1 UNITED STATES PATENT AND TRADEMARK OFFICE
2 BEFORE THE PATENT TRIAL AND APPEAL BOARD
3 - - - - - - - - - - - - - - - - -x
4 TWITCH INTERACTIVE, INC., :
5 Petitioner, : Case No. IPR2025-00307
Patent No. 9,729,658
6 v. :
Case No. IPR2025-00308
7 RAZDOG HOLDINGS LLC, : Patent No. 10,334,068
8 Patent Owner. :
9 - - - - - - - - - - - - - - - - -x
Friday, October 10, 2025
10 Washington, D.C.
11
12
13
14 Deposition of:
15 PAUL D. MARTIN, Ph.D.,
16 called for oral examination by counsel for the Patent Owner
17 RazDog Holdings, LLC, pursuant to notice, at the law offices
18 of Perkins Coie, LLP, 700 13th Street, Northwest, Suite 600,
19 Washington, D.C. 20005, before Christina S. Hotsko, RPR,
20 CRR, CA CSR, of Veritext Legal Solutions, a Notary Public in
21 and for the District of Columbia, beginning at 9:09 a.m.,
22 when were present on behalf of the respective parties:

A P P E A R A N C E S

On behalf of Petitioner:
JON R. CARTER, ESQUIRE
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On behalf of Patent Owner:
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C O N T E N T S

EXAMINATION BY: PAGE
Counsel for Patent Owner Razdog Holdings LLC 04

MARTIN DEPOSITION EXHIBITS: * PAGE
Exhibit 1 Deposition Notice 10
Exhibit 2 Deposition Notice 10

PREVIOUSLY MARKED EXHIBITS: * PAGE
Exhibit 1002 in 307 IPR Martin Declaration 13
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Twitch Exhibit 1001 9,729,658 Patent 76
307 IPR
Twitch Exhibit 1001 10,334,068 Patent 77
308 IPR
Twitch Exhibit 1004 Darnell Reference 133
Twitch Exhibit 1006 Dasgupta Reference 201
307 IPR
Twitch Exhibit 1015 Martin CV 61

* (Exhibits attached to transcript.)

P R O C E E D I N G S

Whereupon,
PAUL D. MARTIN, Ph.D.,
being first duly sworn or affirmed to testify to the truth, the whole truth, and nothing but the truth, was examined and testified as follows:

EXAMINATION BY COUNSEL FOR RAZDOG HOLDINGS LLC

BY MR. DEIGHAN:
Q. Good morning, Dr. Martin.
A. Good morning.
Q. We met off the record, but I'll introduce myself again. My name is Kyle Deighan from Calfee, Halter & Griswold here on behalf of RazDog Holdings LLC.
MR. DEIGHAN: Jon, do you want to?
MR. CARTER: Yes. And Jon Carter from Perkins Coie here on behalf of petitioner Twitch.
MR. DEIGHAN: Thank you.

BY MR. DEIGHAN:
Q. Dr. Martin, thanks for being here today. How is your morning going?
A. Going great. Thank you.

Q. Can you state your full name and address for the record, please.
A. Paul Martin, 11008 Homeplace Lane. And that's in Potomac, Maryland 20854.
Q. Thank you.
Do you understand that you're under oath?
A. I do.
Q. Is there any reason you can't testify truthfully today?
A. There is not.
Q. Are you on any medications or do you have any conditions that would affect your memory, recall, ability to testify truthfully today?
A. No.
Q. Have you been deposed before?
A. Yes.
Q. How many times?
A. About, I don't know, 12 to 15, something like that.
Q. Recently?
A. Yes.
Q. Have you ever been deposed in relation to

1 IPR proceedings?
2 A. I don't think so. I don't think in IPR.
3 Q. Okay. Well, it sounds like you're pretty
4 experienced, but just go over some ground rules
5 just to try to make this more efficient today.
6 One, we would ask that you give verbal
7 answers. The court reporter can't take down head
8 nods and things like that, so please give verbal
9 answers.
10 Do you understand?
11 A. Yes.
12 Q. Let's try to avoid talking over each
13 other. Please wait until I complete my question
14 before responding.
15 Do you understand?
16 A. Yes.
17 Q. Please let me know if you don't
18 understand a question or if you need me to
19 rephrase it. If you answer, we'll assume that
20 you understood the question. Is that okay?
21 A. Yes.
22 Q. And if you need to have a question

1 repeated, let me know. I'll repeat it or have
2 the court reporter read it back. Is that okay?
3 A. Yes.
4 Q. Okay. So -- objections. Counsel -- your
5 counsel may object to a question.
6 You understand that, even if Mr. Carter
7 objects, you have to respond to the question
8 unless he instructs you not to respond. Is that
9 okay?
10 A. Yes.
11 Q. And as far as breaks, let me know if you
12 need a break. If a question is pending, I would
13 just ask that we finish the question -- you
14 answer the question before we go off the record.
15 Is that okay?
16 A. Of course.
17 Q. Just go over a couple of abbreviations
18 just to hopefully streamline our discussions
19 today.
20 If we refer to Twitch, you understand
21 that that refers to Twitch Interactive, Inc.?
22 A. Yes.

1 Q. You understand that Twitch is the
2 petitioner in these proceedings?
3 A. I do.
4 Q. If we refer to RazDog, you understand
5 that that refers to RazDog Holdings LLC?
6 A. Yes.
7 Q. And you understand that RazDog is the
8 patent owner in these proceedings?
9 A. I do.
10 Q. If we refer to the '658 patent, do you
11 understand that that refers to U.S. patent number
12 9,729,658?
13 A. Yes.
14 Q. And if we refer to the '068 patent, do
15 you understand that that refers to U.S. patent
16 number 10,334,068?
17 A. Yes.
18 Q. Okay. Dr. Martin, what did you do to
19 prepare for today's deposition?
20 MR. CARTER: And I'll just caution the
21 witness not to disclose the substance of any
22 communications you may have had with attorneys.

