," but I did -- as I
12 said I did explain how the asserted prior art
13 references teach all the elements of the challenged
14 claims under both the plain and ordinary meaning, as
15 well as the Starz -- Starz court's construction.

16 Q. Okay. And that's what I was trying to
17 ask, just that you would also analyze them as part
18 of your invalidity analysis. And it sounds like you
19 did; is that correct?

20 A. Again, I'm still not quite sure I'm
21 understanding your question, because I think you're
22 asking me if I anal- -- analyzed the court's

1 construction. I don't think I have -- I don't
2 recall having a section in my declaration where I
3 specifically describe an analysis of the court's
4 construction, but as I said, I did in my analysis of
5 the '794 patent and the prior art references showed
6 how those references teach all of the elements of
7 the challenged claims under both the plain and
8 ordinary meaning, as well as the Starz court
9 constructions.

10 Q. Okay. Do you have any opinion on
11 whether the court's constructions in the Starz
12 litigation are correct or not?

13 A. No, I did not specifically analyze the
14 Starz' court's constructions for correctness.

15 Q. Okay. And you also -- I guess can you
16 turn now to paragraph 68 of your declaration? And
17 let me know when you're there.

18 A. Okay.

19 Q. And you say, "I also have been
20 informed that Unified Patents, LLC ('Unified
21 Patents') filed an IPR in the '794 patent that was
22 instituted."

1 You go on to say, "I understand that
2 Patent Owner proposed constructions similar to the
3 ones proposed in the district court proceeding, as
4 provided in the table below."

5 Do you see that?

6 A. I do.

7 Q. Okay. And then on the next page,
8 page 42, you list several -- you list several terms
9 and then patent owner's and Unified patents'
10 proposed constructions for those terms; is that
11 right?

12 A. Yes, that's right.

13 Q. And are you aware that the PTAB has
14 since issued a final written decision in which they
15 construed several of these terms?

16 A. I am aware of the final written
17 description in the -- I'll call it the Unified IPR,
18 and I have some general understanding of that final
19 written description.

20 Q. And it's a final written decision --

21 A. Oh, sorry.

22 Q. -- not description.

1 A. Yes, thank you, final written
2 decision.

3 Q. Okay. And specifically, are you
4 familiar with the constructions that the PTAB found
5 in the final written decision for the Unified IPR?

6 A. As I said, I did see -- I did read the
7 final written decision in the Unified IPR after I
8 wrote this declaration. So I have some general
9 familiarity with their -- with that decision,
10 including their analysis of the construction; but I
11 don't have that in front of me and did not perform
12 an analysis of it. So I don't think I could -- as I
13 said, I have some general familiarity with it, I
14 guess is as far as I can go.

15 Q. Okay. And I think you probably
16 answered the question I'm about to ask, but for
17 clarity I'm going to ask it and make sure you
18 understand my questions.

19 Do you have any opinion on whether the
20 claim constructions by the PTAB in the Unified IPR
21 are accurate, are correct?

22 A. No, I did not form any opinions about

1 the opinions from the PTAB in the Unified IPR final
2 written decision.

3 Q. Okay. So you don't have an opinion
4 about whether you agree or disagree with the
5 opinions from the PTAB about claim construction in
6 the Unified IPR final written decision?

7 A. That's right, I didn't form any
8 opinions about the PTAB's analysis or opinion in
9 the -- that their final written decision or the
10 Unified IPR.

11 Q. Okay. And hopefully this will clarify
12 what we asked about before. Going back to the --
13 going back to the court's claim construction order
14 in the Starz litigation, do you have an opinion
15 about whether you dis -- agree or disagree with that
16 claim construction order in the Starz litigation?

17 A. No, I don't have an opinion about the
18 Starz claim construction order.

19 Q. And the PTAB's final written decision
20 for the Unified IPR came out after you submitted
21 your declaration, that's Exhibit 1003; is that
22 right?

1 A. Just to clarify, so I think that's
2 right, the Unified --

3 Q. That's correct, also. I'm not trying
4 to trick you.

5 A. No, no, I just was clarifying.
6 Exhibit 1003 -- it was just a question about the way
7 you phrased it.

8 Q. Okay.

9 A. Maybe you can reask the question.

10 Q. Okay. I'll just represent to you that
11 the final written decision for the Unified IPR came
12 out after you submitted your declaration for the
13 Netflix IPR.

14 Does that sound right?

15 A. Yes, it does.

16 Q. Okay. In your declaration for the
17 Netflix IPR, did you -- is there any -- did you take
18 into account patent owner's proposed constructions
19 from the Unified IPR?

20 A. I'm not sure what you meant by did I
21 take them into account. I, obviously, was informed
22 by them. They're in my declaration. And in my

1 analysis, as I explained, I found that the asserted
2 prior art references teach all of the elements of
3 the challenged claims under any of the
4 above-discussed constructions, which includes the
5 Unified patent owner's proposed construction. So I
6 did consider them in my analysis.

7 Q. Okay. And you answered my question.
8 Thank you.

9 Could you take a look at the
10 '794 patent, which is Exhibit 1001? And let me know
11 when you have it in front of you.

12 A. Yep.

13 Q. Could you turn to Column 4 in the
14 '794 patent?

15 A. Okay.

16 Q. And I'm just going to read starting at
17 line 9 through 922.

18 It says, "For every first and second
19 data file D1, D2, there exists in each case a
20 fragmentation description file D1_BSD, B2_BSD. Said
21 fragmentation description file, D1_BSD, B2_BSD
22 specifies how content-related first and

1 content-related second data segments S1, S2 can be
2 obtained from the respective first and second data
3 file D12, D2. The term 'content-related' is
4 understood to mean that first and second data
5 segments have a syntactical meaning within the
6 respective data file, such as e.g. a plurality of
7 succeeding second data segments represent the speech
8 signal of a specific speaker within a dialog
9 sequence. Furthermore, sections of the data file
10 can also be understood thereby, such as e.g.
11 individual images of a video sequence. In the
12 following description data segments always refer to
13 content-based data segments."

14 Did I read that correctly?

15 A. Yes, you did.

16 Q. Line 15, do you see that the sentence
17 starting with "The term," and then it has
18 "content-related" in quotes? I guess I'm
19 specifically pointing you to that part.

20 Do you believe that the inventors
21 provided a definition for the term "content-related"
22 data segments?

1 MS. ALIZA CARRANO: Objection, form.

2 THE WITNESS: Again, my opinion is in
3 my declaration, and I don't recall
4 specifically forming an opinion about whether
5 this sentence provides a definition of the
6 term "content-related," but I do note that at
7 least the second half it is providing
8 examples, which I wouldn't generally consider
9 to be a definition.

