

1 UNITED STATES PATENT AND TRADEMARK OFFICE

2
3 BEFORE THE PATENT TRIAL AND APPEAL BOARD

4
5 GOOGLE LLC,

6 Petitioner,

7 v.

8 SANDPIPER CDN, LLC,

9 Patent Owner.

10
11 Case IPR2025-01010

12 U.S. Patent No. 10,057,322

13
14 Deposition of TODD C. MOWRY, PH.D.

15 Conducted Virtually

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21 Stenographically reported by: Judith E. Bellinger,

22 RPR, CRR, CSR-TX CCR-WA, CCR-NM

1 Deposition of TODD C. MOWRY, PH.D., conducted
2 virtually.

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11 Pursuant to notice, before Judith E.
12 Bellinger, Registered Professional Reporter,
13 Certified Realtime Reporter, and Notary Public in
14 and for the State of Maryland.

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A P P E A R A N C E S

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C O N T E N T S

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By Mr. Pappas	5

E X H I B I T S

(Retained by counsel)

Exhibits:	PAGE
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Exhibit 1009 United States Patent Number	45
6,108,703	

1 P R O C E E D I N G S

2

3 TODD C. MOWRY, PH.D.,

4 being first duly sworn, was examined
5 and testified as follows:

6 EXAMINATION BY COUNSEL FOR THE

7 BY MR. PAPPAS:

8 Q Good morning, Dr. Mowry. Nice to see
9 you again.

10 A Yes, good morning. Good to see you.

11 Q For the record, would you please state
12 your full legal name?

13 A Todd Carl Mowry, M-O-W-R-Y.

14 Q Thank you, Dr. Mowry. You understand
15 today that you're having your deposition taken in
16 connection with the declaration you provided in
17 IPR 2025-01010?

18 A Let's see. I don't have the number in
19 front of me. I know it's for the '322 patent, but
20 I imagine that the number you just read is
21 correct. I don't have the number memorized.

22 Q Why don't we deal with some exhibits,

1 first of all. There is a download link in the
2 chat, I believe it should start with Planet Depos
3 642.ShareFile.

4 Do you have access to that website?

5 A I just clicked on it. I'm seeing where
6 it takes me.

7 Q There may be some duplicates in that
8 folder, but they are the same copy of each exhibit
9 even if it's twice. Just to let you know.

10 A The thing that I see in the chat it's
11 connecteast.eclipsecat.com. Oh, there's another
12 one.

13 PLANET DEPOS TECHNICIAN: I just put it
14 in right now.

15 A Oh, okay. Great.

16 Q Let me know if that comes up.

17 A Okay.

18 Q And you should see EX1003, which should
19 be your declaration in this proceeding?

20 Do you see that?

21 A Let me see what's listed. Let's see.
22 Okay. Yes. Yes, EX 1003. I see that. Great.

1 Q Can you download that and let me know
2 is this the declaration you submitted in this
3 proceeding?

4 A Yes, it appears to be that, yes.

5 Q And the case is IPR 2025-01010,
6 correct?

7 A Yes.

8 Q And this proceeding concerns United
9 States Patent Number 10,057,322, correct?

10 A Yes.

11 Q If I refer to the patent as the '322
12 patent, will you understand what I'm referring to
13 today?

14 A Yes.

15 Q Let's turn back to your declaration.
16 Do you continue to hold the opinions you submitted
17 in this declaration?

18 A Yes, I do.

19 Q If you can turn to page 163, the last
20 page, and I'm referring to the page numbers in the
21 bottom left corner of the document. Let me know
22 when you're there.

1 A Yes, I'm on the last page.

2 Q Is that your signature on the last
3 page?

4 A Yes, it is.

5 Q And you reviewed your declaration in
6 preparing for the deposition today.

7 MR. FELICIELLO: And objection,
8 privilege. I'll just counsel the witness not to
9 reveal any privileged communications or
10 information, but of course, Dr. Mowry, you can
11 testify as to the facts to the extent that you
12 can.

13 Q So I'll repeat the question. Did you
14 review your declaration in preparing for the
15 deposition today?

16 A Yes, I did.

17 Q In your review did you come across any
18 errors in the declaration?

19 A There may be some typos, but I didn't
20 notice anything.

21 Q Are there any opinions that you'd like
22 to change or clarify before we get started today?

1 A No.

2 Q You understand that you're under oath
3 today?

4 A Yes.

5 Q You understand that you're here to give
6 complete and accurate testimony?

7 A Yes.

8 Q Is there any reason you believe that
9 you can't give complete and accurate testimony
10 today?

11 A No.

12 Q We talked about this a few weeks ago in
13 the last deposition but I want to repeat the basic
14 ground rules just for the record here today.

15 So everything you say will be written
16 down by the court reporter so please try to give
17 verbal answers so that the transcript is clear.

18 Is that fair?

19 A Yes.

20 Q If you don't understand any part of a
21 question today, will you let me know so I can
22 clarify?

1 A Yes.

2 Q If you answer my question, I'm going to
3 assume that you understood it.

4 Is that fair?

5 A Yes.

6 Q From time to time your counsel may
7 object to questions. Do you understand that you
8 still need to answer the question unless your
9 counsel instructs you not to?

10 A Yes.

11 Q And I expect to take breaks every hour
12 or so, but, again, if you need a break at any
13 other time, just let me know.

14 Is that okay?

15 A Yes.

16 Q I would just ask that you answer any
17 pending questions before we take the break.

18 Is that fair?

19 A Yes.

20 Q Okay. So for purposes of the
21 deposition being remote today, let me ask you
22 where you are right now?

1 A I am in my house in Pittsburgh,
2 Pennsylvania.

3 Q Is anyone else in the room with you
4 today?

5 A No. There's nobody else in the house
6 at all.

7 Q Can you describe what you have with you
8 today?

9 A I have my laptop and the only thing
10 open is the meeting and the Adobe Acrobat to look
11 at the PDF that I just downloaded.

12 The only other thing I have, I have my
13 smart watch silenced in my pocket but I don't have
14 any other devices here on this floor of the house.

15 Q Do you have any copies of the papers or
16 exhibits in this proceeding aside from the
17 download link that we shared with you?

18 A No, I don't.

19 Q Can you confirm that you won't use any
20 electronic devices to communicate with anyone
21 during the deposition today?

22 A Yes, I can confirm that.

1 Q Do you have any personal notes with you
2 pertaining to the deposition today?

3 A No.

4 Q So let's talk generally about your
5 declaration. Some of these questions may seem
6 familiar, but I'll ask them anyway.

7 Did you write the declaration yourself?

8 A Yes. I wrote it in collaboration with
9 the attorneys. I read the '322 patent, I did a
10 prior art search, and I formulated my opinions.
11 The attorneys helped me with putting my opinions
12 down into text. I reviewed my entire declaration
13 and my declaration reflects my opinions.

14 Q Approximately how much time did you
15 spend preparing your declaration?

16 A Approximately 60 hours.

17 Q Did you talk to anyone outside of
18 counsel for Google in the process of preparing
19 your declaration?

20 A No.

21 Q Can you turn to paragraph 83 of your
22 declaration, and that is page 42 in the bottom

1 left-hand corner?

2 A Okay.

3 Q Here you set forth references that you
4 believe either anticipate or render obvious the
5 claims of the '322 patent; is that correct?

6 A Yes.

7 Q And you list the references in the
8 table below that paragraph.

9 A That's right.

10 Q And you said you conducted your own
11 prior art search, correct?

12 MR. FELICIELLO: And I'll give the same
13 caution to the witness not to reveal any
14 privileged information or communications.

15 A Yes, I conducted my own prior art
16 search.

17 Q Did you find the references in this
18 table yourself?

19 A I don't recall specifically which
20 references I found. The attorneys also found some
21 references, so I took my references and theirs and
22 I chose the ones that I thought were the best.

1 Q So is it fair to say that at least some
2 of the references in this table were provided to
3 you by counsel for Google?

4 MR. FELICIELLO: Same caution to the
5 witness not to reveal privileged information.

6 A I don't recall specifically since it
7 happened last year. I don't remember exactly
8 which ones I found myself versus which ones the
9 attorneys located.

10 Q But in your evaluation of potential
11 references there were references provided to you
12 by counsel for Google?

13 MR. FELICIELLO: Same caution.

14 A Yes, there were some references that
15 they found and I evaluated them and compared them
16 with the ones that I found and chose the ones that
17 I thought were the best references.

18 Q Okay. But you don't recall whether any
19 of the references in this table were provided to
20 you by counsel for Google, correct?

21 MR. FELICIELLO: Same caution.

22 A I don't recall specifically whether

1 these references were -- whether there were some
2 that were provided by attorneys. I don't remember
3 that specific detail.

4 Q All right. So let's talk about today's
5 deposition. What did you do to prepare for the
6 deposition today?

7 MR. FELICIELLO: And I'll offer the
8 same caution to the witness not to reveal
9 privileged communication or communications. But,
10 Dr. Mowry, you can testify as to the facts, to the
11 extent that you can.

12 A I reviewed the '322 patent and my
13 declaration and the references that I cite in my
14 declaration.

15 Q Did you meet with counsel for Google in
16 preparing for your deposition today?

17 MR. FELICIELLO: Same caution.

18 A Yes, I did.

19 Q Who did you meet with?

20 MR. FELICIELLO: Same caution.

21 A I met with Milan and Sidney.

22 Q When did you meet with Milan and

1 Sidney?

2 MR. FELICIELLO: Same caution.

3 A Over this week and last week?

4 Q Were those meetings in person or by
5 video?

6 MR. FELICIELLO: Same caution.

7 A They were not in person. They were by
8 video.

9 Q And approximately how long did you meet
10 with Milan and Sidney?

11 MR. FELICIELLO: Same caution.

12 A Roughly, ten hours, eight hours.
13 Something in that ballpark.

14 Q And if you can ballpark it,
15 approximately how long did you spend preparing for
16 your deposition today in total?

17 MR. FELICIELLO: Same caution.

18 A Roughly, 20 hours.

19 Q Did you review each of the exhibits
20 cited in your declaration?

21 MR. FELICIELLO: Same caution.

22 A I reviewed all of the exhibits shown in

1 this table at the end of paragraph 83, and I may
2 have reviewed some others. I didn't necessarily
3 review everything that I list in my declaration.

4 Q Did you talk to anyone outside of
5 counsel for Google while preparing for the
6 deposition today?

7 A No.

8 Q Can you turn to paragraph 18 of your
9 declaration. I believe that's page 15.

10 A Okay.

11 Q Here you've provided a table of
12 materials considered in forming your opinions in
13 your declaration, correct?

14 A Yes.

15 Q In preparing for your deposition today,
16 did you review any other materials outside of
17 what's listed in this table?

18 MR. FELICIELLO: Same caution.

19 A Well, I reviewed the declaration
20 itself, which I guess is technically not listed in
21 the table. But beyond that, no.

22 Q Did you review the Board's institution

1 decision in this proceeding?

2 MR. FELICIELLO: Same caution.

3 A Yes, I did. I did review that. Sorry,
4 I forgot. I reviewed the Board's institution
5 decision. I reviewed the Patent Owner's
6 preliminary response also.

7 Q Did you review the exhibits associated
8 with Patent Owner's preliminary response?

9 MR. FELICIELLO: Same caution.

10 A I don't recall specifically.

11 Q When you were preparing your
12 declaration, did you review Google's IPR petition?

13 MR. FELICIELLO: Same caution.

14 A No.

15 Q Did you review the IPR petition at any
16 point after preparing your declaration?

17 MR. FELICIELLO: Same caution.

18 A I may have. I don't remember -- I
19 don't have a specific memory of doing that. But
20 it's possible that I did review it afterward.

21 Q All right. In the download folder
22 there is an Exhibit 1005, which is the Verma

1 reference.

2 Do you see that?

3 A Yes.

4 (Exhibit 1005 marked for identification
5 and retained by counsel.)

6 Q Can you, please, download that
7 reference, that exhibit, and let me know when you
8 have it available.

9 A Okay. I have it available.

10 Q Verma is Exhibit 1005 in this
11 proceeding, correct?

12 A Yes, that's right.

13 Q And, for the record, Exhibit 1005 is
14 U.S. Patent Publication Number 2009/0132640.

15 Does that look right?

16 A Yes.

17 Q Did you review Verma in preparation for
18 your deposition today?

19 MR. FELICIELLO: Same caution.

20 A Yes.

21 Q Can you turn to Figure 1 of Verma.

22 A Okay.

1 Q So in Figure 1 there is a browser 21
2 shown, correct?

3 A Yes. It says "Browser Requester," yes,
4 that's right.

5 Q And is it your understanding that that
6 refers to the client device that requests a
7 content file in Verma?

8 MR. FELICIELLO: Objection. Form.

9 A Sorry. Can you repeat the question,
10 please.

11 Q Sure. And feel free to reference
12 anything in Verma in answering the question, just
13 as a preface.

14 The question was, is it your
15 understanding that browser 21 refers to the client
16 device that requests the content file in Verma?