1 But other than that, you can answer the question.
2 THE WITNESS: Certainly. I reviewed my
3 report. I reviewed the materials cited therein.
4 I reviewed some filings in the case after my
5 report. I discussed -- I did -- I discussed
6 these materials with counsel.
7 BY MR. DEIGHAN:
8 Q. Okay. Did you meet with counsel?
9 A. Yes.
10 Q. How long?
11 A. Not exactly sure, but I met with them a
12 few times.
13 Q. Okay. Over the course of one day? Two
14 days?
15 A. There were three days during which I met
16 with counsel, but they were not full days.
17 Q. Okay. Was it just counsel that was
18 present?
19 A. Yes.
20 Q. Okay.
21 A. Well, myself.
22 Q. Sure.

1 Have you spoken with anybody at Twitch in
2 preparation for your deposition?
3 A. I don't think so.
4 MR. DEIGHAN: All right. I'm going to
5 mark a couple of documents here. Mark these as
6 Exhibit 1.
7 (Martin Deposition Exhibit 1 marked for
8 identification and attached to the
9 transcript.)
10 MR. DEIGHAN: Mark these as Exhibit 2.
11 (Martin Deposition Exhibit 2 marked for
12 identification and attached to the
13 transcript.)
14 BY MR. DEIGHAN:
15 Q. Dr. Martin, I'm handing you two documents
16 that have been marked as Exhibits 1 and 2.
17 Have you seen these before?
18 A. Yes.
19 Q. Do you understand that these are
20 deposition notices?
21 A. I do.
22 Q. And you understand that you're here today

1 in relation to declarations that you submitted on
2 behalf of Twitch in inter partes review
3 proceedings?
4 A. Yes.
5 Q. Do you understand that IPR number
6 202500-307 involves the '658 patent?
7 A. Yes.
8 Q. And IPR number 202500-308 involves the
9 '068 patent?
10 A. Yes.
11 Q. And you understand that your deposition
12 today relates to both proceedings?
13 A. Yes.
14 Q. Okay. You can set those aside.
15 Dr. Martin, what was your assignment in
16 this case as an expert witness?
17 A. So I was, in general, assigned to review
18 both of these patents and to consider whether or
19 not they were valid, whether or not there was
20 prior art that would have anticipated or rendered
21 claims in them obvious.
22 Q. And was part of your assignment preparing

1 declarations?
2 A. Yes.
3 Q. And what did you do to prepare your
4 declarations?
5 MR. CARTER: Here, again, I'll just
6 caution the witness not to disclose anything that
7 might be privileged. But other than that, you
8 can answer the question.
9 THE WITNESS: Of course, yes. I did many
10 things. Some of those things included searching
11 for prior art and also writing text for
12 declarations, analyzing prior art in reference --
13 with respect to claims in these patents, reading
14 the patents, understanding the patents and so
15 forth.
16 BY MR. DEIGHAN:
17 Q. Did anyone assist you in preparing your
18 declaration?
19 A. I don't recall if I had anybody on my
20 team assist me in preparing the declaration. I
21 think not, but it's possible in some areas of the
22 background maybe.

1 Q. What information did you consider in
2 forming your opinions?
3 A. In forming my opinions, I considered a
4 lot of materials. First, I considered my
5 knowledge and expertise. I considered a broad
6 swath of materials that I came across during my
7 research. But then in -- I especially considered
8 the materials that I cited in my report in the
9 materials considered list.
10 I considered the patents. I considered
11 the prior art materials that I cited, and I
12 considered other materials that I cited.
13 Q. Okay. In your report you said you
14 considered all of the relevant prior art.
15 What do you mean by all the relevant
16 prior art? Is that the documents that are cited,
17 or did you consider materials beyond that?
18 A. Let me see what I wrote and I can maybe
19 help you.
20 Q. All right. I'll hand you what has been
21 previously marked as Exhibit 1002. And this is
22 in the 307 IPR.

A. Thank you.
Q. I'm also handing you what has been previously marked as Exhibit 1002 in the 308 IPR just in case you need it.
MR. CARTER: It should all be the same, just --
MR. DEIGHAN: I was going to ask that.
MR. CARTER: Yeah. It's --
THE WITNESS: I was going to say, I don't need three copies. Do I just keep one?
MR. CARTER: Sure.
MR. DEIGHAN: And I'll give you one just in case...
BY MR. DEIGHAN:
Q. And I think that's in paragraph 36.
A. Okay. Thank you.
I'm sorry. Just to be clear, these are two copies of the same thing, but they're from different IPRs. So -- you gave me two copies. Is that why?
Q. Yes. Yes.
A. Uh-huh. Yes. So in preparing this

declaration and forming my opinions, I considered all the exhibits cited in the declaration, my experience and expertise, each of the challenged patents, their file histories, all the relevant prior art.
Sorry. Can I also ask you for my materials considered list?
Q. I actually didn't see a materials considered list.
A. Oh, I see. I just put it here (indicating). Sure.
But regardless, yes, so I considered the materials that I cited in here.
I also reviewed other materials that I did not cite and that -- you know, everything that I've seen and am familiar with through my experience and expertise is, of course, going to be in my head.
That's why I said I relied on my academic and professional experience. That sort of encompasses all of that.
And then, of course, the things that I

cited I relied upon in particular for forming the opinions.
Q. So you said you -- you reviewed other materials that you didn't cite.
Do you remember what those were?
A. No, but, of course, when researching things for any case, you're going to research things. You're going look at materials and review them. So I did that.
Q. Okay. But you did consider materials in forming your opinions that are not cited in your declaration.
A. Anything that I considered that didn't get cited would be -- fall under paragraph 37. That would be my academic and professional experience. It would have become a part of that.
Q. Okay.
A. Yeah.
Q. Do you have any changes or additions that you would want to make to your report?
A. Not at this time, no. Not that I know of.

Q. Do you have any other opinions relating to this case that aren't in your report?
A. Not at this time. Not that I know of.
Q. Okay. Anything that you disagreed with in your report?
A. No.
Q. Do you have plans to offer any other opinions in this case beyond what's written in your report?
A. I do not know if I will offer other opinions or not.
Q. Okay. You can probably set that aside before we kind of dive into your report in detail.
A. Okay.
Q. Kind of start off at a high level here.
Are you familiar with cloud computing?
A. Generally? Yes.
Q. What is cloud computing, generally?
A. Let's see if I have any definitions in here real quick. Just because every term has a context in cases. So...