10 But the first part, that does
11 certainly describe the term, where it says,
12 "The term 'content-related' is understood to
13 mean that first and second data segments have
14 a syntactical meaning within the respective
15 data file."

16 BY MR. CARDENAS-NIVIA:

17 Q. Do you have an opinion one way or
18 another or whether the term "content-related data
19 segments" is defined in the '794 patent?

20 A. As I just said, my opinion is in my
21 declaration. I don't recall specifically forming an
22 opinion about whether the '794 patent defines the

1 term "content-related." But as I said, at least the
2 first half of the sentence we're discussing in
3 Column 4 certainly does describe the term
4 "content-related," and then it also includes some
5 examples.

6 Q. And I had asked about a definition of
7 "content-related data segments." Let me ask a
8 slightly different question.

9 Do you have an opinion one way or
10 another on whether the term "content-related" is
11 defined in the '794 patent?

12 A. My answer will be the same.

13 Q. Okay. Looking again -- starting again
14 on line 14 at Column 4, it says, "The term
15 'content-related' is understood to mean that first
16 and second data segments have a syntactical meaning
17 within the respective data file."

18 Do you see that?

19 A. I do.

20 Q. Do you have an opinion on what
21 "syntactical meaning" means?

22 A. My opinion is in my declaration, but

1 sitting here at the moment, I don't recall
2 specifically describing an opinion about the term
3 "syntactical meaning."

4 Q. Okay. Let's look at the Comps
5 reference, which is Exhibit 1004. Let me know when
6 you've got Comps in front of you.

7 A. Okay, I do.

8 Q. Okay. And you -- you analyzed at
9 least certain parts of the Comps reference in your
10 declaration; correct?

11 A. I did.

12 Q. And the part of what you analyzed of
13 Comps included Figure 3; correct?

14 A. Just to clarify, I think I analyzed
15 all of Comps. I certainly cited to particular
16 portions of it, but I did cite to Figure 3 of Comps.

17 Q. Okay. And I want to get your
18 understanding of how Comps is used to render
19 content. So could you just describe how -- how
20 content is rendered in Comps?

21 And I pointed you to Figure 3. It
22 might be a helpful guide. It seems to be what you

1 used in your declaration a good amount, but feel
2 free to describe it however you feel is best.

3 A. So I address how Comps -- actually,
4 make sure I get it right. Can you repeat your
5 question just so I use your language?

6 Q. Sure. I'm just looking for your
7 explanation of how content is rendered in Comps.

8 A. So in my declaration, I analyze the
9 claimed -- the various claim elements, including
10 claim limitation 1[a][1], which requires sequential
11 outputting. And I respond to that in paragraph 79
12 through 84 of my declaration.

13 And then I also analyze claim
14 limitation 1[a][2] in paragraphs 85 through 90 of my
15 declaration, which further requires that each of the
16 content-related second data segments is output
17 together with an associated one of the
18 content-related first data segments. And it goes
19 on.

20 I'm not recalling any use of the term
21 "rendering" in any of the claims. So I don't know
22 if I specifically analyzed Comps for disclosure of

1 rendering, but I did analyze Comps for the
2 disclosure of the required outputting in the
3 sections that I just described. And I can point you
4 to some exemplary disclosures in Comps, which I
5 believe I cited to in my declaration and supports my
6 analysis.

7 So, for example, in Comps, Column 2,
8 starting at line 20, it says, "The method is
9 advantageously characterized in that the important
10 event corresponds to a command to display a text, a
11 command to display a picture, or a command to
12 reproduce a sound." So I believe those are some
13 examples of outputting.

14 And then another exemplary example in
15 Comps is at Column 3, starting at line 31, where it
16 says, "Track 2 contains data corresponding to
17 sequences of JPEG images. In this example, two JPEG
18 images represented by the fields JPEG1 and JPEG2
19 must be represented to the user for a given time
20 represented by the field JPEGd1 for the image JPEG1
21 and the field JPEG lower cased2 for the image
22 JPEG2."

1 Q. Okay. Thank you for that.

2 And let me try to dial in a little bit
3 more. I think it probably is helpful to focus you
4 on Figure 3.

5 So could you take a look at Figure 3
6 of the Comps?

7 A. Okay.

8 Q. And so Figure 3 shows three different
9 tracks of data; correct?

10 A. Yes, it does.

11 Q. And Track 1 is an audio track; right?

12 A. That's right.

13 Q. And Track 2 is an image track?

14 A. Track 2 is an image track in Figure 3.
15 It is also described in the spec, Column 3, starting
16 at line 15, to also include video data, where it
17 says, "Track 70 or track 2 contains only data
18 corresponding to sequences of JPEG images. This
19 data could equally be video data."

20 Q. Okay. Thank you for that.

21 And Track 3 is a text track; right?

22 A. I think Track 3 includes text data.

1 Q. Okay. In Figure 3, Tracks 1, 2, and 3
2 are all part of the multimedia file; correct?

3 A. I think Comps describes that the
4 tracks can be included in one file or multiple
5 separate data files. So, for example, in Column 2,
6 starting at line 6, it says, "To this end, the
7 invention provides a method of synchronizing data in
8 a multimedia document (50) comprising at least two
9 separate data files (track1, track2) referred to as
10 the first file, the second file, et cetera [sic]" --
11 and it goes on from there.

12 Just to finish this, as far as
13 Figure 3 goes, I think it is described as being --
14 representing tracks in a multimedia file. And given
15 the disclosure I just read, I think a person of
16 skill would understand Figure 3 to disclose tracks
17 being stored in one or more data files.

18 Q. Okay. And looking back at Figure 3,
19 let's start by focusing on Track 1. Track 1 is kind
20 of represented by a long rectangular bar with a
21 number of subsections within that bar; is that fair?

22 A. Yes, I think that's a reasonable way

1 to describe it.

2 Q. Okay. And the first bar in Track 1 is
3 labeled "Start"; right?

4 A. Yes, it is.

5 Q. And what does that mean? What does
6 that first bar labeled "Start" mean?

7 A. That "Start" bar is described in the
8 Comps spec at Column 3, starting at line 20, where
9 it says, "Each track has a Start field for starting
10 presentation to the user and an End field for ending
11 presentation to the user."

12 So I would say that that Start field
13 is used to start the presentation to the user.

14 Q. And what kind of data would be in the
15 Start field?

16 A. I don't recall Comps saying anything
17 more about the Start field.

18 Q. Okay. Maybe we'll come back to that.

19 The next section in Track 1 is labeled
20 N sub f1.

21 Do you see that?

22 A. I do.

1 Q. What is N sub f1? What does that
2 indicate?

3 A. Well, I think N sub f1 is a field that
4 along with the following field, N sub d1, are used
5 to define a note. That's described in Comps at
6 Column 3, starting at line 22, where it says,
7 "Track 1 contains data relating to sound. A first
8 field Nf1 represents the frequency of a first note
9 and a second field Nd1 represents its duration.
10 Likewise, the fields Nh2 -- sorry, Nh2 and Nd2
11 define a second note."