17 MR. FELICIELLO: Objection. Form.

18 A In paragraph 25 of Verma it mentions
19 that "the browser 21 operates to request the
20 content file, for example," and then it's going on
21 to -- this is part of its example related to the
22 Movies-Inc.com example.

1 Q So in this example the browser 21 is
2 requesting a content file?

3 A That's what it says here in paragraph
4 25. It says that it's requesting a content file.
5 That's what it says in paragraph 21 -- sorry, in
6 paragraph 25 of Verma.

7 Q And then in Figure 1, there's also a
8 content provider 22, correct?

9 A Yes. That's correct.

10 Q What is content provider 22 in Verma?

11 MR. FELICIELLO: Objection. Form.

12 A In paragraph 25 of Verma, it says that
13 the content provider 22 in this example is
14 Movies-Inc.com, and it describes it as a website.

15 Q So what is the purpose of content
16 provider 22?

17 MR. FELICIELLO: Same objection.

18 A It's an example of a website. So they
19 are specifically giving an example of a movie
20 website, Movies-Inc.com. That's what it is. So
21 it is -- it's some type of website.

22 Q And it's a website that would supply

1 content to users; is that fair?

2 A Yes.

3 Q And Figure 1 also shows two cache
4 servers, 23 and 24.

5 Do you see those?

6 A Yes.

7 Q What is the purpose of cache servers 23
8 and 24 in Verma?

9 MR. FELICIELLO: Objection. Form.

10 A In paragraph 25 of Verma it describes
11 cache servers 23 and 24 as being part of a content
12 delivery network.

13 Q And what do the cache servers 23 and 24
14 do within the content delivery network?

15 A Well, in a nutshell, their purpose is
16 to deliver requested content or resources or files
17 to the user in a way that would be hopefully
18 advantageous in terms of latency and performance
19 compared to going to the origin server or the
20 content provider.

21 So the content delivery network is
22 meant to speed up access to content, especially,

1 typically, larger objects, such as videos or large
2 images or things like that.

3 Q So in the example in paragraph 25 of
4 Verma, the user is requesting a movie file The
5 Matrix Reloaded, right?

6 MR. FELICIELLO: Objection. Form.

7 A The example in paragraph 25 of Verma
8 does describe that the browser has requested The
9 Matrix Reloaded movie by way of navigating through
10 the website at Movies-Inc.com.

11 Q And so, ultimately, that movie might be
12 served to the browser by cache -- one of cache
13 servers 23 or 24 instead of the Movies-Inc.com
14 content server; is that right?

15 A Yes. That's correct.

16 Q And then in Figure 1, finally there is
17 a broker 25, correct?

18 A Yes. That's correct.

19 Q The broker is designed to manage cache
20 servers 23 and 24; is that right?

21 MR. FELICIELLO: Objection. Form.

22 A The broker has a role of -- it's part

1 of the content delivery network or it is -- it
2 is -- in paragraph 25, it is described as -- that
3 one of the things that it does is that it manages
4 the set of cache servers and in the example that
5 is exemplified by cache server 23 and cache server
6 24.

7 Q So I want to walk through the example
8 in paragraph 25 and 26 just to get your
9 understanding of Verma's operation.

10 So, first, the browser 21 sends a URL
11 request to the content provider 22, correct?

12 MR. FELICIELLO: Objection. Form.

13 A Can you please repeat the question?

14 Q Sure. First, the browser 21 sends a
15 request to content provider 22; is that correct?

16 MR. FELICIELLO: Same objection.

17 A Well, paragraph 25 describes that the
18 browser operates to request a content file by
19 sending the URL 28 to a content provider 22. And
20 in this example, that content provider is
21 Movies-Inc.com.

22 Q Okay. The content provider 22 then

1 sends a request to broker 25 for information about
2 the requested movie file; is that right?

3 MR. FELICIELLO: Objection. Form.

4 A Paragraph 25 says that the content
5 provider 22 sends a request 34 for information to
6 a content delivery network broker 25. If I
7 remember correctly, I think in your question you
8 added some more words there. It just says that --
9 I think you said information about a movie file,
10 perhaps, if I remember that correctly. But
11 paragraph 25 just says that the content provider
12 22 sends a request 34 for information to a content
13 delivery network broker 25.

14 Q Is the information that it's requesting
15 about in this example the movie file associated
16 with The Matrix Reloaded?

17 MR. FELICIELLO: Objection. Form.

18 A In the example, the request that
19 they're using in this illustration is the request
20 from the browser is for a movie, in this case
21 Matrix Reloaded. The request for information, I
22 think in your question you characterized it as

1 being request for information about the movie
2 file. I wouldn't characterize it as being
3 strictly information about the movie file because
4 the broker is determining various properties
5 related to the state of the content delivery
6 network. So it's not simply information about the
7 movie file itself.

8 Q What information is being requested by
9 provider 22 when it sends the request to broker
10 25?

11 MR. FELICIELLO: Objection. Form.

12 A Well, paragraph -- the rest of
13 paragraph 25 and paragraph 26 go on to describe
14 additional detail about the interaction with the
15 broker. The ultimate point of interacting with
16 the broker is to get a modified embedded resource
17 that will point the -- that will point to the
18 cache server that will deliver the content to the
19 user's browser.

20 Q Let's look at the first sentence of
21 paragraph 26. Does the information returned to
22 provider 22 include current and/or future

1 availability information of the requested movie?

2 MR. FELICIELLO: Objection. Form.

3 A That's a portion of this first sentence
4 in paragraph 26. That sentence also goes on to
5 say that what the broker's providing is "content
6 file URLs that are prepended or (Akamai-ed) for
7 redirecting to cache servers."

8 Q For the benefit of the court reporter
9 I'll spell Akamai, A-K-A-M-A-I hyphen E-D.

10 So to go back to my question, the
11 information would include current and/or future
12 availability information related to the requested
13 movie, correct?

14 MR. FELICIELLO: Same objection.

15 A I think in the way you've characterized
16 it, you've added the word "information" in a way
17 that doesn't exactly appear in this first sentence
18 in paragraph 26. It says that "The broker
19 provides content current and/or future
20 availability" 22 -- sorry, I misread that. "The
21 broker 25 provides content current and/or future
22 availability information to Movies-Inc.com content

1 provider where the content file URLs are prepended
2 (Akamai-ed) for redirecting to cache servers."

3 So it's returning these modified URLs
4 that redirect to cache servers that can satisfy
5 the request from the -- from the user's browser.

6 Q I think I understand what you're
7 saying. But in addition to those prepended or
8 Akamai-ed URLs, paragraph 26 says that "The broker
9 25 provides content current and/or future
10 availability information," which would be
11 associated with the requested movie to provider
12 22; is that correct?

13 MR. FELICIELLO: Objection. Form.

14 A I apologize, I was trying to answer
15 your question and I lost track of the exact
16 wording of it. Can you please repeat the question
17 again?

18 Q Let's start with this: Is it your
19 opinion that the current and/or future
20 availability information is not associated with
21 the requested movie in this example?

22 MR. FELICIELLO: Objection. Form.

1 A The request that -- from the browser
2 that has triggered this series of events was for a
3 specific movie. In this example it's Matrix
4 Reloaded. And the broker is trying to determine
5 an appropriate cache server to deliver that
6 content to the browser, so the specific movie
7 is -- is -- some information that is -- it's part
8 of the information that's made available to the
9 broker as it's determining what the best cache
10 server it would be for delivering this content.

11 I'm not sure if I missed something in
12 your question, but the movie is being part of
13 what's being passed on to the broker or
14 information about which movie it is, is part of
15 the information that the broker is using to try to
16 determine the best cache server to deliver that
17 movie.

18 Q I'm talking about the information that
19 is returned from the broker 25 back to content
20 provider 22.

21 Does that help?

22 MR. FELICIELLO: Same objection.

1 A Okay. And then maybe can you then
2 repeat the question, given that context?

3 Q So one of the pieces of information
4 that is returned from the broker 25 to content
5 provider 22 are content file URLs that are
6 prepended or Akamai-ed for redirecting the cache
7 servers, correct?

8 MR. FELICIELLO: Same objection.

9 A Well, the first sentence of
10 paragraph 26 does say that the broker provides the
11 content file URLs that are prepended or Akamai-ed
12 for redirecting to cache servers.

13 Q And those URLs that are prepended or
14 Akamai-ed are provided to the content provider 22,
15 right?

16 MR. FELICIELLO: Objection. Form.

17 A Well, that first sentence in paragraph
18 26 says that "The broker 25 provides content
19 current and/or future availability information to
20 Movies-Inc.com content provider 22."

21 Q Right. So the answer to my question is
22 yes?

1 MR. FELICIELLO: Same objection.

2 A Well, in the example -- I mean, what
3 Verma has described is that there is delay
4 tolerance information, and this is actually
5 provided from the -- like, it goes on, for
6 example, at the bottom of paragraph 29, there is
7 an example of a URL, a link that has delay
8 tolerance information, and that is in -- that
9 would be in the web page that the user had
10 navigated to in order to access the movie.

11 So the delay tolerance information, we
12 can see that in the figure between paragraph 29
13 and paragraph 30. It has, it says "Period start."
14 It has some time and date and end. So that's an
15 example of delay tolerance information.

16 So that information would have been
17 coming from the page, the web page, that the user
18 had navigated to and that would have been given to
19 the broker. The delay tolerance is a piece of
20 information that is used in order to identify an
21 appropriate cache server that's able to satisfy
22 the request given those -- that -- those delay

1 tolerance constraints.

2 Q I'm just asking about the first
3 sentence of paragraph 26.

4 Do you agree that it says "information
5 is provided from the broker 25 to Movies-Inc.com
6 content provider 22"?

7 MR. FELICIELLO: Objection. Form.

8 A Well, information about delay tolerance
9 has been provided to the movies dot --
10 Movies-Inc.com content provider by way of the web
11 page containing this information, like we see
12 in -- like, an example of that type of tag is --
13 we can see that in this example between paragraph
14 29 and 30, where there's a certain delay
15 tolerance. And in that sentence, that information
16 was provided to Movies-Inc.com when the request
17 was made.

18 So in Figure 1, when number 28, when
19 the browser requester sent a request to the
20 content provider, it would have included its delay
21 tolerance information. So that was given to the
22 content provider.

1 And this sentence where it says that it
2 was content and then availability information to
3 Movies-Inc.com, well, that request 28 went to
4 Movies-Inc.com, so that's not necessarily
5 referring to that information -- I mean, that
6 information was provided by the -- the end user
7 tolerance of delays is something that is provided
8 in that request 28.

9 The broker is also reasoning about the
10 availability and the delay on different cache
11 servers. It's trying to choose a cache server
12 that can request -- sorry, that can service the
13 request within the delay tolerance that was
14 expressed in the original request 28.

15 So that -- information has been passed
16 about delay tolerance to Movies-Inc.com from that
17 request 28 and it's also querying the status of
18 the cache servers, such as cache server 23 and 24.
19 And that has -- the availability of those cache
20 servers is an important consideration in choosing
21 which one of them should serve the content. It
22 will select one of them and then prepend the URL

1 to point the request through the modified embedded
2 resource, that will point the request toward that
3 specific cache server.

4 Q I think we might be talking past each
5 other a little bit. So let me back up.

6 Originally, there is a URL 28 that is
7 sent as a request from browser 21 to content
8 provider 22, correct?

9 MR. FELICIELLO: Objection. Form.

10 A There is a request illustrated where
11 URL 28 is sent to the content provider 22, and
12 that has been triggered by the browser navigating
13 to a page at Movies-Inc.com where it has -- has
14 requested that the user would like to view the
15 Matrix Reloaded movie, in this example.

16 Q Okay. And then following that request,
17 Movies-Inc.com content provider 22 sends a request
18 34 for information to broker 25, correct?

19 MR. FELICIELLO: Objection. Form.

20 A The movie -- I think I may have missed
21 something, but I think you were essentially
22 reading the sentence in the middle of paragraph 25

1 which says "Movies-Inc.com content provider 22
2 sends a request for 34 to information to a content
3 delivery network broker 25."

4 I think that's what you said in your
5 question. That's what that part of that sentence
6 says.

7 Q And then following that request to
8 broker 25, broker 25 provides some information
9 back to content provider 22; is that fair?

10 MR. FELICIELLO: Objection. Form.

11 A That first sentence in paragraph 26
12 describes that it -- that the broker will return
13 prepended URLs for redirecting to cache servers
14 and that would be -- that would be -- count as
15 some information, yes.