1 Is there a part of my report where I
2 describe or define cloud computing or anything
3 like that?
4 Q. It's your report.
5 A. Sure. In, like, paragraph 88, for
6 instance, I say that cloud applications are
7 software that -- programs that run on remote
8 servers rather than on users' local devices. And
9 that's generally an aspect of cloud computing.
10 It's not the only aspect but, you know, to answer
11 your question generally, it encompasses that.
12 Q. What's the difference between a cloud
13 application and a local application?
14 MR. CARTER: Objection. Form.
15 MR. DEIGHAN: I'll rephrase.
16 BY MR. DEIGHAN:
17 Q. Are you familiar with local applications?
18 A. Generally, yes, though I will warn you
19 that, because we're in IPR world -- right? -- all
20 terms are kind of context-dependent based on how
21 they're used in IPRs.
22 So outside of the case, I am familiar

1 with that term. Inside of the case, I am also
2 familiar with the concept of local applications.
3 Q. Okay. And what would you say is the
4 difference between a cloud application and a
5 local application?
6 A. Let's see if I considered that.
7 Yeah, so I don't offer any opinions on
8 the boundaries between the two, and there could
9 be some overlap, but a cloud application will
10 offload some of the computing storage and
11 processing work in the cloud.
12 I don't want to get too specific because
13 there is a fuzzy line between them sometimes,
14 depending on the context. But at the very least,
15 a cloud application has some cloud components
16 where you can offload computing, storage,
17 processing work and other features to the cloud.
18 That's a feature of cloud applications.
19 Q. Okay. So in paragraph 91 you said local
20 applications usually include all application
21 components, such as network servers and operating
22 systems installed on-premise on users' devices.

1 A. Yes.
2 Q. Do you agree with that?
3 A. Yes, I agree with that.
4 Q. All right. And then in paragraph 88 you
5 say cloud applications "are software programs
6 that run on remote servers rather than on users'
7 local devices"; is that right?
8 A. That's right, either in whole or in part.
9 So part of it can run on a local device and part
10 on the remote device.
11 Q. Okay. And in that same paragraph you
12 say, users can interact with cloud applications
13 via a web page or other dedicated client
14 interfaces --
15 A. Yes.
16 Q. -- is that right?
17 A. Yup.
18 Q. So cloud applications run on remote
19 servers?
20 A. At least in part, that is true.
21 Q. And so in that context, what is a remote
22 server?

1 A. Sure. So I haven't, you know, considered
2 the boundaries of the term "remote server," but
3 generally speaking, it's a computer other than
4 the user's local device.
5 Q. So with respect to a cloud application,
6 rather than installing the application locally,
7 the application runs on the remote server?
8 A. Part of it at least. It could be part or
9 more, but at least part of the application will
10 run on the remote server.
11 Q. What do you mean by part of the
12 application will run on the remote server? Can
13 you give me an example?
14 A. Yeah, I can give you an example. So one
15 example of a cloud application that runs in part
16 on a remote server is -- let's see here if I have
17 any in the report. And if not, I will think of
18 an example for you.
19 One example is software as a service
20 applications. These applications run largely on
21 a remote server. So for instance, you might have
22 a -- my timekeeping system is software as a

1 service. I have to log my hours into a
2 timekeeping system for the company I work for.
3 Part of it runs on my local computer, because I
4 have the web interface that gets displayed
5 locally, my web browser, through Java script and
6 HTML. And part of it runs on a remote server.
7 And that's the part that's -- you know, the other
8 parts of the application.
9 Q. So the -- you mentioned the web
10 interface. Is that -- that's the user interface?
11 A. For that particular application, that
12 particular software as a service.
13 Q. What does it mean that an application
14 runs on the remote server?
15 A. It means that part of that application's
16 code executes on remote servers.
17 Q. So the remote server in that context has
18 the infrastructure that allows the application to
19 run?
20 A. Yes. I think that's right.
21 Q. And basically that allows the application
22 to run without needing the infrastructure on the

1 local device?
2 A. No. Because you still need the -- like,
3 so -- well, speaking concretely, for instance,
4 about the example I gave you, you still need that
5 local component, of course, because you can't
6 really do anything without using the local
7 component too in that particular example.
8 But I think you would need to pick any
9 example to really have a concrete conversation
10 about this. Because otherwise, these terms are
11 really abstract and they could, you know, mean
12 many different things.
13 You see -- yeah.
14 Q. What types of infrastructure might a
15 remote server have that would be used to run a
16 cloud application?
17 MR. CARTER: Object to form.
18 BY MR. DEIGHAN:
19 Q. Let me --
20 A. Sorry.
21 Q. I'll rephrase the question.
22 A. Okay.

1 Q. So in paragraph 88 of your declaration,
2 you say -- you're talking about cloud
3 applications, and you say, "These applications
4 are typically accessed over a network, meaning
5 the users can interact with them via a web
6 page or other dedicated client interface (e.g. a
7 mobile app) without needing to install all
8 necessary infrastructure" --
9 A. Yes.
10 Q. -- "such as networks, servers and
11 operating systems utilized to fulfill the
12 application's functionalities" --
13 A. Yes.
14 Q. -- "on their own devices."
15 A. Yes.
16 Q. So what necessary infrastructure might
17 that remote server have? You've listed a couple
18 there.
19 A. Yes. Examples do include the things that
20 I've listed here. That is true.
21 Q. So when you say the necessary
22 infrastructure includes networks, what do you

1 mean by that?
2 A. To access a computer remotely, you need
3 to have some kind of a network to access it.
4 That's...
5 Q. And then you also mentioned servers.
6 What do you mean by that?
7 A. That is the -- so when I say here
8 software programs that run on remote servers,
9 those are the physical devices that they run on,
10 the servers.
11 Q. And there could be more than one?
12 A. In the general background that I'm giving
13 here of general cloud applications, I give an
14 example where there could be more than one
15 generally in the example I'm giving. I'm saying
16 cloud applications in plural, so I'm saying
17 servers in plural as well.
18 Q. Yeah, I'm just talking generally right
19 now.
20 A. Yeah.
21 Q. And then you also mentioning operating
22 systems.