12 I'll note that it appears that that
13 N sub h2 may be a typo, referring to N sub f2, as
14 it's shown in Figure 3. But the reason I point to
15 this is that it clearly describes that these two
16 fields, the frequency and the duration of a note,
17 work together to define a note.

18 Q. Okay. Maybe let's quickly -- do you
19 have -- could you look at Exhibit 1001, the
20 '794 patent?

21 A. Okay.

22 Q. And could you turn to Claim 1 of the

1 '794 patent? And let me know when you're there.

2 A. Okay.

3 Q. And a term that's in Claim 1 of the
4 '794 patent is "content-related first data
5 segments"; correct?

6 A. Yes, it is.

7 Q. And the term "content-related second
8 data segments" is also in the Claim 1 of the
9 '794 patent; right?

10 A. Yes, it is.

11 Q. And those two terms are also in
12 Claim 9. '794 patent?

13 A. Yes, they are.

14 Q. And those two terms are also in
15 Claim 22 of the '794 patent?

16 A. Yes, they are.

17 Q. Okay. And in your mapping of Comps to
18 the claims of the '794 patent, focusing in on
19 Track 1 in Figure 3, in your view, what is a
20 content-related data segment, if anything?

21 A. As we discussed earlier, I didn't
22 offer a construction or specific definition of the

1 term "content-related data segment," as well. I
2 also did not offer construction for "content-related
3 first data segments" or "content-related second data
4 segments."

5 I used -- instead I applied the plain
6 and ordinary meaning, and in my declaration I
7 explained how Comps teaches these first and second
8 content-related data segments.

9 So, for example, in paragraph 80, I
10 explain how the sound segments in Track 1 are
11 content-related first data segments.

12 I also notice that there's a typo in
13 paragraph 80. There may be other ones, but this is
14 one that I noticed, where I said, "As I explained in
15 paragraph 66," it should really refer to
16 paragraph 76.

17 Q. Okay. Thank you.

18 A. And then looking to paragraph 76, I
19 further explain my analysis of Comps as it relates
20 to content-related data segments and, again, say
21 that the sound segments in Track 160 and picture
22 segments in Track 270 are content-related first data

1 segments and content-related second data segments of
2 Claim 1, respectively. I further explain additional
3 possible mappings.

4 Q. So focusing on Track 1, like which
5 specific blocks within that track are you saying are
6 mapped to the content-related data segments claim
7 limitation?

8 A. So in my analysis of claim
9 element 1[a][1], I refer, for example, in
10 paragraph 83 to a note Nf2 and Nd2. So that
11 combination would be an example of a content-related
12 first data segment.

13 I similarly refer to these pairs of
14 fields in my analysis of claim element 1[a][2],
15 where they also -- I also use them to describe how
16 Comps shows content-related first data segments.

17 So, in other words, the pairings of
18 the fields Nf1 with Nd1, as well as Nf2 with Nd2 and
19 Nf3 with Nd3 and Nf4 with Nd4 are all at least of
20 content-related first data segments in Comps.

21 Q. Okay. And just to make sure I
22 understand your opinion, one example you gave was

1 N sub f1 and N sub d1. Is it -- it's the
2 combination of those two, in your view, constitute a
3 single content-related data segment?

4 A. As I explained earlier, Comps
5 describes that those pairs, for example, Nf1 and Nd1
6 define a note. And so, yes, that pair is an example
7 of a content-related first data segment.

8 Q. Okay. Do you have an opinion on
9 whether N sub f1 by itself is a content-related data
10 segment?

11 A. As I said, I looked at these pairs.
12 And no, I don't believe I formed an opinion about
13 whether N sub f1 by itself would correspond to a
14 content-related data segment.

15 Q. Do you have an opinion on whether
16 N sub d1 by itself would constitute a
17 content-related data segment?

18 A. As I said, I looked at the pairs of
19 these representing -- which define a note to teach
20 the content-related data segments, but no, I did not
21 look at N sub d1 by itself for that purpose.

22 Also, I noticed we've been going --

1 almost been going about an hour. So when you're
2 ready to take a break, I'd be happy to take one.

3 Q. Sure. Let me just ask maybe two or
4 three more questions, and then let's take a break.

5 Focusing again on Track 1, do you see
6 the capital D sub 1 block?

7 A. I do.

8 Q. And what is that segment? What does
9 that represent?

10 A. Comps describes that at Column 3,
11 starting at line 25, where it says, The field cap D1
12 represents a waiting time before presenting the
13 subsequent notes of the track.

14 So it describes essentially not
15 presenting notes, but waiting until it is time to
16 present more notes.

17 Q. Do you have an opinion on whether
18 capital D sub 1 by itself is a content-related data
19 segment?

20 A. No, I don't think so, since it's not
21 outputting any content.

22 MR. CARDENAS-NIVIA: Okay. Let's go

1 ahead and take a break.

2 THE REPORTER: We're off the record.

3 (Recess from the record.)

4 THE REPORTER: Back on the record.

5 BY MR. CARDENAS-NIVIA:

6 Q. Welcome back, Dr. Bederson.

7 A. Thank you.

8 Q. During the break, did you discuss the
9 substance of your testimony with your counsel?

10 A. No.

11 Q. And I want to clarify your answer just
12 before the break. My question for you was: Do you
13 have an opinion on whether capital D sub 1 by itself
14 is a content-related data segment?

15 And your answer was, No, I don't think
16 so, since it's not outputting any content.

17 So I want to -- I want to understand
18 whether or not you do have an opinion, and if so,
19 what is your opinion. And I wasn't quite sure from
20 how your answer came out.

21 A. And I think the reason I answered it
22 that way is I don't recall specifically addressing

1 that issue in my declaration. So I would say
2 sitting here today, I don't see any reason to think
3 that cap D1 in Track 1 would be a content-related
4 first data segment, at least because it is not
5 outputting any content.

6 Q. I see. And what's your basis for
7 saying that it's not outputting any content?

8 A. Well, as I mentioned, Comps describes
9 cap D1 at Column 3 starting at line 25 as
10 representing a waiting time before presenting the
11 subsequent notes of the track. And it's used
12 consistently -- the waiting time fields are used
13 consistently throughout Comps to describe waiting to
14 display or output content, but not to themselves
15 output content.

16 Q. Okay. So in your view -- well, the D
17 sub 1 does cause -- well, let me ask it, when D
18 sub 1, when that event is being executed, no sound
19 is being made; right?

20 A. At least through Track 1, I would say
21 that Track 1 is not making a sound while field D1 is
22 being executed because it's waiting in order to

1 present subsequent notes.