16 Q And then another piece of information
17 that broker 25 may provide to content provider 22
18 is information on the time periods when the
19 content files will be available at corresponding
20 cache servers, correct?

21 MR. FELICIELLO: Objection. Form.

22 A Sorry, can you please repeat the

1 question? I lost track of the exact wording of
2 the question as I was trying to answer it.

3 Q Sure. And I'm specifically looking at
4 the second sentence of paragraph 26. My question
5 is, another piece of information that broker 25
6 may provide content provider 22 is information on
7 the time periods when the content files will be
8 available at corresponding cache servers; is that
9 correct?

10 MR. FELICIELLO: Same objection.

11 A Well, that sentence does say that
12 "information on the time periods when the content
13 files will be available at cache -- at
14 corresponding cache servers is also added."

15 Q Okay. And earlier we talked about, in
16 the middle of paragraph 25, content provider 22
17 sends a request 34 for information to a content
18 delivery network 25, correct?

19 MR. FELICIELLO: Objection. Form.

20 A I think you're correctly reading the
21 portion of that sentence. It says in the middle
22 of paragraph 25, it says "Movies-Inc.com content

1 provider 22 sends a request 34 for information to
2 a content delivery network broker 25."

3 Q Does Verma specify the format of the
4 request that's sent from content provider 22 to
5 broker 25?

6 MR. FELICIELLO: Objection. Form.

7 A In your question you asked about
8 whether it specifies the format; is that correct?

9 Q That's correct.

10 A There is not a detailed description of
11 a specific syntax for -- or format. It does show
12 an example -- not in terms of the request. It
13 does show that you can, like, in the figure
14 between paragraphs 29 and 30, it's showing the end
15 result of this prepending of URLs where you can
16 see that there's a link to, it says
17 "http://location1/contentURL." And there's
18 another link that has "location2/contentURL."

19 So that's showing an example, an end
20 result, which is you have these prepended URLs
21 that are directing to a specific cache server.
22 But it's not providing -- but these are just for

1 illustration purposes, it's not defining a
2 specific format for the request.

3 MR. FELICIELLO: Mr. Pappas, before the
4 next question I think we've been going just about
5 over an hour, if you think there's an appropriate
6 time for a break soon.

7 MR. PAPPAS: Sure. I'm happy to take a
8 break, Dr. Mowry, if you'd like to right now.

9 THE WITNESS: That sounds good.

10 MR. PAPPAS: Okay. Why don't we come
11 back at 10:40. Does that work?

12 THE WITNESS: Sounds good.

13 MR. FELICIELLO: Works for us.

14 MR. PAPPAS: All right. Thanks.

15 (Recess taken from 10:31 a.m. to
16 10:41 a.m.)

17 BY MR. PAPPAS:

18 Q Welcome back, Dr. Mowry.

19 A Thanks.

20 Q During the break, did you discuss the
21 substance of your testimony with counsel?

22 A No.

1 Q I would like to look back at paragraph
2 26 of Verma.

3 And earlier you discussed a content
4 file URLs that are prepended, Akamai-ed for
5 recommending to cache servers.

6 Do you recall that?

7 A Yes.

8 Q What is a prepended or Akamai-ed URL in
9 Verma?

10 MR. FELICIELLO: Objection. Form.

11 A It is a modified embedded resource. It
12 is a link that has been rewritten so that it is
13 pointing directly to a cache server.

14 So, for example, in the paragraph -- in
15 the figure in between paragraphs 29 and 30, they
16 show an example of a prepended URL. It says
17 "location1/contentURL," and there's a second one
18 "location 2/contentURL."

19 So that -- those location 1 and then
20 location 2, that would be something that's
21 pointing to a particular cache server.

22 Q Those two examples involving location 1

1 and location 2, those are examples of prepended or
2 Akamai-ed URLs in Verma?

3 MR. FELICIELLO: Objection. Form.

4 A Well, they're somewhat abstracted.
5 But, yes, earlier in Verma it does exclusively
6 talk about Akamai and how they rewrite URLs. And,
7 for example, in paragraph 13 it talks about how it
8 replaces an original URL, which is http://content
9 URL, replaces it with a, quote, Akamai-ed URL, and
10 that says "http://local_cache_server/content URL"
11 that redirects to a local cache server in the
12 content delivery network.

13 So that's an example.

14 You have to realize something like
15 local cache server is a placeholder. In fact, it
16 would be some other string of characters that
17 would actually correspond to a specific cache
18 server and that process of rewriting URLs that
19 Akamai-ed did was very well-known. For example,
20 the Leighton reference that I cite in my
21 declaration also has examples of this Akamai-ed
22 style URL rewriting.

1 Q So that local_cache_server would, for
2 example, be a host name associated with the CDN
3 instead of the content provider, right?

4 MR. FELICIELLO: Objection. Form.

5 A Well, there would be some type of URL
6 that would point directly to a particular cache
7 server.

8 Q So can you turn to paragraph 151 of
9 your declaration, that's page 81.

10 A Okay.

11 Q In that paragraph you list example
12 prepended URLs; is that right?

13 A Yes.

14 Q One of those, for example, is the
15 local_cache_server URL that we were just
16 discussing?

17 A Yes.

18 Q And then below those bullet points, a
19 couple sentences down it says "A POSITA,"
20 P-O-S-I-T-A, "would have understood that each of
21 these uniform resource locators includes a
22 protocol, 'http'; a hostname for a cache server,

1 'location 1,' 'location 2,' or
2 'local_cache_server'; and a path to content,
3 'content URL.'"

4 Do you see that?

5 A Yes.

6 Q And you agree with that sentence in
7 your declaration?

8 A Yes.

9 MR. FELICIELLO: Objection. Form.

10 Q And so --

11 A Sorry, to the extent that I
12 misunderstood you, that you read the sentence
13 accurately, I agree with my sentence in my
14 declaration. I didn't notice any way in which you
15 didn't read it correctly. But I agree with the
16 sentence that I wrote there.

17 Q Understood. And so, in that sentence,
18 for example, location 1, location 2, or
19 local_cache_server, would be a host name for the
20 cache server, correct?

21 MR. FELICIELLO: Objection. Form.

22 A That's what I -- it says here in my

1 declaration, yes.

2 Q And you agree with that statement
3 again, correct?

4 MR. FELICIELLO: Same objection.

5 A Yes.

6 Q Can you turn to paragraph 148 of your
7 declaration, a couple pages up.

8 A Okay.

9 Q In the second sentence you say "Verma
10 also teaches using the 'Akamai' technique to
11 'replace the original URL' with an 'Akamai-ed
12 URL.'"

13 Do you see that?

14 A Yes.

15 Q Then in the next paragraph you
16 reference Exhibit 1009, correct? And that's going
17 onto the next page, for reference.

18 A Yes.

19 Q You can take a look but that's the
20 Leighton reference that you were referring to
21 previously, right?

22 A Yes, that's correct.

1 Q The example -- I'm sorry, the portion
2 of Exhibit 1009 that you cite in paragraph 149
3 illustrates an example Akamai-ed URL that is
4 associated with a GIF, G-I-F, image; is that
5 correct?

6 MR. FELICIELLO: Objection. Form.

7 A I assume you're referring to the quote
8 in the middle of paragraph 149? I haven't looked
9 at -- I can look back at the Leighton reference to
10 confirm that. But that's -- I see the portion of
11 my declaration where I am -- where it's -- it's
12 referring to a GIF image.

13 Q All right. So that's the URL with the
14 host name "ghost467.ghosting.akamai.com," right?

15 MR. FELICIELLO: Objection. Form.

16 A That string that you just read out
17 ghost467.ghosting.akamai.com, that is the
18 beginning of that URL that has been rewritten so
19 the -- in this case, that's what -- that's what it
20 says here.

21 Q And that's an example of what Verma is
22 referring to as a prepended or Akamai-ed URL,

1 right?

2 MR. FELICIELLO: Objection. Form.

3 A Would it be okay if I looked at
4 Exhibit 1009? I just want to take a look at that
5 section that I'm referencing here.

6 Q Sure. Feel free.

7 (Exhibit 1009 marked for identification
8 and retained by counsel.)

9 A Okay. I've now located Leighton. Can
10 you please repeat the question?

11 Q Sure. The URL that you cite in
12 paragraph 149, that includes the host name
13 ghost467.ghosting.akamai.com, is that an example
14 of a prepended or Akamai-ed URL that Verma
15 discusses?

16 MR. FELICIELLO: Same objection.

17 A Yes, although I actually do notice a
18 small -- well, there's a little typo in -- that I
19 just noticed here in this part of the declaration.
20 The -- at the sentence -- oh, I guess it's at the
21 top of this page, so in the middle of paragraph
22 149, it shows -- or showing -- it says "The

1 following is an embedded URL from the Provider's
2 site, colon," and then it's left angle bracket
3 "IMG, space, SRC equals," then there's the
4 beginning of a URL,
5 http://www.provider.com/TECH/images, and then the
6 quote ends there.

7 So, actually, in Leighton, that was
8 a -- that was a line wrap, and then it continues
9 on. This is in the Leighton, Exhibit 1009, in
10 column 8. Where that came from is starting at
11 line 6 in column 8 of Leighton, and it should have
12 continued on into the next line, which is line 7
13 of column 8 of Leighton, where it has
14 space.story.gif, right angle bracket. So I meant
15 to include that here as the original URL.

16 And that makes more sense if you see
17 the rewritten URL because the rewritten URL
18 actually contains the full original URL, it
19 doesn't just stop at images/, it has
20 images/space.story.gif.

21 So that's one -- so that's -- there's
22 one typo there.

1 But the upshot of this is that the
2 Leighton reference was showing this as an example
3 of Akamai-style URL rewriting, and that is what --
4 that's also known as a prepending in Akamai style.
5 And this points -- this generates a URL that
6 points to a specific cache server.

7 Q Right. So I understand the typo with
8 the original URL.

9 But if I understand you correctly, the
10 URL with the host name
11 ghost467.ghosting.akamai.com would be an example
12 of an Akamai-ed or prepended URL in line with what
13 Verma discusses, right?

14 MR. FELICIELLO: Objection. Form.

15 A Yes, that's an example of a prepended
16 or rewritten URL. That's what it's illustrating,
17 yes.

18 Q And so, using that example,
19 ghost467.ghosting.akamai.com URL, when a client
20 goes to request that URL, the altered host name
21 now would be resolved through DNS processing
22 instead of the original www.provider.com host

1 name, right?

2 MR. FELICIELLO: Objection. Form.

3 A Well, it's now pointing directly to a
4 specific cache server. There is -- in this
5 example, there is a host name and this would get
6 translated into an IP address. But it would --
7 there would be one specific IP address that it
8 would point to. So it would be a direct link to a
9 specific cache server.

10 Q Right. I think I understand what
11 you're saying. But the host name itself would
12 have to be resolved to that IP address, right?

13 MR. FELICIELLO: Same objection.

14 A Well, the broker has selected this host
15 name so that it is pointing to a specific cache
16 server. It could have also just inserted an IP
17 address, but it's -- the mapping is such between
18 this host name and a particular machine's IP
19 address that it's pointing to a specific machine.
20 So it is a direct link to a specific cache server.

21 Q Right. I'm not asking whether it's a
22 direct link, I'm just asking about whether the

1 host name would be resolved like a normal host
2 name would, using DNS.

3 MR. FELICIELLO: Objection. Form.

4 A Well, sometimes when people talk about
5 resolving a host name via DNS there is some
6 ambiguity as to where -- what IP address you might
7 ultimately get back.

8 In this case, whenever you present a
9 host name, it goes through the DNS lookup process,
10 but you can also cache direct translations. And
11 because this host name will -- this absolute host
12 name is pointing to a specific machine, it is,
13 indeed, identifying a specific cache server. So
14 the result of turning this into an IP address is
15 that it will always be the same IP address. And
16 that has been intentionally set up that way with
17 the content delivery network and the way that the
18 broker works.

19 Q So if I understand you correctly, at
20 some point in the DNS hierarchy there will be a
21 mapping of this host name to a specific IP address
22 for the cache server, right?

1 MR. FELICIELLO: Objection. Form.

2 A Well, DNS does involve looking up
3 mappings between host names and IP addresses. In
4 this case, there's no ambiguity about what IP
5 address it will map to. So it will always -- the
6 content delivery network and the broker have
7 chosen this specific host name because they know
8 it points to a specific IP address for the cache
9 server that's been selected.

10 So it is an absolute URL that is
11 pointing to a specific cache server.

12 Q So I -- I think we're saying similar
13 things. But to find that mapping between the host
14 name and the particular cache server, there is a
15 mapping that is looked up on some DNS server,
16 correct?