A. Correct.
Q. What do you mean by that?
A. Once you have hardware, or virtualized hardware like a server, you're going to need to run an operating system on that in order to actually install software on it. So you might install, once you have hardware servers, software programs that are also called servers that perform or enable server functionality. And that has to be done on top of an operating system.
Q. Is there any other infrastructure that a remote server might have?
A. Probably. You're going to need to have -- I mean, some of these things themselves comprise infrastructure; networks comprise routers and switches, for instance.
Q. Anything else?
A. I'm sure the answer to that is yes, depending on how hyper-detailed you want to get.
Q. What about something like a database?
A. Depends on the application.
Q. Sure. But generally, a database might be

infrastructure that a remote server might have?
A. It could be.
Q. What is a database?
A. Do I talk about or define databases in here, just so you can speed me along?
Q. Not in this -- not in your background section, I don't think, but --
A. Okay. Let me see here. One moment.
So, you know -- I need to be careful here just because database is, like, a super -- there are so many different contexts that have specific meanings for the term "database."
But generally speaking, databases are places where you can store data in some kind of a structured way.
Q. And can cloud applications use databases, call on databases?
A. Certainly some cloud applications can. Yes.
Q. So if you had a cloud application that calls on a database, the information in the database exists on the remote server, right?

A. Depends where the database is located. If the database is on the remote server, the information would exist also on the remote server, though I will warn you that information can exist in more than one place, of course.
Q. What do you mean information can exist in more than one place?
A. Yeah. So on computer systems, information can easily be copied or copied while it moves. And so you can have information in two or more places at the same time.
Just want to make sure that the answer makes room for that distinction, whether -- I don't know if it's relevant or not, though.
Q. How do users interact with cloud applications?
MR. CARTER: I'll object to form.
THE WITNESS: I think it really depends on the cloud application. There are so many different kinds.
BY MR. DEIGHAN:
Q. Can you give me a few examples?

A. Okay. One example is in the timekeeping system that I described to you. Users interact with it through a web interface.
Q. I think in paragraph 88 you mention that users can interact with cloud applications via a web page or other dedicated client interface --
A. Sure. Yeah.
Q. -- for example, a mobile app.
A. That's right. In fact -- yes. In fact, I do say that. Yes.
Q. So in the context of a cloud application, the application doesn't exist on the user's device; a user accesses it through the interface. Am I getting that right?
A. Well, no. Depends on the application. Right? Since -- like, a mobile app is an application. A web app is an application. The cloud application, part of -- depends what you're talking about when you say cloud application. Part of the cloud application doesn't exist on the user's device. Part of it, if you include the mobile app in the cloud application, does.

1 If you refer to cloud application to mean the
2 part of the app -- the part of the system that
3 does not exist on the user's device, then sure.
4 So it really depends on how you use the
5 term. So I think the answer is it depends.
6 Q. Again -- so I'm just talking generally.
7 In paragraph 88 you say, cloud
8 applications "are software programs that run on
9 remote servers rather than on users' local
10 devices," right?
11 A. Yeah, I say that. And what I'm referring
12 to is -- here I'm using it in the context of, you
13 know, cloud applications being defined outside of
14 the parts of them that run on users' devices.
15 But I just want to be careful because
16 we're -- you said we're talking about it really
17 in the general sense, you know, to make sure that
18 we're being clear.
19 Q. So again, in that general context, if you
20 have an application that is running off the
21 remote server, what does the user see on the
22 web page or user interface?

1 A. Oh, it depends on whatever the developer
2 cloud application coded for the user to see.
3 Q. Right. So it depends on the cloud
4 application, right?
5 A. That's right.
6 Q. The cloud application determines what the
7 user sees.
8 A. Oh. Depends. For instance, in the case
9 of the mobile app, the mobile app is going to be
10 pre-coded, at least parts of the user interface
11 are. So that would be pre-coded, and that would
12 depend on still what the cloud application
13 developer coded, but it's not going to, like,
14 depend on the cloud application directly. Maybe
15 parts of it are, the data. But the application
16 itself, parts of that are going to depend on
17 what's on the mobile app side as well.
18 Q. But again, I think, like you said, it's
19 going to depend on what -- how the application
20 was coded.
21 A. It's going to depend on how the
22 application was coded. It's going to depend on

1 the interaction -- it's going to depend on how
2 had mobile application was coded. It's going to
3 depend on how the cloud application was coded.
4 It's going to depend on the interaction between
5 the two.
6 Q. Right. So the user doesn't necessarily
7 see everything that's on the remote server,
8 right, through the interface?
9 A. Right. Yes. There could be things on
10 the remote server that are not shown to the user.
11 That is correct.
12 Q. And again, because it depends on how the
13 application was coded?
14 A. It depends on what the software was
15 designed to do.
16 Q. Okay. So if there -- going back to the
17 database example, if there were a database on a
18 remote server, the user can't necessarily see all
19 the information in the database on the web page
20 or user interface; is that right?
21 A. It is possible that the software can be
22 designed that way.

1 Q. The user wouldn't necessarily be able to
2 access the full database, right?
3 A. That is possible as well, if the software
4 is designed that way.
5 Q. The user can't necessarily navigate the
6 whole database.
7 A. It's possible that that's the case if it
8 were designed that way.
9 Q. The application has to be programmed or
10 coded in a certain way that would allow the user
11 to see certain information in the database
12 through the interface; is that right?
13 A. If we're talking about an application
14 that's designed to have users of that
15 application, then that application is going to be
16 coded to allow those users to do or not do
17 things.
18 Q. So if information -- if the cloud
19 application is calling on a database on a remote
20 server, the user wouldn't necessarily see updates
21 to the database on the web page or user
22 interface, right?