2 Q. Okay. And in your view, the absence
3 of a note is not content?

4 A. Well, I'm analyzing Comps. In the
5 context of my analysis of Comps, I believe that
6 Comps is pretty clear that the field D1 represents
7 waiting time before presenting the subsequent notes
8 of the track.

9 So while executing the field D1, it is
10 not presenting notes. It's waiting to present
11 subsequent notes.

12 Q. And so in your view, Comps waiting
13 times like D1 are not content?

14 A. I think in the context of Comps,
15 that's right. It is waiting time in order to
16 present content.

17 Q. Okay. But do you -- and maybe this
18 was where your hesitation was coming from. You
19 know, putting Comps to the side for a second, in
20 general, is it your view that the absence -- well,
21 let me set this question up a little bit more
22 clearly.

1 Talking about specifically for an
2 audio or sound track, in general, is it your view
3 that the absence of audio or sound is not -- is not
4 content?

5 MS. ALIZA CARRANO: Objection, scope.

6 THE WITNESS: That's not an analysis
7 I've done to look at other kinds of audio
8 structures outside of Comps. So I just don't
9 have an opinion about that more generally.

10 BY MR. CARDENAS-NIVIA:

11 Q. Okay. "Content" is a term in the
12 '794 patent; correct?

13 A. Yes, it is.

14 Q. What do you understand "content" to
15 mean in the context of the '794 patent?

16 A. Well, the '794 patent describes video
17 streams and audio streams. So I think video content
18 and -- video streams and audio streams are probably
19 examples of content, as envisioned by '794 patent.

20 Q. And video streams and audio streams
21 will sometimes have -- let me ask this is a little
22 differently.

1 And sometimes in audio streams, there
2 will be parts of the audio stream where there is no
3 sound; right? It's silence?

4 A. I think that's right.

5 Q. Okay. And in your view, in an audio
6 stream of when silence is what the audio track is
7 saying to be played, is that still content?

8 A. I didn't look at all kinds of audio
9 streams. I looked at the Comps disclosure of, in
10 this case, Track 1. And as I explained in Comps, I
11 don't think that the waiting times are content, but
12 that's -- and that's the analysis that I did, and
13 that's what I -- well, that's part of my overall
14 analysis, which is what I did to understand whether
15 Comps discloses the 794 claim elements, which I
16 found that it does.

17 Q. In this context of the '794 patent,
18 can audio content include times when no noise is
19 being made?

20 A. Can you repeat the question, please?

21 Q. In the context of the '794 patent, can
22 audio content include content in which what's going

1 to be output is silence?

2 A. I don't think that's something I
3 specifically analyzed. I think sitting here today,
4 I can envision sometimes there might be -- I can
5 envision some kinds of audio, like a recording of a
6 person talking, where they're not talking for a
7 moment, so there might be silence.

8 But, again, that's not something I
9 specifically analyzed because that's not what I was
10 looking at. What I was looking at is Comps' output.
11 And Comps is a kind of a sound track where there are
12 notes, and then there are waiting times between
13 notes.

14 And so in that scenario, the waiting
15 times, for the reasons I've explained, I don't
16 believe -- well, the D1, as an example, would not be
17 an example of a content-related first data segment.

18 Q. Looking back at Figure 3 of Comps, for
19 N sub f1 or N sub f2, any of these Nfs, what actual
20 data is in those blocks represented by N sub f1?

21 A. Comps describes N sub f1 in particular
22 at Column 3, line 22, where it says, "A first field

1 Nf1 represents the frequency of a first note."

2 So I would think a person of skill in
3 the art reading this would expect that N sub f1
4 would include at least the frequency of a first
5 note.

6 Q. Would it include anything else?

7 A. It may. I don't think Comps describes
8 the data structures or specifically which data are
9 used in this different fields, but as I said, it
10 does describe this particular field as representing
11 the frequency of a note.

12 Q. Looking at Comps Column 2, let me
13 direct you to line 60 of Column 2 of Comps. And let
14 me know when you're there.

15 A. Okay.

16 Q. It says, "Each track of the file 50
17 can contain a single type of data. For example,
18 track 60 can be an MIDI (Musical Instrument Digital
19 Interface) format track for sound, track 70 can
20 contain a sequence of pictures, and track 80 can
21 contain sequences of texts."

22 Do you see that?

1 A. I do.

2 Q. And M-I-D-I, I think it's called a
3 MIDI. Does that sound right?

4 A. Yes.

5 Q. Are you familiar with MIDI?

6 A. At a high level, yes.

7 Q. And what's your understanding of MIDI?

8 A. It's -- I don't know what kind of
9 standard it is. I don't know. Maybe it's an
10 industry standard, which I believe probably includes
11 some kind of data format for representing musical
12 information that can be used to control playback of
13 music, such as synthesizers.

14 Q. Would the person of ordinary skill in
15 the art have been familiar with MIDI?

16 A. Well, at the very least they would be
17 familiar with it because it is disclosed in Comps.
18 But generally speaking, yeah, I think MIDI was a
19 pretty well-known technology, or at least its
20 existence was reasonably well-known. I think it
21 probably would be known by a person of skill in the
22 art, at least its existence sort of at the level

1 that I just described.

2 Q. In preparing your declaration for this
3 IPR, did you review any materials about MIDI --

4 MR. CARDENAS-NIVIA: Oh, sorry, Eileen
5 just went off the camera.

6 Are you still good, Eileen?

7 THE REPORTER: Yes, I'm good.

8 MR. CARDENAS-NIVIA: It just surprised
9 me. Let me ask that question again.

10 BY MR. CARDENAS-NIVIA:

11 Q. In preparing your declaration for this
12 IPR proceeding, did you review any materials about
13 MIDI?

14 A. If you mean additional documents to
15 the ones I described, such as Comps, specifically
16 about MIDI, the answer is no, I don't recall doing
17 so.

18 Q. But you do have a high-level
19 understanding of MIDI; correct?

20 A. I do kind of at the level that I just
21 described.

22 Q. Okay. And -- well, okay. So let's

1 look back at Figure 3 of Comps. Let's stay on
2 Track 1.

3 Do you see the box that's labeled
4 "sync1"?

5 A. I do.

6 Q. In your view, is sync1 a
7 content-related data segment? Or let me ask you a
8 different question.

9 Do you have an opinion on whether
10 sync1 is content-related data segment?

11 A. I describe SYNCH1 in my report. For
12 example, in my analysis of claim element 1[a][2] in
13 paragraphs 85 through 90. And I explained that
14 SYNCH1 is a synchronization command which discloses
15 the claimed [sic] assignment rule. And I explained
16 my opinions -- sorry, my reasoning for that opinion.