17 MR. FELICIELLO: Objection. Form.

18 A So when people say "DNS server" that
19 often means something separate from a client's
20 machine.

21 The mapping from -- a mapping from a
22 host name to an IP address is something that can

1 be cached locally. So in the user's computer they
2 can cache the fact that this host names ghost467
3 so on in this example, that they can cache the
4 fact that that maps to a specific IP address. And
5 that won't change.

6 So it doesn't necessarily involve going
7 over the network to talk to a DNS server, but it's
8 also the case that there is a one-to-one mapping
9 between this host name and a specific IP address.
10 And that was -- that host name was chosen
11 intentionally by the content delivery network
12 because the intention was to steer this request to
13 a specific cache server. So it is an absolute
14 URL.

15 Q Does Verma discuss how these altered
16 host names, for example, local_cache_server get
17 resolved by the client?

18 MR. FELICIELLO: Objection. Form.

19 A I missed the names, the -- can you
20 repeat the question, please?

21 Q Let's go -- let's -- easier if I
22 probably direct you somewhere in Verma. So let's

1 go to paragraph 13 of Verma, and let me know when
2 you're there. Again, that's Exhibit 1005.

3 A Okay.

4 Q Earlier you discussed an example
5 Akamai-ed URL is in paragraph 13, which is
6 `http://local_cache_server/contentURL`.

7 Do you recall that?

8 A Yes.

9 Q And `local_cache_server` would represent
10 some Akamai-ed host name, right?

11 MR. FELICIELLO: Objection. Form.

12 A Well, it's an Akamai-ed URL. The
13 `http://local_cache_server/contentURL`, that entire
14 thing is an Akamai-ed URL.

15 Q So when a client requests that
16 Akamai-ed URL, does Verma discuss how the client
17 is redirected to the cache server?

18 MR. FELICIELLO: Objection. Form.

19 A Well, from the rest of Verma, we know,
20 for example, as illustrated in Figure 1, the
21 broker is selecting which specific cache server,
22 for example, in Figure 1, is it going to point the

1 request to cache server 23 or cache server 24. So
2 it will choose the best cache server and point to
3 that cache server.

4 And the techniques for doing this were
5 very well-known and, for example, in the 2014 time
6 frame. Akamai-ed, for example, had been doing
7 this for such a long time, at that point, that it
8 had even turned into a verb. As you can see, they
9 talk about Akamai-ing the URL.

10 So it was well-known that this is what
11 happened in Akamai's content delivery networks and
12 that the idea was to have that prepended URL or
13 Akamai-ed URL point to a specific cache server.

14 Q But my question was, does Verma explain
15 when a client makes that request to the Akamai-ed
16 URL, how the client gets redirected to the cache
17 server?

18 MR. FELICIELLO: Objection. Form.

19 A Well, a person of ordinary skill in the
20 art would be very familiar with this idea of how
21 Akamai-ing -- when you Akamai a URL what this
22 means. And then when you then access such a

1 modified URL, such as this, that that involves
2 pointing the request to a specific cache server.

3 I don't -- the Verma reference doesn't
4 go into -- doesn't provide a tutorial on that.
5 But this is very well-known to -- would be very
6 well-known to a person of ordinary skill in the
7 art.

8 Q And one of those ways you said was
9 caching some mapping on the client device from the
10 host name to the IP address of the cache server;
11 is that right?

12 MR. FELICIELLO: Objection. Form.

13 A Well, a person of ordinary skill in the
14 art would know that if you present a URL and it
15 includes -- it begins with a host name or a domain
16 name, that this gets translated to an IP address.
17 And especially in a case like this, where the --
18 there's a one-to-one mapping between this
19 prepended host name and an IP address. Since that
20 doesn't change, then the way DNS software normally
21 works is if you -- when you get a translation, it
22 often lets you cache it for some period of time.

1 And since this won't be changing, it's possible
2 that there would be a cached translation, even in
3 the client's computer, if they've accessed this
4 host name before.

5 But, in any event, the content delivery
6 network has chosen this host name because it does
7 directly point to a specific cache server. They
8 will always return a specific -- the same IP
9 address for that cache server. So it is a direct
10 link to that particular cache server.

11 Q So the point I'm trying to get at is --
12 and I think this is in part of your previous
13 answer. The first time the client tries to access
14 now that altered host name that points to a
15 Akamai-ed cache server, it still needs to obtain
16 the mapping from the host name to the cache
17 server's IP address, right?

18 MR. FELICIELLO: Objection. Form.

19 A When a URL includes a host name, it
20 needs to be mapped to an IP address. But in this
21 case, where the content delivery network has
22 chosen the host name to point to a specific URL,

1 it will always map to that specific URL -- sorry,
2 that specific IP address. And it's been chosen to
3 point to a specific cache server. So it will
4 always directly point to that particular cache
5 server.

6 Q But how does the client obtain that
7 mapping to the IP address of the cache server in
8 the first place?

9 MR. FELICIELLO: Objection. Form.

10 A Well, it would use the standard
11 techniques that we use with network accesses. And
12 if you present a host name as opposed to an IP
13 address in a request, then it needs to be mapped
14 into an IP address.

15 But, as I said, because the content
16 delivery network has chosen this host name to
17 always -- to point to a specific cache server, the
18 result of that mapping will always be to point
19 directly to that specific cache server that was
20 chosen.

21 So it is an absolute URL because it
22 always points to that specific cache server.

1 Q Understood. But in that very first
2 instance, that initial mapping of the host name to
3 an IP address can be done using well-known DNS
4 processing techniques, right?

5 MR. FELICIELLO: Objection. Form.

6 A Yes. The translation of a host name to
7 an IP address is -- on the Internet, is typically
8 done through DNS. But, as I said, when the host
9 name has a unique mapping to a specific IP
10 address, it will always return the same mapping.
11 And, in this case, the content delivery network
12 has selected this host name so because it
13 corresponds directly to a particular cache server.
14 So although it goes through DNS it will always
15 return the same IP address.

16 And so, it is an absolute URL. It is
17 pointing to a specific cache server.

18 Q Thanks for your answer on that. I want
19 to switch gears a little bit and talk about
20 Exhibit 1007, which is the Lewin reference.

21 Do you have access to that on the
22 download link?

1 (Exhibit 1007 marked for identification
2 and retained by counsel.)

3 A Okay. I'll download it. Okay.

4 Q All right. I'm pulling it up now as
5 well.

6 MR. PAPPAS: For the record, this is
7 Exhibit 1007, US patent Publication Number
8 2014/0052811.

9 Q Does that look right?

10 A Yes.

11 Q Did you review Lewin in preparation for
12 your deposition today?

13 MR. FELICIELLO: And I'll offer the
14 same caution to the witness to not reveal any
15 privileged information or communications that you
16 can testify to the facts, to the extent you can
17 otherwise.

18 A Yes, I did review this Lewin reference.

19 Q Let's look at the abstract first.

20 Here it says "A content provider
21 leverages an 'edge side include' (ESI) markup
22 language that is used to define Web page fragments

1 for dynamic assembly at the edge."

2 Did I read that correctly?

3 A Yes, I believe you read that correctly.

4 Q What is a web page fragment in Lewin?

5 A It's a component --

6 MR. FELICIELLO: Objection. Form.

7 Sorry. Apologies.

8 A It is something that gets composed
9 together to construct a web page. So there are
10 examples in, say, Figures 3 and 4. And, for
11 example, in paragraph 50 of Lewin, it has some
12 details about what these things are. It says that
13 the -- that the -- like, in -- well, I guess
14 it's -- yeah. There aren't line numbers.

15 But in the middle of paragraph 50 in
16 Lewin it says "The HTML page may contain URLs or
17 other CDN-modified resource locators to other
18 embedded page objects such as .gif, .jpg, or the
19 media-rich content," and so on, which are then
20 requested by the CDN.

21 Q So the GIF, JPEG and media-rich content
22 that you're discussing in paragraph 50, are you

1 saying those are examples of web page fragments
2 that Lewin would insert into a page?

3 MR. FELICIELLO: Objection. Form.

4 A What I'm saying is that the
5 CDN-modified resource locators, those are examples
6 that are mentioned here and those are URLs that
7 point to these types of things, such as images.

8 So the fragments can be a variety of
9 things, but one thing that a fragment can be is a
10 modified embedded resource or something that has
11 been Akamai-ed. You've taken a link and you've
12 turned it into a modified link so that it now
13 points to a particular cache server in a content
14 delivery network.

15 Q Is the web page fragment a chunk of
16 HTML markup?

17 MR. FELICIELLO: Objection. Form.

18 A I'm not sure if you're quoting a
19 particular part of the Lewin reference. You asked
20 about a fragment. So fragments and chunks are
21 both somewhat synonymous and it is -- we are
22 talking about web pages. So a fragment is some --

1 you could characterize a fragment as a chunk. I
2 think those are essentially synonyms. And when
3 we're talking about HTML, then this would be
4 something that's compatible with HTML, such as,
5 for example, a modified URL that points to a
6 content delivery network cache server.

7 Q And it would be represented in some
8 form of HTML compatible markup code.

9 MR. FELICIELLO: Objection. Form.

10 Q Is that fair?

11 A Well, it could also be XML. It's
12 some -- something -- a link would certainly be an
13 example of what this would be and a URL would
14 be -- would be, certainly -- or a link would be an
15 example of something that would be a fragment, for
16 example.

17 Q Okay. Let's go back to the abstract,
18 or at least what we were referring to in the
19 abstract.

20 Can you tell me what the "edge side
21 include (ESI) markup language" is that Lewin is
22 discussing?

1 A Well, a good place to start talking
2 about that is actually paragraph 28, in Lewin.
3 This is the beginning of the detailed description.
4 So it's discussing dynamic content assembly
5 mechanisms, and it's saying that this is -- that
6 the point of this patent is they're talking,
7 really, about any server side scripting language
8 or server-based functionality.

9 And it goes on to say that they're
10 going to discuss a preferred embodiment. And so
11 one example of something that would fall into this
12 category of a server side scripting language or
13 server-based functionality would be edge side
14 include which is a particular type of tag that you
15 can include in HTML that directs the server --
16 that causes the server to take action to assemble
17 the components of a web page together.

18 And as I described as -- in paragraph
19 50, it talks some more about what these fragments
20 might include, and they can include CDN-modified
21 URLs or links; in other words, modified embedded
22 resources would be one example of what this might

1 create.

2 Q So the ESI include tag, whatever is
3 included within that tag would be an HTML chunk or
4 fragment that the server then assembles into the
5 final HTML page?

6 MR. FELICIELLO: Objection. Form.

7 A Well, when the server sees a server
8 side scripting tag, ESI is presented just as one
9 example of what this might be. But this Lewin
10 reference is showing that in response to
11 recognizing tags, such as ESI include, it then
12 takes an action. And in that action could be, for
13 example, including a CDN-modified link.

14 In Figure 6, I don't know if that's
15 what you're referring to, but it has an example
16 where it's also customizing the content
17 specifically to the country. It's doing something
18 different for the U.S. versus Canada versus the
19 rest of the world.

20 And, similarly, it could be selecting
21 particular cache servers for those regions. So it
22 might be selecting U.S.-based cache servers in a

1 content delivery network or Canada-based cache
2 servers if the request is from Canada, for
3 example.

4 Q So, yes, I do want to talk about
5 Figure 6 shortly. And we can get to that.

6 But just at a high level before we get
7 there, the E in ESI, edge, what does that refer
8 to?

9 MR. FELICIELLO: Objection. Form.

10 A Well, as I mentioned in paragraph 28 of
11 Lewin says that -- what they're talking about is
12 some type of server-based functionality or any
13 type of server side scripting language. And that
14 for illustration purposes, they happen to be
15 including edge side include. And an edge would
16 be -- an edge server in this context would be --
17 it could be a cache server, but it could be any
18 server. It could be an origin server for that
19 matter. So the point is that it's a server that
20 is doing this assembly based on this -- these tags
21 that it recognizes.

22 Q So in the abstract the very first

1 sentence it says "Content is dynamically assembled
2 at the edge of the Internet, preferably on content
3 delivery network (CDN) edge servers."

4 Do you see that?

5 A I see that that is indeed the first
6 sentence of the abstract, yes.

7 Q So is the Edge in ESI meant to refer to
8 assembly happening on some type of edge server?

9 MR. FELICIELLO: Objection. Form.

10 A Well, I believe it says somewhere
11 explicitly even in this Lewin reference, but the
12 ESI, although it was named edge side include,
13 this -- the assembly that occurs can actually
14 occur anywhere on any server, doesn't need to be
15 an edge server. It can work on an origin server.
16 And as paragraph 28 points out, this is really
17 just about server side functionality.

18 So although that set of tags, the ESI
19 tags, they did put edge in it, that was --
20 that's -- that was just -- again this is just
21 one -- they explicitly say this is just for
22 illustration purposes. This is not just about

1 ESI, this is more generally about any type of
2 server side scripting language or functionality
3 for assembling content.