1 MR. CARTER: Object to form.
2 THE WITNESS: Okay. Please ask that
3 question one more time so I can hear it again.
4 BY MR. DEIGHAN:
5 Q. If the cloud application calls on a
6 database that's on a remote server --
7 A. Yes.
8 Q. -- the user wouldn't necessarily see
9 updates to the database on the web page or user
10 interface; is that right?
11 MR. CARTER: Same objection.
12 THE WITNESS: If a cloud application
13 calls on a database on a remote server, when it
14 makes that call, it's going to get the latest
15 data from the database.
16 So whenever that call occurs -- and if
17 that call is initiated by a user -- the user is
18 going to -- or a user client or if something
19 causes the client side to initiate that call, or
20 whatever -- what have you, the latest data will
21 be returned from the database.
22 You can't get stale data from a database

1 if the data has been updated because it gets
2 overwritten.
3 BY MR. DEIGHAN:
4 Q. But it does depend on how the cloud
5 application is coded, though, right?
6 A. What do you mean exactly? I'm not sure I
7 understand the question fully.
8 Q. Well, if the application was coded so
9 that a user doesn't get updated information --
10 A. Uh-huh.
11 Q. -- right, then the user wouldn't see the
12 updated information in the web interface, right?
13 A. So --
14 MR. CARTER: Object to form.
15 THE WITNESS: I think I might be not
16 understanding your question because of how
17 databases typically work. So databases, they
18 have, like, update commands where, when you
19 update a table in a database, you're overwriting
20 what was there before. So if you're putting new
21 information into the database, that's it; your
22 old data goes away. So when you get the data

1 back out of the database, you don't get the old
2 data.
3 So -- I think maybe you're asking if you
4 somehow code your application to keep old data in
5 the database, too, to return not the newest data?
6 I mean, you could code an application however you
7 want, I guess, is the answer.
8 Does that answer your question?
9 BY MR. DEIGHAN:
10 Q. I think so.
11 You could code a cloud application to not
12 provide updates to the user until there's, for
13 example, a refresh, right?
14 A. You can code an application to not
15 provide updates to a user until an action occurs.
16 Generally speaking, that is correct. Yes. Yes,
17 that is right.
18 Q. What does it mean if a user interface or
19 web page renders content?
20 A. Anywhere in my report specifically that
21 we're looking at?
22 Q. Just a general question.

1 A. Let's see if I have any examples in my
2 report that I could point you to, then.
3 So I can't see any place where I've
4 specifically discussed, like, the term
5 "rendering," but -- and so I won't define it
6 specifically.
7 But generally speaking, when you're
8 rendering something, you're preparing and/or
9 displaying it or preparing it for display and
10 displaying it. But I don't want to get tied to
11 any particular definition. But in general, it's
12 part of that process of displaying it.
13 Q. I think you said preparing it --
14 A. Uh-huh.
15 Q. -- for display.
16 What do you mean by preparing it for
17 display?
18 A. Yeah. So part of -- and again, just
19 generally, broadly speaking, without any
20 particular definition, part of the rendering
21 process often involves the process of taking
22 things that are represented in a computer and

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1 preparing them to be displayed on a computer
2 screen or to be output to a format that's going
3 to be transferred somewhere.
4 And so in both of those cases, you're
5 going to take something that's represented
6 abstractly and put that into some type of stream
7 of data that's going to be sent concretely
8 somewhere.
9 Q. Sorry, what do you mean by taking
10 something that's represented abstractly? I'm not
11 sure I follow.
12 A. I'll give you an example. A lot of times
13 you might want to render a 3D model. You have a
14 3D model file. It describes vertices and edges;
15 it describes shapes; it has shaders; it has
16 texels; it has all sorts of things that, you
17 know, shape the model. And you want to render --
18 you want to make some transformations on the
19 model to create a scene, and you want to render
20 that scene, ultimately. So you're going to
21 actually perform all the calculations of how
22 light is going to interact with it and a bunch of

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1 things to create the scenes.
2 So you're performing these calculations
3 that are going to result in a data file that's
4 like a video. That's one type of rendering.
5 Your computer does the same thing when
6 your graphics card is displaying the interface of
7 windows on your screen as they interact with each
8 other and overlap. I mean windows generically,
9 not, like, the Windows operating system. Like
10 when your windows are overlapping on your
11 desktop.
12 So those are two examples of rendering.
13 Q. So does that mean that the content is
14 somehow transformed?
15 MR. CARTER: Object to form.
16 THE WITNESS: I think that the point is
17 that the rendering process is part of making the
18 content able to be usable for output, but it
19 depends -- so I will point out that content data
20 and content applications are terms that have
21 constructions here. And so I'm just saying
22 content generally --

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1 BY MR. DEIGHAN:
2 Q. Sure.
3 A. -- without any specific definition of
4 content.
5 Q. So rendering doesn't necessarily mean
6 changing the underlying content?
7 A. I don't know. It's nothing I've thought
8 about it. I'm not sure I have -- let me see if I
9 can think about that. I'm not sure if I can.
10 I think that it's tough to answer that
11 because it depends on your use of the
12 term "content" and your use of the term "render,"
13 to be honest with you. They're too broad of
14 terms to be able to answer that definitively.
15 Depends on the rendering that you're doing and
16 how you're using that, like the context of the
17 term.
18 Yeah, it makes it too hard to define it
19 without anything concrete tied to it.
20 Can you point me to something? If you
21 can, I can, like, put it into context for you.
22 But, like, generally, I don't think I can answer

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1 the question. That's -- yeah, it's too broad. I
2 just can't -- I can't give you an answer.
3 Q. Yeah, I'm just -- I'm just talking
4 generally right now.
5 A. Okay.
6 Q. Let's shift gears just a little bit.
7 What's an RSS feed?
8 A. An RSS feed is a file, and it's in a
9 standard computer-readable format. Stands for
10 really simple syndication. And it contains
11 up-to-date web content that's designed to be
12 distributed.
13 Q. So an RSS feed is a file; is that right?
14 A. Yeah. It's technically an XML file.
15 Q. And the file can contain web content?
16 A. So -- sorry, one moment, please.
17 Okay. Can you please ask your question
18 again?
19 Q. Yeah. We were talking about RSS feeds.
20 A. Uh-huh.
21 Q. And I was just asking if the file can
22 contain web content.

A. RSS feeds, they generally contain -- RSS feeds generally contain several things. They're XML formatted. They contain a URL. They contain a heading. And they contain some snippet of text from the source.

Q. I'm just referring to paragraph 100 --

A. Okay.

Q. -- of your declaration. And you say -- talking about RSS feeds, and you say, "This file contains up-to-date web content that is designed to be distributed."