17 So it's an assignment rule for
18 assigning the -- as I explained, the content-related
19 second data segments to content-related first data
20 segments. As such, I don't see itself as being a
21 content-related data segment.

22 Q. Comps uses the word "events" to

1 describe at least some of these boxes in the tracks
2 of Figure 3; correct?

3 A. I think it sometimes uses the word
4 "event." It often describes those boxes as
5 "fields," as well, or sometimes "commands."

6 Q. Okay. In your view, what is an
7 "event," as that term is used in Comps?

8 A. I don't recall Comps -- I don't know
9 that it defines "event," but it does distinguish
10 between important events and unimportant events.
11 So, for example, in Column 2, starting in paragraph
12 at line 6, it describes the invention as providing a
13 method of syncing data comprising at least two
14 separate data tracks.

15 It goes on to say at line 11 of
16 Column 2 that that data is grouped into the form of
17 at least one event-related command characterizing an
18 important event or an unimportant event.

19 And then it goes on at line 20 to say
20 that the -- or line 21, that the important event
21 corresponds to a command to display a text, a
22 command to display a picture, or a command to

1 reproduce a sound.

2 So one thing I can tell you about the
3 events is that the important events are described as
4 the ones that are outputting content, leaving the
5 unimportant events to relate to presumably the
6 events such as waiting times. And that's relevant
7 because the -- of how the important events have
8 synch commands directly before them.

9 Q. So in your view in Comps, important
10 events are those where content, as you understand
11 the term, is outputted?

12 A. Well, I'm just reciting to you what
13 Comps said about important events, which is they
14 correspond to a command to display a text, to
15 display a picture, or to reproduce a sound.

16 So that seems to be the clearest
17 description of important events, which is to output
18 content, or at least they correspond to a command to
19 output content.

20 Q. Well, here's just what I'm trying to
21 get clarity on. Is it your view that Comps
22 distinguishes between important events and

1 unimportant events based on whether the event is
2 outputting content or is just a waiting period?

3 A. I think that's how a person of skill
4 in the art would understand the disclosure of Comps,
5 since it describes the important events as
6 corresponding to commands to output content.

7 And the other kind of demands in Comps
8 are waiting periods. And so what's left are the
9 unimportant events, which I think a person of skill
10 would understand would thus correspond to those
11 kinds of commands, such as waiting periods.

12 Q. Okay. And so in your view in Comps,
13 if the tracks -- none of the tracks had any waiting
14 segments, then there would be a synch command before
15 every single event in that example?

16 A. That's described in Column 4, starting
17 at line 44, where it says, "Thus each important
18 command, i.e. a command whose execution must not be
19 interrupted, is represented by a given field
20 preceded by a field representing a synchronization
21 command."

22 So Comps describes that every

1 important command is preceded by a synchronization
2 command, and that's consistent with the example in
3 Figure 3, where every important command -- the
4 output commands are preceded by a synch command,
5 except for Nf1 and -- N sub f1 and N sub d1, because
6 that is immediately after the Start command.

7 Q. Okay. So let's look at Figure 3
8 again, and let's focus on Track 2 now.

9 What in Track 2 -- well, let me ask
10 this. I guess I'll just walk through it. So after
11 the "Start" box in Track 2, the next box is labeled
12 JPEG capital D sub zero.

13 Do you see that?

14 A. I do.

15 Q. And what does that represent?

16 A. That's described at Column 3, starting
17 at line 36, where it says that the field JPEG cap D
18 sub zero represents a waiting time before or between
19 images.

20 Q. Do you have an opinion on whether
21 waiting times like JPEG D sub zero in Track 2 are
22 content-related data segments?

1 A. No, they're waiting times. So I don't
2 think that they are content or content-related data
3 segments.

4 And just for clarity, because there
5 are labels in Comps that are very similar except for
6 whether it's capital or lower case, I'm going to, at
7 least when I speak, will always try and say whether
8 we're talking about a capital or a lower case label.
9 So that one was JPEG capital D sub zero.

10 Q. Okay, thank you for clarification.

11 So then in Track 2, after JPEG capital
12 D sub zero, there's a synch command, SYNCH1. And
13 let me just ask, do you have an opinion on whether
14 any of the synch commands in Comps are
15 content-related data segments?

16 A. No, I think they're not, for the
17 reasons I explained earlier related to SYNCH1 and
18 Track 1.

19 Q. Okay. And the next in Track 2, we've
20 got JPEG, which is capital J, capital P, capital E,
21 capital G, and then the number 1.

22 Do you have an opinion about whether

1 JPEG1 by itself is a content-related data segment?

2 A. So for similar reasons as I described
3 relating the notes in Track 1, I see that Comps
4 describes JPEG1, along with it's accompanying next
5 field JPEG sub lower case d1 together to represent
6 a -- how a JPEG image is displayed.

7 So I look at the two of them together
8 as disclosing the content-related data segments.
9 And so for that reason, I don't think that -- I
10 don't know that I specifically opined on this in my
11 declaration, but I don't think JPEG1 by itself is
12 probably a content-related data segment.

13 And I'll reference Comps at Column 3,
14 starting at line 32 that describes this, where it
15 says, In this example, two JPEG images represented
16 by the fields JPEG1 and JPEG2 must be presented to
17 the user for a given time represented by the field
18 JPEG lower case d1 for the image JPEG1 and the field
19 JPEG lower case d2 for the image JPEG2.

20 Q. Okay. Do you have an opinion about
21 whether JPEG lower case d1 is by itself a
22 content-related data segment?

1 A. So, similarly, I point to the pair
2 that I just described, in this case JPEG1 and JPEG
3 lower case d1, which together present to the user
4 for a given time a JPEG image. And so that pair
5 discloses a content-related data segment.

6 I don't think I specifically formed an
7 opinion about this in my declaration, but sitting
8 here today, I don't see JPEG lower case d1 by itself
9 as being a content-related data segment.

10 Q. Okay. And so for Track 1, it was you
11 viewed the combination of capital N sub F2 and
12 capital N sub d2 as a content-related data segment;
13 is that right?

14 A. That's an example of one, yes.

15 Q. And capital N sub F2 identified the
16 frequency of a note and capital N sub d2 identified
17 the duration of that note; is that fair?

18 A. Yes, I think that's right.

19 Q. And, similarly, you view for Track 2
20 JPEG1 identifies an image to be displayed and JPEG
21 sub small d1 identifies the duration for which to
22 display JPEG1?

1 A. Yes, I think that's right.

2 Q. Looking to the far right, and this is
3 for all three tracks, there's some squiggle lines at
4 the top and the bottom of the tracks.