4 Q Okay. So the content is assembled on
5 some server, and that content would be a final web
6 page that is going to be delivered to a client?

7 MR. FELICIELLO: Objection. Form.

8 A It's correct that the content would be
9 assembled on a server and the -- but the specific
10 teaching here from Lewin is that when it
11 recognizes one of these server side scripting
12 language tags, then it takes action for that
13 particular -- that particular URL. And it says,
14 in paragraph 50, that one thing that it can do is
15 insert a CDN-modified URL, in other words, a
16 modified embedded resource.

17 So it works just for links or embedded
18 resources; it's not necessarily for an entire web
19 page. It can do this for individual URLs.

20 Q And paragraph 50 is referring to
21 Figure 9 of Lewin, right?

22 A Yes. It is referring to figure -- the

1 start of paragraph 50 refers to Figure 9 of Lewin.

2 Q Let's go up a paragraph to paragraph
3 49. That's also referring to Figure 9, correct?

4 A Yes, the start of paragraph 49 refers
5 to Figure 9.

6 Q And that paragraph discusses Lewin's
7 dynamic content assembly process, right?

8 MR. FELICIELLO: Objection. Form.

9 A Well, that first sentence of paragraph
10 49 says "Figure 9 is a flowchart illustrating the
11 dynamic content assembly process of the present
12 invention..." I think that's what you asked in
13 your question. That's what that first sentence
14 says.

15 Q And specifically in Figure 9 is the
16 dynamic content assembly process for an HTML page,
17 right?

18 MR. FELICIELLO: Objection. Form.

19 A Well, the sentence is referring to an
20 HTML page. It is for web -- this is -- the
21 motivation for this is related to -- is from web
22 content. But, as I said earlier, in figure -- I'm

1 sorry, in paragraph 50, when it's talking
2 specifically about fragments, and that really is
3 the teaching that I'm using from Lewin when I
4 combine it with Verma, is the teaching related to
5 how the server can recognize tags and then use
6 that to take action to modify an embedded resource
7 and convert it into a modified embedded resource.
8 And that is exactly what it's referring to in the
9 middle of paragraph 50 when it says that these
10 things that get -- that the action can involve
11 creating a CDN-modified resource locator.

12 Q Understood. But the specific
13 embodiment of Figure 9 does provide a flowchart
14 illustrating the dynamic content assembly process
15 for an HTML page; is that fair?

16 MR. FELICIELLO: Objection. Form.

17 A Sorry, the figure is sideways so I'm
18 just turning my head to read the figure.

19 Q The video is luckily not going to be
20 submitted so I think you're okay.

21 A So, for example, in Figure 9 in step 2,
22 it mentions that it's looking for tags and

1 instructions to assemble the page and send
2 individualized content to the user.

3 And as I said, the teaching that I am
4 using from Lewin in the combination with Verma is
5 the teaching that it can recognize tags and use
6 that to take action to convert a URL into a
7 modified URL. And that is the insertion of a
8 modified URL to point to a content delivery
9 network cache server is something that's
10 explicitly mentioned in paragraph 50 of Lewin.

11 Q Figure 9 is in reference to an HTML
12 page, though, correct?

13 MR. FELICIELLO: Objection. Form.

14 Q That's all I'm asking.

15 A The first sentence of paragraph 49 is
16 talking about an HTML page. And the way Lewin
17 works is that it looks for tags, and it processes
18 pieces. It looks for these fragments and one of
19 these fragments could just be a URL or an embedded
20 resource, which is a link, and it can -- in
21 response to seeing -- recognizing this tag, it
22 could convert that URL into a modified URL or, in

1 other words, a modified embedded resource that
2 would contain a -- an absolute URL pointing to a
3 particular cache server within a content delivery
4 network.

5 Q I want to walk through some of the
6 stuff in Figure 9. We are approaching about an
7 hour. Would you like to do that now or do you
8 want to take a quick break?

9 A If we're just talking about five or ten
10 minutes, we can keep going. If it's longer than
11 that, then maybe we should take a break.

12 MR. PAPPAS: Why don't we take a quick
13 break and then we can come back to Lewin.

14 MR. FELICIELLO: Yeah, I agree. Sounds
15 good.

16 MR. PAPPAS: All right. 11:45.

17 THE WITNESS: Okay.

18 MR. FELICIELLO: Sounds good to me.

19 (Recess taken from 11:36 a.m. to
20 11:46 a.m.)

21 BY MR. PAPPAS:

22 Q Welcome back again, Dr. Mowry.

1 During the break, did you discuss the
2 substance of your testimony with counsel?

3 A No, I didn't speak to anyone during the
4 break.

5 Q All right. So let's turn back to
6 paragraph 49 of Lewin, discussing Figure 9. And
7 let me know when you're there.

8 A Yes, I'm there.

9 Q The discussion of Figure 9 lays out a
10 number of steps.

11 Do you see those?

12 A Yes.

13 Q In this process first a user enters a
14 URL into a browser, correct?

15 MR. FELICIELLO: Objection. Form.

16 A Figure 9 -- sorry, paragraph 49 in the
17 second sentence says "In step (1), an end user
18 enters a URL into his or her browser, for
19 example," and then there's an http -- sorry,
20 there's a URL after that.

21 Q And then the browser makes a DNS
22 request to resolve the host name in the URL, which

1 sends back an IP address for an edge server in the
2 CDN; is that right?

3 MR. FELICIELLO: Objection. Form.

4 A It says that the browser makes a DNS
5 request here. And as I mentioned earlier, I'm
6 not -- I'm not -- I'm only relying on Lewin for
7 certain teachings and the Verma reference is my
8 base system for the combination.

9 Q Understood. I'm just asking about
10 Lewin's operation here. So after the browser
11 makes the DNS request, it gets sent back an IP
12 address for a given edge server in the CDN
13 network; is that right?

14 MR. FELICIELLO: Objection. Form.

15 A I believe that you are accurately
16 reading that sentence, or that part of that
17 sentence.

18 Q The next, the edge server would
19 retrieve the HTML page at that URL and parse it
20 for tags that specify dynamic assembly
21 instructions, correct?

22 MR. FELICIELLO: Objection. Form.

1 A Sorry, I was just reading this
2 paragraph to try to answer your question and I
3 lost track of the wording of the question. Can
4 you please repeat the question?

5 Q Sure. The edge server receives the
6 HTML page corresponding to that URL and then
7 parses it for tags that specify dynamic assembly
8 instructions; is that correct?

9 MR. FELICIELLO: Same objection.

10 A In the middle of paragraph 489, it says
11 "At step (2), the edge server parses the HTML page
12 looking for tags that specify dynamic assembly
13 instructions," and so on. I believe that was what
14 you said, although there may have been some
15 differences in the wording, but that's what the --
16 that's what the paragraph says there.

17 Q And those tags may be ESI tags
18 specifying HTML chunks to be incorporated into the
19 final HTML page, correct?

20 MR. FELICIELLO: Objection. Form.

21 A It says it's "looking for tags that
22 specify dynamic assembly instructions, including,

1 without limitation, URLs for HTML chunks for
2 incorporated in the final HTML page."

3 So you asked about ESI. The
4 sentence -- the paragraph goes on to mention, it
5 says "The DCA tags are preferably specified
6 supervised according to ESI, or some other server
7 side scripting language."

8 So it could be ESI or it could be
9 something else.

10 Q Okay. Then the edge server then
11 retrieves the additional HTML chunks so that it
12 can incorporate them into the final HTML page; is
13 that right?

14 MR. FELICIELLO: Objection. Form.

15 A Are you still on paragraph 49 or is
16 there a different paragraph that you were
17 referring to?

18 Q This would refer to the discussion in
19 paragraph 50. And I'm trying to phrase it at a
20 higher level. But feel free to phrase in the way
21 that you think is appropriate.

22 Would you like me to repeat the

1 question?

2 A Yes, please.

3 Q So the edge server would then retrieve
4 the additional HTML chunks so that it can
5 incorporate them into the final HTML page,
6 correct?

7 MR. FELICIELLO: Same objection.

8 A Well, I wouldn't characterize it as
9 simply retrieving HTML chunks. As it says later,
10 in paragraph 50, the -- these fragments or chunks
11 can include CDN-modified resource locators. So
12 that would not involve simply retrieving
13 something. You can take some action to, say,
14 rewrite an URL to create a modified embedded
15 resource or a modified link. So I would not
16 characterize it as just retrieving HTML chunks.

17 And, also, I believe you mentioned the
18 edge server doing this. It does discuss the edge
19 server in paragraph 50. But as I also point out
20 in other -- in other parts of Lewin, and as we
21 discussed earlier, it is not necessarily just done
22 by the edge server, it could be done -- it could

1 be done by any server in the CDN.

2 Q In the example of Figure 9, it is being
3 done by the edge server, though, correct?

4 MR. FELICIELLO: Objection. Form.

5 A The discussion in paragraphs 49 and 50
6 is referring to an edge server, that's true. But
7 as I said earlier, it said that ESI or edge side
8 include generally was just one example of a server
9 scripting language.

10 So it's not restricted to an edge
11 server, this is just one example of how it could
12 work for illustration purposes.

13 Also, the figure 9 itself, it doesn't
14 label the node in the middle of the figure as an
15 edge node. It's some -- these nodes are servers
16 within the CDN.

17 But the text in figure -- sorry -- in
18 paragraphs 49 and 50 is using the term "edge
19 server," that's correct. As I said earlier, it
20 really -- it doesn't necessarily need to be an
21 edge server, though.

22 Q So what happens in step 3 of Figure 9?

1 MR. FELICIELLO: Objection. Form.

2 A In Figure 9 itself, there's step 3,
3 which is labeled "If necessary, EdgeSuite calls
4 xyz.com over persistent TCP connection to obtain
5 new or uncached HTML fragments."

6 Now, those fragments, as it says in
7 paragraph 50, could be CDN-modified URLs.

8 Q Are you finished with your answer? I
9 just wanted to let you --

10 A Sorry. Yes, I'm finished with my
11 answer.

12 Q And paragraph 50, with relation to step
13 3, it explains "if the additional HTML chunks are
14 not already cached on the edge server, the server
15 requests the documents from the origin server."

16 Do you see that?

17 A Okay. That's the first sentence --
18 you're referring to the first sentence in
19 paragraph 50?

20 Q Yes.

21 A Okay. Yeah, I think -- unless I missed
22 something, it sounded like you accurately read

1 that sentence, or at least the -- most of that
2 sentence.

3 Q So is that explaining that the edge
4 server would not retrieve the additional HTML
5 chunks, whether from its cache or from the origin
6 server?

7 MR. FELICIELLO: Objection. Form.

8 A Well, it's taking some action to
9 assemble the content. And that -- I wouldn't
10 characterize it as just retrieving contents.
11 These are -- web pages can be very dynamic and
12 that's part of the point of having things
13 happening on the server, is it can be
14 sophisticated things to create the content. And
15 as an example, in the middle of paragraph 50, it
16 says that it may be taking URLs and then turning
17 them into CDN-modified URLs. So that could be
18 something that's happening.

19 So I wouldn't characterize it as
20 simply -- simply fetching HTML chunks or
21 fragments.

22 Q Well, I'm just talking about step 3.

1 Do you interpret step 3 differently?

2 MR. FELICIELLO: Objection. Form.

3 A I was referring to step 3 in my
4 previous answer.

5 Q Well, let's look at step 4. In step 4
6 the description is "The origin server delivers the
7 HTML chunks to the edge server."

8 Do you see that?

9 A Yes.

10 Q Are those HTML chunks that are
11 delivered to the edge server -- do they include
12 the CDN-modified resource locators that you were
13 discussing previously?

14 MR. FELICIELLO: Objection. Form.

15 A They might include CDN-modified
16 resource locators. That would be a possibility.

17 Q So, in that case, the modification
18 would be accomplished before the HTML chunks are
19 delivered to the edge server?

20 MR. FELICIELLO: Objection. Form.

21 A The conversion of a URL into a
22 CDN-modified URL could occur at different steps in

1 this process. It could be done on the -- in this
2 example, it could be that the edge server is
3 calling an API to make this happen. It could be
4 that the origin server is calling an API to do
5 this conversion. There's more than one
6 possibility for where that would occur.

7 Q Okay. So you're not attributing the
8 modification to any particular step, necessarily;
9 is that fair?

10 MR. FELICIELLO: Objection. Form.

11 A No. It would be happening in either
12 steps 3, 4, or 5. You know, in step 2, it is
13 looking for tags. And then in steps 3 -- in step
14 3, it's making a request to the origin server. In
15 step 4, it gets something back from the origin
16 server. In step 5, it's assembling things
17 together.

18 So the -- it could be happening -- the
19 teaching that I'm relying upon here is that the
20 server is taking action in response to recognizing
21 tags in the web page, and an action that it could
22 take is to convert a link into a CDN-modified

1 link.