A. Uh-huh. Yes. That's right. That would be -- examples of that include the headings and the snippets of text, or the full article. Sure.

Q. So is the content that's contained in the file the web content itself or is it -- I think you said a snippet?

A. It depends on the RSS feed. Some RSS feeds contain -- actually, I think the answer is it depends. Some RSS feeds -- it's all web content. Some of it is excerpted from source material -- so it's all web content. Some of it

is excerpted from source material; others are complete copies of the source material is the answer.

Q. But it's not the content in its original form, right? It's -- it's changed to be in a file?

A. There's nothing, I think, in the standard that prevents you from wholesale copying the content in its original form, though I don't think it's common for RSS to contain -- no, that's not right.

Yeah, you can have content in its original form in RSS feeds.

Q. I guess -- maybe I didn't ask the question in exactly the right way.

I don't necessarily mean just copying and pasting it. I mean, it doesn't -- the content that's in the RSS feed is not the actual content itself as it exists from the source; is that right?

A. What difference are you trying to draw? Like, what's the distinction you're trying to

make here? I'm trying to understand.

Q. I'm just trying to understand kind of how RSS feeds work.

A. Yeah. So, like, I use RSS all the time. Been using it for years. Subscribe to my news sources from it. I scroll through the RSS feeds. The content from the server is displayed in them. It's exactly the same as the content on the source web pages. And I only subscribe to full-text RSS feeds, too, because I don't like the snippets, even though those are provided by the server.

And it comes from the -- the RSS feeds themselves come from the original server. Like, they're generated by the original server, I mean.

So it is content generated by the server in its original form.

I guess I disagree. That's the answer. I disagree.

Q. So would it necessarily contain the same formatting, let's say, as it exists in its original form?

A. Yes, because it is the content from the server. The RSS feeds are generated by the server, so they are content on the server.

So it's like in original form from the server.

Q. Okay. What's an RSS reader? I think you may also refer to it as an RSS aggregator.

A. They allow you to subscribe to different RSS feeds and read through them.

Q. Basically an RSS reader aggregates RSS feeds; is that fair?

A. RSS aggregators do. Yeah.

Q. Is that different -- you said RSS aggregator. Is that different from an RSS reader?

A. They're not always exactly the same because there are some really advanced RSS tools that do more than just aggregate feeds.

At one time, RSS aggregators were the norm.

Q. I'm just trying to get us on the same page here in terms of terminology.

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A. Uh-huh.
Q. If you flip to paragraph 101.
A. Yeah.
Q. You say, "RSS aggregator, also called an RSS reader."
A. Yeah. So RSS readers are RSS aggregators, but RSS -- include RSS aggregators, but RSS aggregators are not always RSS readers, so I think maybe that's a little bit imprecise, at least in terms of the modern terminology. But I did include this in the background.
So -- originally, the terms were one in the same. So I think that's what I was getting at here. But I do want to draw that -- be careful with drawing that distinction.
Q. Okay. So -- but I think you said RSS readers are RSS aggregators; is that right?
A. RSS readers include RSS aggregators. That is correct. Um -- yes, that's right.
Q. Sorry. I'm just trying to understand the distinction. I'm just -- still getting a little bit confused.

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I think you said RSS readers include RSS aggregators, but RSS aggregators are not always RSS readers; is that --
A. Yes. In the past, like, few years, especially the past year with AI, things have changed pretty dramatically in this space. So RSS readers have gotten a lot of different features, AI features and things like that. They've gotten really advanced, and so I just need to be careful with the terminology here.
Q. How about back, you know, 2010 time frame?
A. In 2010, a lot of the ones that I was familiar with, I referred to them as RSS aggregators here because they aggregated content. So I was referring to that. Yeah.
Q. Okay. So back in that time frame, then, you would say that an RSS reader aggregates RSS feeds?
A. Yes. An RSS reader aggregates RSS feeds. That is true.
Q. Okay. In your declaration I think you

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mentioned Google Reader.
A. Yes.
Q. Is Google Reader a cloud application?
A. I would say yes.
Q. Does Google Reader run on a remote server?
A. Parts of it certainly did. Keep in mind it was discontinued in 2013, so it doesn't run anywhere.
Q. When it did run, it -- fair to say it ran on a remote server?
A. Yeah, parts of it ran on a remote server, for sure.
Q. All right. I think your description -- let me see what paragraph. Around paragraph 111 is where you talk about the Google Reader.
Your description mentioned Google's BigTable.
A. Yeah.
Q. Is Google's BigTable a database?
A. It's infrastructure wrapped around databases. So generally, yes.

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Q. And that exists on a remote server?
A. It's fair to say that. Yes.
Q. And in that context, the remote server and Google's BigTable database retrieve and store RSS feeds?
A. Yes, that's right. Yeah.
Q. And then a user would interact with Google Reader through a browser; is that right?
A. Yes. That is definitely right.
Q. So in that context, the user interface is a web page?
A. Yes.
Q. Okay.
A. There might have also been Google Reader clients. I think there were. They were third party, though, I believe. So a third-party application or a web page.
Q. Okay. And RSS feeds would be presented to a user on the Google Reader web page --
A. Yes.
Q. -- is that right?
A. Correct.

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1 Q. Okay. The user doesn't see everything
2 that's in the BigTable database, right?
3 A. Yeah, that's right.
4 Q. There would be a lot of information in
5 the BigTable database that users of Google Reader
6 would never see --
7 A. They would --
8 Q. -- is that right?
9 A. -- they would not see other users'
10 RSS feeds, for instance.
11 Q. And there's also other portions of the
12 database that a user would never see, right?
13 A. I don't know what the database contained,
14 so I want to be careful there. But at the very
15 least, they wouldn't see other users' content,
16 like, other users' accounts and what they
17 subscribe to.
18 Q. Last couple questions and then we can
19 take a break. We've been going for about an
20 hour.
21 A. Sure.
22 Q. What is streaming?