5 Do you see those?

6 A. I do.

7 Q. And what do those indicate?

8 A. Well, I think it may depend a little
9 bit on which example we're talking about. So you
10 asked about the ones on the far right. So in all
11 three tracks, there are these squiggle lines in the
12 white area in the box before -- just immediately
13 preceding the End box.

14 And so for those, I think generally
15 those kind of squiggle lines are used to indicate
16 alighted information or information that is not
17 shown in the diagram.

18 It doesn't -- I don't believe Comps
19 specifically describes what additional information
20 is not shown, but given that this is an example and
21 Comps is clearly intended to support multimedia
22 beyond just the specific example, I think a person

1 of skill in the art could reasonably think that
2 maybe those squiggling lines are intended to
3 represent the fact that you could have other kinds
4 of information in these tracks. In the --

5 Q. Just to jump in --

6 A. Yeah.

7 Q. -- so that would be -- additional
8 events could be in each of these tracks?

9 A. I don't -- again, there's not --
10 there's not really any information in this figure
11 beyond the fact that there are squiggles. So I
12 can't be sure what Comps was intending.

13 But I think if a person of skill
14 reading this, looked at this, they might reasonably
15 think there could be other events in these tracks.
16 Because, again, Figure 3 is an example and surely
17 not meant to be the only kind of multimedia that
18 Comps can be used to describe.

19 But I was just going to distinguish
20 those squiggles from the squiggles in the middle of
21 Figure 3, also in the white box. But in this case,
22 they're in the white box which are all capital D

1 white boxes representing waiting times.

2 So, again, it's not completely clear
3 what Comps intended, but given the way Comps works
4 and the fact that an important part of its
5 disclosure is the synch commands and that the synch
6 commands can result in effectively speeding up or
7 slowing down the execution of commands in a track, I
8 think those squiggles in the middle section would
9 probably be understood by a person of skill in the
10 art to represent that those waiting times might be
11 increased or decreased in duration, depending on
12 exactly when the next synch command arrived.

13 Q. Okay. Let me ask you something about
14 this. Well, actually, let me switch gears a little
15 bit.

16 Could you explain how the synch
17 command works with reference to Figure 3?

18 A. Sure. So Comps describes the synch
19 command multiple places, but does describe how it
20 works in part at Column 4, starting at around
21 line 25.

22 At that point it explains that the

1 master microprocessor, which is dedicated to
2 Track 1 -- well, it's walking through an example
3 here. But in this case, if it reaches the first
4 synchronization command -- synchronization command,
5 corresponding to the field SYNCH1, it then sends
6 that first synchronization data to the other
7 microprocessors.

8 And so then it explains how the synch
9 command works in one of two situations. So the
10 first situation, it describes -- starting at
11 Column 4, line 30, describes what happens when one
12 of the other tracks -- or how the other tracks
13 responds to the timing of the synch command. And it
14 describes these other tracks as corresponding to
15 slave microprocessors.

16 So it says, "If, at the moment it
17 receives data, the slave microprocessor dedicated to
18 track i," which in this case could be Track 2 or
19 Track 3, in that case it's "lagging behind, has not
20 yet encountered the field SYNCH1 in track i, it
21 continues to scan its file without executing the
22 commands encountered, in order to reach the field

1 SYNCH1 as quickly as possible. It then resumes
2 execution of commands encountered after the field
3 SYNCH1."

4 So, in other words, it might get a
5 little bit behind, since in all of these examples --
6 and I think the way this would typically work is
7 there would be a capital D waiting time field before
8 the synch. And so what it would typically do would
9 be to essentially shorten that waiting time so that
10 it could then continue with the synch command at the
11 same time that it received the synch command from
12 the master microprocessor. So that's the first
13 situation.

14 The second situation described at
15 Column 4, starting at line 38, says, "If, before
16 receiving the data, the slave microprocessor
17 dedicated to track i had already reached the field
18 SYNCH1, it stops reading the fields of track i until
19 it receives the first synchronization data sent by
20 the master microprocessor. It then resumes reading
21 the fields of track i and executes the commands
22 described."

1 So, in other words, in this scenario,
2 one of these slave microprocessors corresponding in
3 Figure 3 to Tracks 2 or 3 got ahead. So when it
4 gets to SYNCH1, it just stops and waits until it
5 receives the SYNCH1 command from Track 1.

6 Q. Thank you for that. Let me ask a
7 couple of questions to make sure I followed certain
8 points of that.

9 So in Comps, when you got multiple
10 tracks, is it the case then that one of the tracks
11 will always be the master track?

12 A. I think Comps contemplates having one
13 master track and possibly multiple slave tracks.

14 Q. Okay. Thank you.

15 And each track in Comps -- well, maybe
16 let me stick with Track 1. So the master track in
17 Comps in example Figure 3, it has audio data.audio
18 in Track 1 which is the master track, and it's got
19 timing information for how long to play each note or
20 how long to wait between notes; correct?

21 A. Track 1 does include that information.

22 Q. Okay. And Track 2 also includes that

1 information, but for image or video-related data
2 instead of audio-related data; right?

3 A. So Track 2 does include information
4 about how long to display an image or video, as well
5 as how long to wait before the next display of image
6 or video.

7 Q. But for Track 2, it's possible, based
8 on the timing of the synch commands, that part or
9 all of events in Track 2 will be skipped; is that
10 correct?

11 A. So I think in Comps, the only kind of
12 command that can be skipped would be a waiting time.
13 And as I said, I think primarily that wouldn't
14 happen at all. A waiting time might be shortened,
15 you know.

16 But the point of this is to have
17 waiting times to have the ability to accommodate
18 slight variations in microprocessor clocks. So as I
19 said, if a slave track got slightly behind, it might
20 cut short the waiting time in order to catch up, but
21 Comps is quite explicit to not skip other kinds of
22 commands.

1 So, for example, in Column 3, at
2 line 32, it says -- and this is referring to
3 Track 2. It says, In this example, two JPEG images
4 represented by the fields JPEG1 and JPEG2 must be
5 presented to the user for a given time represented
6 by the field JPEG lower case d1 for the image JPEG1
7 and the field JPEG lower case d2 for the image
8 JPEG2.

9 So it's pretty clear that these images
10 must be presented to the user.

11 Comps goes on to confirm that
12 understanding with a section that I've also already
13 described in Column 4, starting at line 44, where it
14 says, "Thus each important command" -- which, again,
15 I've already explained why that would include these
16 commands to display JPEG images.

17 It goes on to say, "i.e. a command
18 whose execution must not be interrupted, is
19 represented by a given field preceded by a field
20 representing a synchronization command."

21 So Comps is pretty clear that these
22 JPEG images and really all important commands must

1 be presented to the user for a given time and must
2 not be interrupted.