2 And that is mentioned in the middle of
3 paragraph 50. The middle of paragraph 50 where it
4 says that you can have CDN-modified resource
5 locators. That doesn't restrict this to a
6 particular step here. It could be a combination
7 of steps 3, 4, or 5, but at some point it is
8 taking the URL and converting it into an
9 CDN-modified URL.

10 Q I think I understand then.

11 In step 5, Lewin describes "The edge
12 server assembles the final HTML page from the
13 container page and HTML chunks/fragments." Is
14 that correct?

15 MR. FELICIELLO: Objection. Form.

16 A Yeah, the sentence says "At step (5),
17 the edge server assembles the final HTML page from
18 the container page and HTML chunk/fragments." I
19 believe that's what you just said. That's what it
20 says here in paragraph 50.

21 Q And then the final HTML page, with all
22 the assembled content, is sent back to the

1 requesting browser for display; is that right?

2 MR. FELICIELLO: Objection. Form.

3 A There was some slight paraphrasing, but
4 that's essentially what the sentence says. It
5 literally says "The final HTML page is then sent
6 to the requesting end user."

7 Q Okay. Let's go to Lewin's figure 6
8 that you mentioned earlier. Let me know when
9 you've got that up.

10 A Yes.

11 Q Figure 6 shows a sample HTML page with
12 ESI markup; is that correct?

13 MR. FELICIELLO: Objection. Form.

14 A Figure 6 is showing an example of an
15 HTML page that contains ESI tags or server side
16 tags, yes.

17 Q And Figure 6 is the markup for the web
18 page shown in Figure 5; is that right?

19 MR. FELICIELLO: Objection. Form.

20 Q Point you to paragraph 21 of Lewin, if
21 that helps.

22 A Okay. Yes, paragraph 21 says that

1 Figure 6 is representative ESI markup for the page
2 shown in Figure 5. Yes.

3 Q In Figure 6 do you see the section
4 labeled "targeted ad (2)"?

5 A Yes, I see that.

6 Q There are multiple tags within this
7 section, right?

8 MR. FELICIELLO: Objection. Form.

9 A Yes. There are several tags here.

10 Q The first line within this section
11 shows an "esi:choose" tag, correct?

12 MR. FELICIELLO: Objection. Form.

13 A Yes, right below the "targeted ad (2)"
14 line, the next line is left bracket "esi:choose"
15 right bracket. I see that here in the figure.

16 Q What does esi:choose do?

17 MR. FELICIELLO: Objection. Form.

18 A Well, this is a server side -- it's a
19 scripting language tag. It's telling the server
20 that it needs to take an action here to assemble
21 the content. And this -- this whole section is
22 the moral equivalent of if an L piece of code

1 where it's below that if there's a test to see
2 whether this is a country -- whether the country
3 code, is this for the U.S., is this Canada or is
4 it something else. And then it's going to include
5 different targeted ads, apparently, for each of
6 those three possibilities.

7 Q So the choose tag is meant to direct
8 the server to choose one of those, either ESI when
9 conditions or ESI otherwise condition; is that
10 fair?

11 MR. FELICIELLO: Objection. Form.

12 A Yes, roughly speaking, that's a way to
13 characterize what's happening. And, again, when
14 I'm relying on Lewin, it's to show that tags can
15 be recognized and they can be used to cause the
16 server to take actions to create -- for example,
17 taking a link and turning it into a modified link
18 would be one of the potential actions. This
19 figure 6 is showing a specific illustration of
20 some server side tags. And here, the example is
21 choosing a targeted ad, which might be targeted to
22 users in the U.S. versus Canada, versus somewhere

1 else.

2 Q So that first esi:when tag, what is
3 that telling the server to do?

4 MR. FELICIELLO: Objection. Form.

5 A Well, the server is going to parse this
6 HTML. And when the server sees this block here
7 within esi:choose, it will recognize that the --
8 that this esi:when test tag means that it should
9 take an action. And, in this case, it's going to
10 look up the geographic region for this country and
11 see whether this is the U.S. And if it is, then
12 it's going to make -- it's going to include an ad
13 that says U.S._ad.html as opposed to
14 Canada_ad.html. If it's Canada or some generic ad
15 otherwise. So that's -- in response -- these are
16 tags that are causing the -- this action to be
17 taken when these tags are recognized.

18 Q When you say "look up the geographic
19 region for this country," are you referring to the
20 country where the requesting user is located?

21 MR. FELICIELLO: Objection. Form.

22 A Well, I didn't refresh my memory before

1 today on all the details of ESI include -- of ESI
2 tags syntax. Given the motivating example in
3 Figure 5, it appears that the -- the intent is to
4 customize this based upon the country where the
5 user is -- the browser machine is located. That's
6 a reasonable guess as to what's happening here.
7 It's targeting ads based on country, so that's
8 presumably the country where the user is, as
9 opposed to something else.

10 Q All right. So your understanding, at
11 least, is in this first esi:when tag would check
12 whether the user's geographically located within
13 the United States, and if so, serve the United
14 States ad or U.S.ad.html to the user; is that
15 right?

16 MR. FELICIELLO: Objection. Form.

17 A Well, this first esi:when test that's
18 testing for whether the country is the U.S., it's
19 going to take an action to assemble the web page
20 in a particular way based on that. So it could be
21 different types of tests or different types of
22 countries. But this is just -- it's an

1 illustration of how you can test for certain
2 conditions and use this as a way to make choices
3 about how to assemble the content.

4 Q And I'm just asking you this example.
5 If the user is located within the United States,
6 then these tags would tell the server to
7 incorporate the US_ad.html chunk into the final
8 HTML page delivered to the client?

9 MR. FELICIELLO: Objection. Form.

10 A I think I may just be losing track in
11 the differences in the wording between the
12 questions, but I'll answer this. But the tag
13 here, the esi:when test tag embedded within this
14 esi:choose in this example, the server would be
15 parsing this and recognizing this particular tag
16 and it would realize that it would then need to
17 evaluate this test condition.

18 In this case, it's testing related to
19 the country and using that to take some action.
20 In this case, there's a targeted ad for the U.S.
21 versus a targeted ad for Canada. And it's then
22 assembling the content based upon the result of

1 that test. And as I mentioned, this is the
2 teaching that I'm relying on from Lewin is that
3 the server can recognize these tags and then take
4 actions to assemble pages.

5 Q And, in this case, the assembly, if the
6 user was located in the United States, would
7 include the U.S. ad; is that right?

8 MR. FELICIELLO: Objection. Form.

9 A Well, the -- this is describing a
10 conditional task. This particular tag, when the
11 server parses this, it would understand that
12 there's a set of conditional tests here and then
13 it would evaluate the tests, and if the test
14 continue was true, then it would take a particular
15 action.

16 In this case, the action that's
17 illustrated is to include a particular targeted
18 ad. That's what's being illustrated here. So
19 there's one -- an ad for the U.S., there's an ad
20 for Canada, and there's a generic ad.

21 Q Okay. I think I understand your answer
22 there.

1 Why don't we shift gears a little bit
2 for the moment to the '322 patent. And that's
3 Exhibit 1001 in this proceeding.

4 Do you have access to that?

5 (Exhibit 1001 marked for identification
6 and retained by counsel.)

7 A Yes. I'll download it. Okay. I have
8 it.

9 Q Did you review the '322 patent in
10 preparation for your deposition today?

11 MR. FELICIELLO: I'll give the witness
12 the same caution not to reveal privileged
13 information and communications.

14 A Yes, I did.

15 Q I mean, can you turn to column 3,
16 starting around line 9. Let me know when you're
17 there.

18 A Okay. I'm in column 3.

19 Q I'll read this. Let me know if I make
20 any mistakes. Here it says "Aspects of the
21 present disclosure involve an alternative to using
22 conventional domain name system (DNS) servers for

1 edge selection by instead calling an API or
2 otherwise querying the CDN when constructing a
3 uniform resource locator (URL) for the resource to
4 be delivered from the CDN."

5 Do you see that?

6 A Yes. I see that.

7 Q I want to focus on a portion of that
8 sentence that says "by instead calling an API or
9 otherwise querying the CDN."

10 Do you see that?

11 A Yes.

12 Q How would the system otherwise query
13 the CDN?

14 MR. FELICIELLO: Objection. Form.

15 A I don't recall the '322 patent
16 discussing something other than using an API. So
17 let me take a look at the claim.

18 Okay. All right. So it -- I don't
19 know that it spells out what it means, but -- I
20 mean, what it considers to be the distinction
21 between this. Otherwise querying the CDN would
22 mean having some requests that goes to some

1 software and getting a response back. So that
2 would be -- that's not immediately clear why
3 they -- why they spelled that out as another
4 option. But they talk often about an API here.

5 Q Are there ways to send a request to a
6 server without going API?

7 MR. FELICIELLO: Objection. Form. And
8 objection. Scope.

9 A So in my analysis I talk about -- for
10 example, my analysis of claim 1, that -- so claim
11 2 discusses an API. Claim 1 doesn't use the
12 phrase "API," as I recall.

13 So I can -- I'm happy to talk about my
14 analysis of claim 1, if you'd like.

15 Q Well, I'm asking -- let's talk about in
16 general, outside of the context of the '322
17 patent.

18 Are there ways to send a request to a
19 server without calling an API?

20 MR. FELICIELLO: Objection. Form.
21 Scope.

22 A Well, in my analysis of the '322

1 patent, I identify an API that is used to convert
2 an embedded resource into a modified embedded
3 resource.

4 So I'm happy to talk about my -- my
5 opinions as they relate to the '322 patent. I
6 wasn't asked to provide opinions outside of that
7 patent, so there -- I mean, one might debate
8 what -- you know, what the meaning of that
9 question is but I'm here to answer questions in
10 the context of the '322 patent. And I understand
11 what the claim language is referring to when it
12 refers to an API.

13 Q So then let's go back to that portion
14 of the '322 patent that we're discussing, where it
15 says "calling an API or otherwise querying the
16 CDN."

17 Do you recall that?

18 A Yes.

19 Q Sitting here today, can you think of
20 any other ways, any ways, to otherwise query the
21 CDN aside from calling an API?

22 MR. FELICIELLO: Objection. Form.

1 Scope.

2 A Well, when I was creating my -- when I
3 was writing my declaration, my mission was to
4 evaluate the '322 patent and identify whether
5 there was prior art that would -- that would have
6 disclosed the claims of the '322 patent. So in
7 that -- that's the context in which I provided my
8 opinions.

9 So I'm happy to -- my understanding is
10 that I'm here in this deposition to answer
11 questions related to that declaration, and I'm
12 happy to talk about my understanding of the claims
13 and my analysis of it. But I'm not prepared to
14 speculate on things outside of the '322 patent.

15 I think the meaning of the claims -- I
16 mean, I understand the claims in order to do my
17 analysis, and I provide -- provided detailed
18 discussion of how the prior art satisfies the
19 claims of the '322 patent.

20 Q And will you -- do you agree that the
21 patent states in this passage in column 3,
22 starting at line 9, calling an API or otherwise

1 querying the CDN?

2 MR. FELICIELLO: Objection. Form.

3 A I believe you accurately read a portion
4 of that sentence fragment. What I would point out
5 is, if you continue reading that paragraph, it
6 goes on to just only talk about an API. It then
7 says "The API call" and then the API. And then
8 it's talking about an API throughout this
9 analysis.

10 And as I -- when I identified it, my
11 combinations or my -- sorry, in the different
12 grounds, either Verma, for anticipation, or for
13 obviousness or the other combinations for
14 obviousness, in each case, I was identifying
15 something that would render the claims obvious.

16 And in the thing that I -- in the
17 things that I identify, there is an API. And if
18 we look at the claims, that is -- that is
19 sufficient to render the claims obvious or
20 anticipated.

21 Q Well, I'm just talking about the '322
22 patent right now.

1 Did you, in your analysis, consider any
2 distinction between calling an API or otherwise
3 querying the CDN?

4 MR. FELICIELLO: Objection. Form.

5 A I went through each of the claims and I
6 provided detailed analysis of how the different
7 grounds meet those claims.

8 So I think my analysis -- I have a
9 significant amount of detail in my declaration
10 that explains exactly why the different grounds
11 satisfy the different claims.

12 Q Understood. But did you, in your
13 analysis, consider any distinction between the
14 phrase used in the '322 patent, calling an API or
15 otherwise querying the CDN?

16 MR. FELICIELLO: Objection. Form.

17 A I believe I just answered that
18 question, so I'll refer to my previous answer.

19 Q Can you point me somewhere in your
20 declaration where you considered a distinction
21 between calling an API or otherwise querying the
22 CDN?