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1 A. It's discussed a fair amount in the
2 report. Do you want to point me to something
3 specific or concrete to anchor me to something
4 that we can talk about?
5 Q. I'm just asking for what your
6 understanding of what streaming is.
7 A. Okay.
8 Q. I'm not talking about anything specific.
9 A. Sure. Let me just look through here and
10 see examples of where I discuss the term, then.
11 Q. So I'll just ask the question again:
12 What is streaming?
13 A. Uh-huh. So I would generally consider
14 streaming just as one of ordinary skill in the
15 art here would. But it encompasses delivering
16 content, and it does so including transmitting
17 content, when it becomes available, without
18 significant delay between the content sources.
19 Q. Would you agree that streaming refers to
20 the process of delivering video and audio content
21 from a remote server to a user's device in
22 real time; cloud-based streaming is a technology

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1 that allows users to access and consume digital
2 content over a network without the need to
3 download or install large files on their local
4 devices?
5 A. Where are you getting that from?
6 Q. I just want to know if you agree with
7 that definition.
8 A. Are you getting it from somewhere in the
9 patent or somewhere in the -- a construction
10 somewhere? Like --
11 Q. It's not -- I don't think you defined it
12 that way in your report. I'm just asking if you
13 agree with the definition.
14 A. Oh, geez. All right. Read it again.
15 Q. Would you agree that streaming refers to
16 the process of delivering video and audio content
17 from a remote server to a user's device in
18 real time; cloud-based streaming is a technology
19 that allows users to access and consume digital
20 content over a network without the need to
21 download or install large files on their local
22 devices?

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1 MR. CARTER: I'll object to form.
2 THE WITNESS: So it's not a definition
3 that I had previously considered, but actually, I
4 think it's too narrow. But it's nothing that I
5 can really consider on the fly. But I think that
6 is too narrow, in fact.
7 BY MR. DEIGHAN:
8 Q. Why do you think it's too narrow?
9 A. Well, for one thing, you can stream more
10 than just audio or video content.
11 Q. Would you agree that streaming refers to
12 the process of delivering content from a remote
13 server to a user's device in real time?
14 MR. CARTER: Object to form.
15 THE WITNESS: It's not something I can
16 really do on the fly. I haven't considered it.
17 Let me -- well, let me -- I think that streaming
18 encompasses streaming content to a server when it
19 becomes available without significant delay
20 between the content sources. So...
21 BY MR. DEIGHAN:
22 Q. So you don't think it refers to

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1 delivering content from the server to a user's
2 device in real time?
3 A. Streaming, generally? I think that
4 streaming can stream to more than just a user's
5 device, certainly. You can stream between two
6 servers or something else in a general sense.
7 So, no, that part of the definition is too narrow
8 as well.
9 But again, I can't -- I mean, I'm
10 applying the plain and ordinary meaning of the
11 term in the context of this case. Outside the
12 context of this case, I don't know why, you know,
13 you're even asking me because it doesn't really
14 matter.
15 Q. The definition of streaming doesn't
16 matter?
17 A. Outside the context of this case, you're
18 asking me. Right? I'm saying inside the context
19 of this case, I'm applying plain and ordinary
20 meaning.
21 Q. Okay.
22 A. Yeah.

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1 Q. Would you agree that streaming allows
2 users to access and consume digital content?
3 A. Say that again.
4 Q. Would you agree that streaming allows
5 users to access and consume digital content?
6 A. Again, the plain and ordinary meaning of
7 "streaming" encompasses more than just users.
8 Right? So that's the problem that I have here.
9 And so -- I guess I said it backwards in
10 the last answer. If you're asking about a
11 context outside of the context of this case where
12 it's more narrow, then I don't know why you're
13 even asking me. Inside the context of this case,
14 if we were just doing plain and ordinary meaning,
15 streaming is not so narrow.
16 So that's what I'm trying to say.
17 Q. In order to stream something, does it
18 have to be viewable by a user either on a device
19 or an interface?
20 A. With respect to plain and ordinary
21 meaning, it does not. I can think of many
22 examples where you stream things that are not

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1 viewable to a user.
2 Q. What's an example?
3 A. Content delivery networks.
4 Q. And what's that?
5 A. Where you're streaming content and it
6 goes through multiple nodes for -- ultimately, to
7 be redistributed and saved.
8 Q. In a context, aren't you just downloading
9 it at a different server?
10 A. No. Because you might have subscribers
11 that will stream it. So you're queuing it and
12 you might be -- because you have the possibility
13 of a user joining, you are also -- you're
14 streaming it to a computer, and you might also be
15 streaming it to a user. But it's a live stream.
16 Q. Well, in that example, you're talking
17 about a user, so aren't we kind of saying the
18 same thing? Aren't you saying that streaming
19 really requires a user to be able to view it?
20 MR. CARTER: Object to form.
21 THE WITNESS: I think it depends on your
22 definition of "user," I think is the concern that

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1 I have.
2 BY MR. DEIGHAN:
3 Q. I was just using the term that you used.
4 A. Where is that?
5 Q. You said, So you're queuing it because
6 you have the possibility of a user joining.
7 A. Right. So you have the possibility of a
8 user joining -- okay -- a client device joining,
9 a computer joining, sure, as well.
10 Q. So again, that would require the content
11 to be viewable on that client device.
12 A. You are -- I can stream through a device
13 without streaming to that device. So in the
14 content delivery network example, you might
15 have -- the device in the middle is collecting
16 the content and it is still forwarding the
17 content and is streaming the content as well, is
18 another example.
19 Q. But even in that example you're giving,
20 its ultimately getting to the client device.
21 A. Okay. Sure.
22 Q. Right?

A. It can be. Yeah.
Q. So again, doesn't streaming mean that the content is -- reaches the client device?
A. The content reaches an end device. That is true.
Q. And by end device, that can't just be another server, right?
A. I think that depends. I don't see why it can't -- necessarily cannot.
Q. If you just have one server sending content to another server, how would that be streaming?
A. Sure. If it happens in real time as it becomes available is one example of how it could be.
Q. But if no user can view or ultimately get to that content, that's just sending content from one server to another.
A. The server is the client in that connection, so the server is the ultimate destination.
Q. Okay. So ultimately, you would disagree,

then, that streaming refers to delivering content from a remote server to a user's device in real time.
A. Correct. I think that it's too narrow.
Q. Okay.
MR. DEIGHAN: All right. Why don't we take a break.
THE WITNESS: Okay. Thank you.
(A recess was taken.)
BY MR. DEIGHAN:
Q. Hi, again, Dr. Martin.
A. Hello.
Q. Do you have any discussions with counsel during the break about the substance of your testimony?
A. No.
Q. Just one housekeeping thing that I didn't do when I handed you your declarations earlier.
So I handed you copies of your declarations that were submitted in the 307 and 308 IPRs.
A. Yes.