3 Q. Let me ask you a couple questions
4 about Track 3, which we haven't talked about very
5 much yet.

6 So Track 3 has as part of it TEXT
7 capital D sub zero. Do you see that?

8 A. I do.

9 Q. And it also has TEXT Capital D sub 1.
10 Do you see that?

11 A. I do.

12 Q. And what do those represent?

13 A. So similarly to the other capital D
14 fields, Comps describes these at Column 3, starting
15 at line 40, as representing waiting times before a
16 TEXT.

17 Q. Do you have an opinion on whether the
18 waiting times for Track 3 are content-related data
19 segments or not?

20 A. Oh, for similar reasons as I've
21 described regarding the other tracks, no, sitting
22 here today, I don't think they are.

1 Q. What about capital TEXT sub 1 and
2 capital TEXT sub 2, do you have an opinion on
3 whether those are content-related data segments?

4 A. Yes, I believe they are.

5 Q. Okay. Is there any timing information
6 associated with the TEXT sub 1 and TEXT sub 2
7 events?

8 A. I don't see any timing information
9 related to -- sorry, let me say that again.

10 I don't see any explicit timing
11 information about TEXT sub 1 or TEXT sub 2 in Comps,
12 although sometimes it can be implied. So, for
13 example, in Track 3, the duration of TEXT1 appears
14 to be the time between SYNCH2 and SYNCH3.

15 Q. Okay. And I guess part of my question
16 was whether you thought that was an intentional
17 omission or maybe an accidental omission of not
18 having duration information, for example, associated
19 with TEXT1 and TEXT2?

20 MS. ALIZA CARRANO: Objection, scope.

21 THE WITNESS: I don't know why there's
22 not an expressed description of timing

1 information regarding TEXT1 and TEXT2 in
2 Comps.

3 BY MR. CARDENAS-NIVIA:

4 Q. But I think this is what you were
5 referencing earlier is that it's not that TEXT1
6 would be displayed indefinitely, because TEXT2 would
7 be displayed once that SYNCH3 command is reached;
8 correct?

9 A. In the example in Figure 3, that's
10 right.

11 Q. Okay. And so then the amount of time
12 that TEXT1 is displayed for is determined by
13 capital N sub d3 in Track 1; is that right?

14 A. Well, as I said, it looks like TEXT1
15 will be output between SYNCH2 and SYNCH3, but the
16 timing of SYNCH3 is related to the duration of the
17 Note 3 in Track 1, which is N sub lower case D3.

18 Q. And we talked earlier for Track 2 --
19 I'm trying to paraphrase you accurately here, but
20 let me know if I somehow get it wrong.

21 I believe you testified for Track 2
22 that because of the synch commands, like SYNCH1,

1 SYNCH2, SYNCH3, it's possible that some waiting
2 durations might either get cut a little bit short or
3 might get extended a little bit longer so that
4 Track 2 can be synchronized at those synch commands
5 with Track 1; is that correct?

6 A. I think that sounds about right.

7 Q. Okay. But for Track 1, since it's the
8 master track, its events are all going to get
9 executed according to the time durations set forth
10 in Track 1; is that right?

11 A. I think that's right.

12 Q. Can you get the '794 patent out again?
13 That's Exhibit 1001.

14 A. Okay.

15 Q. And could you turn to claims -- would
16 you turn to Claim 20?

17 A. Okay.

18 Q. And it says, "The method of claim 1,
19 wherein the assignment rule is not based on a time
20 stamp."

21 Do you see that?

22 A. I do.

1 Q. In your view, what is a time stamp in
2 the context of the '794 patent?

3 A. So the '794 patent does not say that
4 much about time stamps. It primarily uses time
5 stamps to distinguish from assignment rules.

6 At Column 2, lines 36 to 43 or so, it
7 explains that using synchronization with a
8 pre-definable assignments rule is an advantage since
9 the assignment is carried out without the use of
10 time stamps.

11 In my analysis of Claim 20 and also
12 Claim 21, which similarly refers to a time stamp, I
13 pointed to Comps' synch commands and the fact that
14 it explicitly says, "The synchronization commands
15 are not temporal commands, as in the prior art, but
16 are instead dependent on a specific event." That's
17 at Comps 3 -- Column 3, starting at line 44.

18 So I didn't need to understand the
19 '794 patent's use of the term "time stamp" in more
20 detail, since the Comps' disclosure of synch
21 commands that are not temporal commands is extremely
22 similar to the '794 patent's use of the term "time

1 stamps."

2 Q. What understanding of "time stamps"
3 did you apply in your declaration?

4 A. So in my paragraph 52, I describe some
5 of what I just explained and cited to '794 patent,
6 Column 2, lines 36 to 43, as well as Claims 20 and
7 21. And I use the plain and ordinary meaning of the
8 word "time stamp," which clearly is related to time
9 and the fact that Comps, as I said, expressly uses
10 synchronization commands that are not temporal
11 commands that teaches that they're not time stamps.

12 And, furthermore, the synch commands
13 are used in very similar way to the assignment rules
14 of the '794 patent, which is why I point to them for
15 teaching that.

16 MS. ALIZA CARRANO: Counsel, we've
17 been going for a little over an hour. I'm
18 not sure how much time you have left or that
19 you're planning to use, but would now be a
20 good time to break for lunch?

21 MR. CARDENAS-NIVIA: Let me ask a
22 couple of more questions, and then we can

1 take a break.

2 BY MR. CARDENAS-NIVIA:

3 Q. Dr. Bederson, is -- in your view, is
4 an absolute time a time stamp?

5 A. I didn't offer a construction of the
6 term "time stamp," and I didn't need to. Because as
7 I explained, Comps teaches something so expressly
8 not a time stamp, since the assignment rule that I
9 pointed to through the synch commands are explained
10 to not be temporal commands, but I didn't go further
11 in trying to construe or provide a definition of
12 "time stamp."

13 Q. Do you have an opinion about whether
14 an absolute time is a time stamp?

15 A. No, I do not.

16 Q. Do you have an opinion about whether
17 an absolute time range is a time stamp?

18 A. No, I do not.

19 MR. CARDENAS-NIVIA: Let's go ahead
20 and take a break.

21 THE REPORTER: We're off the record.

22 (Recess from the record.)

1 THE REPORTER: Back on the record.

2 BY MR. CARDENAS-NIVIA:

3 Q. Dr. Bederson, I want to ask you if you
4 reviewed some materials before you put together your
5 declaration.

6 Did you review Unified's IPR petition
7 before putting together your declaration -- or let
8 me ask it a little differently, because it's, you
9 know, before, in the preparation of.

10 So let me just ask, did you review
11 Unified's IPR petition before you submitted your
12 declaration?

13 A. I don't think so. I don't remember
14 doing so.

15 Q. Okay. Did you review -- okay. And
16 did you -- did you review any part of Unified's IPR
17 petition before submitting your declaration -- well,
18 actually, that's not a great question. Let me ask
19 it a little more specifically.