1 MR. FELICIELLO: Objection. Form.

2 A As I said earlier, I provided grounds
3 that satisfy all of the claim language. My
4 mission was not to examine -- yeah, my mission was
5 to look at the claims and use the specification to
6 understand the meaning of the claims. And I've
7 gone through all the claims in detail and provided
8 explanations of why the grounds render the claims
9 either anticipated or obvious.

10 Q Do you consider the distinction between
11 calling an API or otherwise querying the CDN
12 relevant to your analysis?

13 MR. FELICIELLO: Objection. Form.

14 A I read the entire specification of the
15 '322 patent and -- as well as the claims, and I
16 went through each of the claims and explained
17 exactly why each ground rendered that claim either
18 anticipated or obvious.

19 So I provided a detailed analysis for
20 each claim element and each ground.

21 Q Is it your opinion that any request
22 sent to a server necessarily involves calling an

1 API?

2 MR. FELICIELLO: Objection. Form.
3 Scope.

4 A As I said a minute ago, I provided
5 detailed analysis of how my grounds render the
6 claims of the '322 patent either anticipated or
7 obvious. And I went through each of the -- the
8 claims in detail, and the claims refer to an API
9 in most of the claims. And I have gone through
10 each one of them and -- and the grounds that I
11 discuss, I have identified things that have an
12 API.

13 So my analysis shows that the -- based
14 on these different grounds, the different claims
15 are rendered either anticipated or obvious,
16 including whenever they discuss an API.

17 Q In that analysis, did you consider
18 whether there are ways to send a request to a
19 server without calling an API?

20 MR. FELICIELLO: Objection. Form.

21 A It feels like we're going in circles
22 here. But I think I've just answered that

1 question already. I'd just refer to my previous
2 answer.

3 Q In your previous answer, I understand
4 you to be saying that you did an analysis of why
5 the prior art does teach use of an API; is that
6 fair?

7 MR. FELICIELLO: Objection. Form.

8 A I did an analysis of why the prior art
9 renders each claim element in each of the claims
10 either anticipated or obvious.

11 Q And I'm asking in that analysis, did
12 you consider whether there are any ways to send a
13 request to a server without calling an API?

14 MR. FELICIELLO: Objection. Form.

15 A In the grounds that I reference, the
16 prior art has an API and the prior art that I
17 refer to in the different grounds meets all of the
18 claim elements in all of the claims.

19 So I had done a complete analysis of
20 the different grounds with respect to the claims.
21 So I have completed my task of showing why the
22 different grounds render the different claims

1 either anticipated or obvious.

2 Q Understood. So it sounds like you
3 didn't think it relevant to your analysis whether
4 there were ways to send a request to a server
5 without calling an API?

6 MR. FELICIELLO: Objection. Form.

7 Q Am I wrong about that?

8 MR. FELICIELLO: Objection. Form.

9 Asked and answered.

10 A I refer to my previous answer to the
11 same question.

12 Q So sitting here today, can you tell me
13 whether you thought it was relevant to your
14 analysis whether there were ways to send a request
15 to a server without calling an API?

16 MR. FELICIELLO: Objection. Form.

17 A I'd refer to my previous answer to the
18 same question.

19 Q Did your previous answer mention
20 whether it was relevant to your analysis whether
21 there were ways to send a request to a server
22 without calling an API?

1 MR. FELICIELLO: Objection. Form.

2 A As I said before, what I needed to do
3 in my analysis is analyze each claim element in
4 all the claims and show that the grounds rendered
5 the claims either anticipated or obvious,
6 depending on the ground. And I have a
7 comprehensive discussion of why that's the case,
8 including the many places where the claims refer
9 to an API.

10 The prior art that I -- that I rely on
11 includes an API, and the references in my grounds
12 are sufficient, as I discuss in detail in my
13 analysis to render all the claims either
14 anticipated or obvious.

15 Q So just going back to round this out,
16 did you -- let me start over.

17 Do you know of any ways to otherwise
18 query the CDN aside from calling it an API,
19 sitting here today?

20 MR. FELICIELLO: Objection. Form.

21 A Well, my understanding is that I'm here
22 in this deposition to answer questions regarding

1 the opinions in my declaration. And the opinions
2 in my declaration are regarding the anticipation
3 and obviousness -- the grounds that show that the
4 claims of the '322 patent are either anticipated
5 or obvious based on the prior art that I -- that I
6 reference.

7 And I have a comprehensive discussion
8 of why the different grounds do render the claims
9 either anticipated or obvious. So I'm happy to
10 talk about the opinions that I have in my
11 declaration.

12 Q So to confirm, then, you do not have
13 any opinions in your declaration on how to
14 otherwise query a CDN aside from calling an API;
15 is that correct?

16 MR. FELICIELLO: Objection. Form.
17 Asked and answered.

18 A The opinions in my declaration are
19 showing that the claims of the '322 patent are
20 either -- are anticipated or obvious, depending on
21 the different grounds. And that includes
22 discussion of the claim elements that refer to an

1 API. And I also discuss how the references that I
2 cite include an API and the fact that these --
3 each of these grounds renders the claims either
4 anticipated or obvious.

5 MR. FELICIELLO: And, Mr. Pappas, when
6 we're at the end of these questions, do you think
7 it would be a good opportunity to take a break?

8 MR. PAPPAS: Yes. Let me know just
9 round out this and then we can take a break, if
10 that's all right.

11 Q I think I heard you say that you're
12 here to discuss the opinions provided in your
13 declaration. So is there a reason you can't
14 answer the question whether you have any opinions
15 in your declaration on how to otherwise query CDN
16 aside from calling an API?

17 MR. FELICIELLO: Objection. Form.
18 Asked and answered.

19 A Can you repeat the question, please?

20 Q Is there a reason why you can't answer
21 the question whether you have any opinions in your
22 declaration on how to otherwise query a CDN aside

1 from calling an API?

2 MR. FELICIELLO: Same objections.

3 A I believe I've answered that question
4 already, so I refer to my previous answer.

5 Q Do you have any opinions in your
6 declaration on how to otherwise query a CDN, aside
7 from calling an API?

8 MR. FELICIELLO: Objection. Form.
9 Asked and answered.

10 A I refer to my previous answer to the
11 same question.

12 Q For clarity, was the answer yes or no?

13 MR. FELICIELLO: Objection. Form.
14 Asked and answered.

15 A As I said before, I have provided an
16 analysis for why the different grounds render the
17 claims of the '322 patent either anticipated for
18 ground 1 or obvious for the other grounds. And
19 that includes every claim and every claim element.

20 The -- some claim elements and some
21 claims specifically talk about an API and I go
22 into detail about how the prior art references

1 that I cite, how those prior art references
2 include an API and they do render all the claims
3 either anticipated or obvious.

4 Q Do you think it's important to
5 understand the specification in order to
6 understand the claims of a patent?

7 MR. FELICIELLO: Objection. Form.

8 A To analyze a patent, I read the entire
9 patent, including the specification and the
10 claims.

11 Q Did you read the portion of the '322
12 patent at column 3, lines 9 through 14?

13 A Yes, I read the entire patent.

14 Q And did you consider any distinction
15 between calling an API or otherwise querying the
16 CDN when you rendered opinions in your
17 declaration?

18 MR. FELICIELLO: Objection. Form.

19 Asked and answered.

20 A I believe I've answered this question
21 already and I refer to my same answer to the same
22 question.

1 Q Still don't quite know what that answer
2 is, but why don't we take a break.

3 MR. PAPPAS: Do you want to take a
4 break for lunch at this point or a shorter break?

5 THE WITNESS: A lunch break would be
6 good.

7 MR. PAPPAS: How long do you think you
8 need?

9 THE WITNESS: 45 minutes would be good.
10 Say, return at 1:30.

11 MR. PAPPAS: Okay. That works for me.

12 MR. FELICIELLO: That works for us.

13 (Recess taken from 12:46 p.m. to
14 1:31 p.m.)

15 BY MR. PAPPAS:

16 Q Welcome back. Dr. Mowry.

17 During the break I'll ask you again,
18 did you discuss the substance of your testimony
19 with counsel?

20 A No. I didn't speak with anyone during
21 the break.

22 Q If you can turn in the '322 patent to

1 column 7, starting around line 16 or 17. Let me
2 know when you're there.

3 A Yes, I'm there.

4 Q Here it says "An API is a convenient
5 and efficient way for disparate systems to
6 uniformly and predictably pass information to the
7 computing engine and for the computing engine to
8 return information."

9 Do you see that?

10 A Yes, I see that.

11 Q And then in the next sentence it says
12 "However, other forms of communicating with and
13 passing information to the computing engine are
14 also possible."

15 Do you see that?

16 A I see that.

17 Q So in some embodiments in the '322
18 patent the computing engine could receive
19 information without use of an API; is that
20 correct?

21 MR. FELICIELLO: Objection. Form.

22 A So it's the claim language that defines

1 the patent, the intellectual property of the
2 patent. And I didn't go to law school so I might
3 not be using all the right terms to try to express
4 this.

5 But in the claims, nearly all the
6 claims explicitly refer to an API. And in my
7 prior art that I cite in the different grounds,
8 those prior art references, either Verma for
9 anticipation or the other grounds that involve
10 obviousness, my prior art references do include an
11 API and those prior art references do satisfy all
12 the claims.

13 Regarding your question about whether
14 it needs to have an API or not, many -- the
15 bulk -- most of the claims explicitly say that
16 there is an API.

17 Q I think you mentioned this before, but
18 claim 1, for instance, does not use the term
19 "API," correct?

20 MR. FELICIELLO: Objection. Form.

21 A Claim 1 does not explicitly include the
22 phrase API. But claim 2 is dependent on claim 1,

1 and claim 2 does discuss having an API. And since
2 my understanding is since claim 2 is narrowing
3 claim 1, then claim 1 is broad enough to include
4 having an API.

5 Q And in the same respect, claim 1 would
6 be broad enough to include embodiments that do not
7 use an API, correct?

8 MR. FELICIELLO: Objection. Form.

9 A As I said, claim 1 does not explicitly
10 use the term API. Claim 2, the -- the claims that
11 depend upon claim 1 do explicitly refer to an API.

12 Q So, again, is it your understanding
13 because claim 1 does not use the term API then it
14 would be broad enough to include embodiments that
15 do not use an API?

16 MR. FELICIELLO: Objection. Form.

17 A In my analysis, what I'm showing is
18 that there are prior art references that render
19 the claims, all of the claims of the '322 patent
20 either anticipated or obvious. And what I need to
21 do to show that is show an example of a prior art
22 reference that satisfies all of the claims and all

1 of the terms -- elements in all the claims. And I
2 have done that in my declaration.

3 So in my analysis I don't need to
4 necessarily provide opinions on all of the
5 potential boundaries of what one could argue about
6 for how to interpret the claims provided that my
7 prior art falls within the claims and,
8 specifically, the prior art references that I cite
9 all use an API. And having an API, along with all
10 the other features that I discuss for each of the
11 claims, is sufficient to show that every claim is
12 either anticipated or obvious.

13 Q So is it fair to say, then, in your
14 opinion you didn't find it necessary to determine
15 whether claim 1 would be broad enough to encompass
16 embodiments that do not use an API?

17 MR. FELICIELLO: Objection. Form.
18 Asked and answered.

19 A I believe I just answered that question
20 and I refer to my previous answer, since it was
21 lengthy.

22 Q My understanding of your previous

1 answer is that you believe that claim 1 does
2 encompass embodiments that use an API and so your
3 analysis was directed towards use of an API.

4 Is that correct?

5 MR. FELICIELLO: Objection. Form.

6 A Yes. It's the case that my prior art
7 references include an API, and because they
8 satisfy all of the elements of claim 1, and all
9 the other claims, the references that I provide
10 are sufficient to show that each of the claims,
11 including claim 1, is either anticipated or
12 obvious. In the case of claim 1, it would be
13 obvious. Anticipation is only for claim 15.

14 Q And so, in that respect, your analysis
15 doesn't discuss embodiments that may be
16 encompassed by claim 1 that does not use an API,
17 right?

18 MR. FELICIELLO: Objection. Form.

19 A As I said before, the purpose of my
20 analysis was to show grounds for whether -- that
21 the prior art references render each claim either
22 obvious or anticipated. And I've done that for

1 claim 1 and for all the other claims.

2 I don't need to explore every
3 hypothetical system and whether it may or may not
4 be relevant to claim 1 because the point of the
5 analysis was to show that there exists prior art
6 that renders the claim obvious or anticipated.
7 And I did that successfully for claim 1.

8 Q So going back up to column 7 at
9 line 20, in your analysis did you consider the
10 sentence, "However, other forms of communicating
11 with and passing information to the computing
12 engine are also possible"?

13 MR. FELICIELLO: Objection. Form.

14 A I considered the entire specification
15 when I did my analysis.

16 Q So do you agree that the specification
17 envisions embodiments in which the computing
18 engine could receive information without the use
19 of an API?

20 MR. FELICIELLO: Objection. Form.

21 A As I said before, the claims -- the
22 scope of the intellectual property rights or

1 whatever for a patent is determined by the claims.
2 So I've seen, for example, patents within a family
3 where the specification may be the same but the
4 claims are different. So it's the claims that
5 are -- that you start with and the specification
6 supports the claims by providing context to
7 understand them.

8 So whether there's an embodiment or
9 not, you begin with the claims. So it's the claim
10 language that matters. It's not the specification
11 alone that dictates whether something infringes or
12 doesn't infringe the patent. And as I said, I did
13 my analysis with my prior art references for each
14 claim and each claim element, including claim 1.

15 Q So do you agree that the specification
16 can disclose embodiments that are not claimed?

17 MR. FELICIELLO: Objection. Form.

18 A I apologize, but I didn't go to law
19 school, so I don't know -- that sounds more like a
20 question for a law student or a professional
21 attorney. I'm not -- I'm not sure of all the
22 subtlties about how you can call something -- I

1 mean, my understanding is the claims are the
2 primary thing that dictates the scope of the
3 patent and the specification supports the
4 understanding of what those claims mean.

5 So I don't know what is meant exactly
6 by your question.

7 Q What I'm really trying to get at is
8 whether you considered in your analysis other
9 forms of communicating with and passing
10 information to the computing engine aside from
11 using an API?

12 MR. FELICIELLO: Objection. Form.

13 A I think I've answered this question
14 probably a dozen times, which is my mission here
15 was to see whether there were prior art references
16 that rendered the claims either anticipated or
17 obvious. And I found prior art that did that.
18 The prior art that I found does make use of an
19 API. And so I was able to complete my analysis
20 with those prior art references.

21 Q Sitting here today, do you understand
22 what the '322 patent specification means when it

1 says "other forms of communicating with and
2 passing information to the computing engine"?

3 MR. FELICIELLO: Objection. Form.

4 A As I said already, the claims were
5 anticipated or obvious. The way the claims are --
6 the claims are written, prior art that uses an API
7 is sufficient to show that every claim is either
8 obvious or anticipated. So I completed my
9 analysis showing -- using prior art that uses an
10 API.

11 So that -- that was sufficient for me
12 to do everything I needed to do to provide the
13 opinions in my declaration.

14 Q I'll ask a similar question. What does
15 the '322 patent mean when it says "other forms of
16 communicating with and passing information to the
17 computing engine also possible"?

18 MR. FELICIELLO: Objection. Form.

19 A As I said before, my mission was to
20 show whether there were prior art combinations
21 that render each claim in the '322 patent either
22 anticipated or obvious. And because you can

1 demonstrate that each claim is either anticipated
2 or obvious using prior art that does use an API, I
3 have completed my analysis using references that
4 use an API.

5 My mission is not to try to define the
6 theoretical scope of the patent in all cases. My
7 mission is to determine whether there's prior art
8 that renders each claim either anticipated or
9 obvious. And I completed that analysis using
10 references that use an API.

11 Q Did your mission involve understanding
12 what the patent means when it says "other forms of
13 communicating with and passing information to the
14 computing engine are also possible"?

15 MR. FELICIELLO: Objection. Form.

16 A I believe I just answered that
17 question, so I'll refer to my previous answer.

18 Q In your previous answer, I don't see
19 anything that said your mission did involve
20 understanding what that sentence means.

21 Am I wrong?

22 MR. FELICIELLO: Objection. Form.

1 A I know this is maybe the 20th or 30th
2 time that I've said this, but that sentence, it
3 says it could be an API. It's talking about APIs
4 or possibly other things. But you can show that
5 every element of the claim -- every claim and
6 every claim element is rendered either anticipated
7 or obvious based on the prior art references that
8 I cite and discuss in detail in my declaration.
9 And it is sufficient to show that the references
10 that I include use an API.

11 So because they use an API and using an
12 API is sufficient to show anticipation or
13 obviousness for every claim, then I have completed
14 the task of showing that each claim is rendered
15 either obvious or anticipated.

16 Q I understand that you believe you've
17 completed the task. I believe this is relevant to
18 your opinions. And so I'll ask at least one more
19 time.

20 Sitting here today, do you understand
21 what "other forms of communicating with and
22 passing information to the computing engine"

1 means?

2 MR. FELICIELLO: Objection. Form.

3 A The '322 patent doesn't explain in
4 detail what that means but it's always said in
5 context it can be an API or possibly other things.
6 But that seems like just a covering-your-bases
7 kind of comment. But that doesn't matter because,
8 as I said about 20 or 30 times, if you look at the
9 claims, the claims are written in such a way that
10 a prior art reference that uses an API is
11 sufficient to show anticipation or obviousness for
12 each of the claims.

13 The specific prior art references that
14 I cite and analyze include an API. And because
15 they include an API, they do render each claim,
16 and for all the other reasons that I explain in my
17 analysis, they do render any claim either
18 anticipated or obvious.

19 Q Is it fair to say that application
20 programming interfaces are not necessary for
21 communication between two servers?

22 MR. FELICIELLO: Objection. Form.

1 Scope.

2 A Is there a part of my declaration that
3 you're referencing?

4 Q I'm asking you as at least a person of
5 ordinary skill in the art. Would a person of
6 ordinary skill in the art have understood that
7 APIs are not necessary for communicating between
8 two servers?

9 MR. FELICIELLO: Same objections.

10 A Well, whether they're necessary or not,
11 the way the claims of the '322 patent are written,
12 it's sufficient to show that the claims are either
13 anticipated or obvious using prior art references
14 that do use an API.

15 Q Do you know whether APIs are necessary
16 for communication to occur between two servers?

17 MR. FELICIELLO: Same objections.

18 Q As an expert in the field.

19 A APIs are commonly used for
20 communication, but regardless of whatever one
21 might think about what happens in general, the
22 reason why I'm here for this deposition is to talk

1 about the '322 patent and my declaration. And in
2 the claims of the '322 patent, it is sufficient to
3 show prior art references that use an API, and
4 that's what I have done in my analysis.

5 Q Can you look at paragraph 17 of your
6 declaration that's on page 15.

7 A Okay.

8 Q You say here "I consider myself to be
9 an expert in the field of computer science,"
10 correct?

11 A That's what it says, yes.

12 Q Would an expert in the field of
13 computer science understand whether APIs are
14 necessary for communication to occur between two
15 servers?

16 MR. FELICIELLO: Objection. Form.
17 Scope.

18 A I believe that's the same question that
19 I've already answered, so I refer to my same -- my
20 previous answer to the same question.

21 Q Do you understand whether APIs are
22 necessary for communication to occur between two

1 servers?

2 MR. FELICIELLO: Same objections.

3 A I refer to my same answer to this same
4 question.

5 Q I'm not even asking you whether APIs
6 are necessary, I'm just asking you do you
7 understand whether APIs are necessary for
8 communication to occur between two servers?

9 MR. FELICIELLO: Same objections.

10 A My understanding is that I'm here to
11 answer questions related to the '322 patent and
12 the opinions in my declaration, and I've already
13 provided my answer to 30 or so variations of the
14 same question.

15 So I refer to my previous answer to the
16 same question.

17 Q Do you think I'm entitled to inquire as
18 to your expertise in the field of computer science
19 in this deposition?

20 MR. FELICIELLO: Objection. Form.

21 A You get to ask the questions.

22 Q And you would consider yourself to be

1 an expert in the field of computer science,
2 correct?

3 MR. FELICIELLO: Objection. Form.

4 A Yes.

5 Q And as an expert in the field of
6 computer science, do you understand whether APIs
7 are necessary for communication to occur between
8 two servers?

9 MR. FELICIELLO: Objection. Form.

10 A Well, in a context having nothing to do
11 with the '322 patent, one can discuss whether
12 there are a variety of ways that communication can
13 occur between servers, and one can debate whether
14 those forms of communication count as using an API
15 or not. They generally include, nearly always
16 include an interface and one can debate whether
17 that's an API or not.

18 But that's not really relevant to why
19 I'm here today, which is to talk about the '322
20 patent and the claims in the '322 patent. And in
21 the context of the claims of the '322 patent,
22 prior art that satisfies the claims that uses an

1 API is sufficient to show that each of the claims
2 is rendered either anticipated and obvious, and
3 that is what I have shown in my analysis in my
4 declaration.

5 Q You just discussed, or mentioned
6 whether there are a variety of ways that
7 communication can occur between servers, right?

8 MR. FELICIELLO: Objection. Form.

9 A Can you restate the question? I'm not
10 following the question.

11 Q In your previous answer, reading from
12 the transcript, you said "One can discuss whether
13 there are a variety of ways that communication can
14 occur between servers," right?

15 A If you're reading from the transcript,
16 I believe that you're quoting part of my answer.

17 Q Are there any ways that you're aware
18 of, sitting here today, that communication can
19 occur between servers that would not be considered
20 using an API?

21 MR. FELICIELLO: Objection. Form.

22 A Well, I don't see how that's relevant

1 to my declaration. As I said before, I'm here to
2 discuss the '322 patent and the claims in the '322
3 patent. And one can show that each claim in the
4 '322 patent is either rendered anticipated or
5 obvious using prior art references that use an
6 API, and that is what I have shown in each of the
7 grounds in my analysis.

8 Q So, in your opinion, whether a
9 communication between servers can occur without
10 use of an API was not relevant to your analysis,
11 correct?

12 MR. FELICIELLO: Objection. Form.

13 A I know I've definitely answered this
14 exact same question before, so I refer to my
15 previous answer to the same question.

16 Q For my own clarity, can you clarify
17 whether communication between servers can occur
18 without use of an API was relevant to your
19 analysis?

20 MR. FELICIELLO: Objection. Form.

21 A To show that the claims of the '322
22 patent are rendered either anticipated or obvious,

1 it is sufficient to show prior art that uses an
2 API, and that is what I have done.

3 So I have successfully demonstrated
4 that each of the claims of the '322 patent is
5 either anticipated or obvious using the prior art
6 references that I discuss in my declaration.

7 MR. PAPPAS: Well, thanks for your time
8 today, Dr. Mowry. That's all I have for you and I
9 will pass the witness.

10 MR. FELICIELLO: Thank you, Mr. Pappas.
11 If you'd excuse us for a very brief break, I'm
12 going to confer and consider. I'll be back in
13 five minutes, if that works.

14 MR. PAPPAS: Sure.

15 MR. FELICIELLO: Okay. Let's come back
16 at 2:08.

17 MR. PAPPAS: Okay.

18 (Recess taken from 2:03 p.m. to
19 2:08 p.m.)

20 MR. FELICIELLO: Thank you, all, no
21 further questions from petitioner. We just
22 reserve the right to have Dr. Mowry review and

1 sign off on the final transcript.

2 MR. PAPPAS: We can close the
3 deposition.

4 PLANET DEPOS TECHNICIAN: Thank you,
5 everyone.

6 (Off the record at 2:08 p.m.)

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ACKNOWLEDGMENT OF DEPONENT

I, TODD C. MOWRY, PH.D., do hereby
acknowledge that I have read and examined the
foregoing testimony, and the same is a true,
correct and complete transcription of the
testimony given by me and any corrections appear
on the attached Errata sheet signed by me.

(DATE)

(SIGNATURE)

1 CERTIFICATE OF SHORTHAND REPORTER - NOTARY PUBLIC

2
3 I, Judith E. Bellinger, Certified Reporter
4 and Notary Public within and for the Commonwealth
5 of Virginia do hereby certify:

6 That TODD C. MOWRY, PH.D., the
7 witness whose deposition is hereinbefore set
8 forth, was duly sworn by me before the
9 commencement of such deposition and that such
10 deposition was taken before me and is a true
11 record of the testimony given by such witness.

12 I further certify that the adverse party,
13 GOOGLE LLC, was represented by counsel at the
14 deposition.

15 I further certify that the deposition of
16 TODD C. MOWRY, PH.D., occurred virtually
17 on Wednesday, February 25, 2026, commencing at
18 9:31 a.m. EST.

19 I further certify the inspection, reading
20 and signing of said deposition was not discussed
21 on the record.
22

1 I further certify that I am not related to
2 any of the parties to this action by blood or
3 marriage, I am not employed by or an attorney to
4 any of the parties to this action, and that I am
5 in no way interested, financially or otherwise, in
6 the outcome of this matter.

7

8 IN WITNESS WHEREOF, I have hereunto set my
9 hand this 2nd day of March, 2026.

10

11 My commission expires:

12 September 30, 2028

13

Judith E. Bellinger

14

15 NOTARY PUBLIC IN AND FOR THE

16 Commonwealth of Virginia

17

18

19

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21

22

Transcript of Todd C. Mowry, Ph.D.
Conducted on February 25, 2026

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