20 Did you review the supporting
21 technical expert declaration that was submitted
22 along with Unified's IPR petition before submitting

1 your declaration?

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

3 Q. Okay. Have you reviewed that
4 declaration since you submitted your declaration?

5 A. I don't think so.

6 Q. Have you reviewed Unified's IPR
7 petition since submitting your declaration?

8 A. I don't think so.

9 Q. Did you review patent -- have you ever
10 reviewed patent owner's preliminary response in the
11 Unified IPR proceeding?

12 A. I don't think so.

13 Q. Have you ever reviewed patent owner's
14 response in the Unified IPR proceeding?

15 A. I don't think so.

16 Q. I believe you did testify earlier --
17 well, let me just ask it.

18 Have you ever reviewed the PTAB's
19 final written decision from the Unified IPR
20 proceeding?

21 A. Yes, I did.

22 Q. Okay. And when was that?

1 A. Sometime after I submitted this
2 declaration, generally in preparation for this
3 deposition.

4 Q. Okay. Are there any other materials
5 from the Unified IPR proceeding that you reviewed?

6 A. As we discussed earlier, I included in
7 my declaration some proposed constructions. Those
8 were provided to me. So I reviewed those
9 constructions. I'm not thinking of any other --
10 anything else today.

11 Q. Okay. Could you turn back to the
12 '794 patent, Exhibit 1001, and turn to Claim 1. And
13 let me know when you're there.

14 A. Okay.

15 Q. And do you see in the last four lines
16 of Claim 1, it says, "on the basis of an assignment
17 rule for assigning each one of the content-related
18 second data segments to one of the content-related
19 first data segments"?

20 A. I see that.

21 Q. And then I'm going to direct you to
22 similar language in Claim 9, the last couple of

1 lines, where it says, "based upon of an assignment
2 rule for assigning each one of the content-related
3 second data segments to each one of the
4 content-related first data segments."

5 Do you see that?

6 A. I do.

7 Q. What did you map in Comps to the
8 assignment rule claim limitations of the
9 '794 patent?

10 A. So let me just start by making a
11 comment on my understanding of this -- these
12 sections that you just recited. I'll just point to
13 Claim 1.

14 And I want to say something about
15 the -- that the assignment rule for assigning each
16 one of the content-related second data segments, and
17 so that has -- uses the word "the" in referring to
18 the content-related second data segments. So it's
19 each one of those content-related data segments.

20 So I was looking for what is the
21 antecedent basis for that content-related second
22 data segments or what is that referring to. And

1 that seems to be referring back to the preamble,
2 where it says, "A method for synching
3 content-related first data segments of a first data
4 file and content-related of second data segments of
5 a second data file."

6 So when it is looking for an
7 assignment rule for each of the second
8 content-related second data segments, those second
9 data segments are just -- are not quantified in the
10 preamble. So it's each of those data segments from
11 the preamble, which is just content-related second
12 data segments.

13 So in my analysis of the assignment
14 rule, I didn't see it to be necessary to apply to
15 every second data segment in Comps. So I just want
16 to make that clarification.

17 Although, I will say that even though
18 I don't think it's necessary, my analysis did, in
19 fact, show that it does apply -- the assignment rule
20 does apply to every second data segment. So that's
21 part of my analysis of assignment rule. I just
22 wanted to clarify that.

1 As far as what do I point to for the
2 assignment rule, I explain that in paragraph 87,
3 where I say, "Accordingly, the 'assignment rule'
4 which 'assigns each one of the content-related
5 second data segments to one of the content-related
6 first data segments' is the synchronization commands
7 that are executed by the microprocessor."

8 And I describe the synchronization
9 commands in the previous paragraph, where I explain
10 they are, for example, SYNCH1, SYNCH2 -- actually, I
11 see a typo. They should be SYNCH1, SYNCH2, and
12 SYNCH3. So the last line of 86, where it says,
13 "SYNCH1, SYNCH1, SYNCH3," the second "SYNCH1" should
14 actually be "SYNCH2."

15 Notwithstanding, what I'm pointing to
16 are the synch commands in Comps for the assignment
17 rule.

18 Q. Okay. And those would be all the
19 synch commands the different tracks?

20 A. So SYNCH1 that goes across all three
21 tracks would be an example of an assignment rule,
22 and SYNCH2 that goes across all the tracks would be

1 a second example of an assignment rule. And SYNCH3
2 that goes across all the tracks would be a
3 third example of an assignment rule.

4 Q. So in your view, in Figure 3 in Comps,
5 there are three different assignment rules?

6 A. That's right.

7 Q. The claims of the patent required the
8 assignment rule assigns each one of the
9 content-related second data segments to one of the
10 content-related first data segments.

11 In your view, how are content-related
12 second data segments assigned to content-related
13 first data segment?

14 A. That assignment happens through the
15 way that Comps works. I described that in some
16 detail when we analyzed -- when I explained my
17 analysis of the synchronization in Comps Column 4,
18 lines 25 through 44 -- or 43, where basically a
19 synch -- a slave track, as it processes either its
20 own synch commands or an incoming synch command from
21 the master track, decides whether to continue along
22 or to pause or to jump ahead; and in doing so, the

1 content-related data segment that it is processing,
2 such as an image or a text, is then assigned to play
3 back simultaneously with sound from the first track.

4 Q. And in your view, that's how the
5 assigning occurs?

6 A. Those are examples of how assigning
7 occurs.

8 Q. Are there other examples of how
9 assigning occurs that you relied on in your
10 analysis?

11 A. Figure 3 is an example. So those
12 specific uses of those synch commands are examples.
13 I think when I described Column 4, that describes
14 more generally -- well, it's still in the context of
15 Exhibit 3. So those are all examples, but I think
16 they describe generally how the Comps synch commands
17 work, which is what I point to for the assignment
18 rules, including the assignments.

19 Q. Okay. Well, we've been going about
20 13 minutes. So I don't want to keep going too much
21 longer.

22 Is there any of your testimony today

1 that you'd like to change?

2 A. No.

3 Q. Okay.

4 MR. CARDENAS-NIVIA: I have no further
5 questions at this time.

6 MS. ALIZA CARRANO: I have no
7 questions.

8 THE REPORTER: Thank you, everyone.

9 (The deposition concluded at
10 12:46 p.m.)

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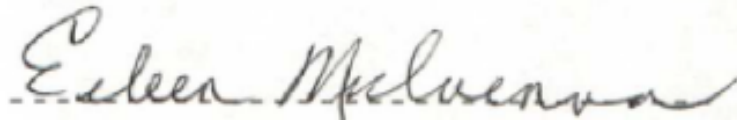
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1 Benjamin B. Bederson, c/o
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