Q. And you recognize those, right?
A. I do.
Q. Okay. Are they the exact same?
A. I believe so. Except that they are labeled differently here (indicating).
Q. Right. Beyond the label, though, like, the content is the same?
A. I believe so.
Q. Okay. The cover page refers to both IPRs and patents, so I just want to make sure that --
A. Yeah.
Q. -- that there's not a difference between the two.
A. No.
Q. Okay.
A. I think it's an omnibus declaration.
Q. Okay. So if we're just talking about one declaration today, just to make things easy, is that okay?
A. Yes.
Q. Okay. So you're -- okay.
Can you flip to -- quickly to page -- I

think it's 269, the very end.
A. Okay.
Q. Is that your signature?
A. Yes.
Q. Okay. How would you describe yourself as an expert?
A. What do you mean?
Q. What are you an expert in?
A. Oh -- yeah. Generally, I'm an expert in computer science, computer security, networking, cloud computing, cryptography, and other similar related fields.
Q. I'll just give you this document previously marked as Twitch Exhibit 1015.
I'm handing you the version that's in the 307 proceeding, but I believe that the version that was submitted in the 308 proceeding is the same; is that your understanding?
A. Yes.
Q. Okay. Just in case you need it.
So can you just walk through your education background?

A. Yes. I have a bachelor's, master's, and Ph.D. in computer science all from Johns Hopkins University.
Q. When did you get your undergrad degree?
A. 2011.
Q. And that -- you said that was in computer science?
A. Correct.
Q. And then your master's, that's also in computer science?
A. Yes.
Q. And that's also from Johns Hopkins?
A. Yes.
Q. And what was the year that you got your master's degree?
A. 2013. It was part of my Ph.D.
Q. What does that mean it was part of your Ph.D.?
A. As part of the Ph.D. requirements, you fulfill the master's requirements, and so you sort of receive your master's in passing at some point when you can be bothered to file the

paperwork.
Q. Ah, understood.
And your Ph.D. is also in computer science --
A. Yes.
Q. -- from Johns Hopkins?
A. Correct.
Q. And what year did you receive your Ph.D.?
A. 2016.
Q. All right. So undergrad 2011, master's 2013, Ph.D. 2016?
A. Correct.
Q. Okay. What is your current employment?
A. I work for a company called Harbor Experts.
Q. And what does Harbor Experts do?
A. They provide consulting services to companies in computer science-related fields.
Q. Is Harbor Experts different from Harbor Labs?
A. It is.
Q. Okay. So you're not employed by Harbor

Labs anymore; you're employed by Harbor Experts?
A. Yes.
Q. Okay. I think you said that Harbor Experts provides consulting services to companies in computer science-related fields.
Is there a specific area you focus on?
A. The services are in computer science-related fields. The companies are not in computer science-related fields, just to be clear, sorry.
We provide computer science consulting services to companies.
Q. Okay. I follow you.
A. Yeah.
Q. And what fields are those companies in that you provide services to?
A. Any kind of field.
Q. Okay. I think -- I looked at the website. I think it says, "Harbor Labs is a seasoned team of computer scientists and system security engineers who specialize in securing connected medical technologies."

A. That is Harbor Labs' focus, though it wasn't always.
Q. Okay. But do Harbor Labs and Harbor Experts have just sort of specialization in working with companies in the medical technology fields?
A. Not originally, but they developed a specialization in that field at some point.
Q. And I think you -- I think your CV indicates that you're also a lecturer at Johns Hopkins?
A. That's right.
Q. What courses do you teach?
A. So this CV is a little out of date. I teach security and privacy in computing. Recently I taught intermediate programming, so C and C++ programming. And I am hoping to teach a class in malware analysis and forensics next semester.
Q. Your research interests include embedded system security, operating system security, vulnerability analysis, reverse engineering,

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1 network protocol analysis, applied cryptography,
2 cryptanalysis and privacy-preserving protocols --
3 A. Yeah.
4 Q. -- is that right?
5 A. That's right.
6 Q. So kind of a focus on security?
7 A. Network and operating system and embedded
8 security and cryptography, yes. So any part of
9 the stack from hardware all the way up to cloud
10 and the network protocol and hardware security
11 side and cryptography side of that.
12 Q. During your career, have you ever
13 designed cloud computing systems or technologies?
14 A. Yes.
15 Q. What are some examples of that?
16 A. I've designed a few. I'll give you two
17 examples.
18 Q. Sure.
19 A. Okay. One example was at Applied
20 Communication Sciences, I designed a cloud system
21 that did real-time monitoring of smart-grid
22 traffic. And so it would receive data packets

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1 from telephone poles around a city, and it would
2 collect those packets, send them to a back-end.
3 That part was done by the people that were there
4 already.
5 My contribution was I collected these
6 packets that formed a data stream of packets, and
7 I created a server component that would analyze
8 the packets and compute statistics on them and a
9 client-side component that would pull for updates
10 every five seconds or so and create graphs of
11 them in real time as to parameters about what was
12 going on in the smart-grid network -- so maybe
13 large number of update packets, you know, systems
14 were not responding properly, things like this --
15 so that an entire city's power grid could be
16 monitored in real time. They actually
17 commercialized and sold that.
18 Q. So let me just ask you a couple of
19 questions about that.
20 A. Uh-huh.
21 Q. So you said you created the server
22 component --

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1 A. And the browser component. Yeah.
2 Q. And that's the client component.
3 A. Correct.
4 Q. Okay. And you said that would pull for
5 updates every five seconds or so?
6 A. Yeah. I think it was configurable, if I
7 remember correctly, but I think the default was
8 five.
9 Q. Where was that pulling updates from?
10 A. The server.
11 Q. The remote server?
12 A. Uh-huh.
13 Q. Okay. Interesting.
14 Okay. And then you said you had another
15 example?
16 A. Oh, sure. In this example -- yeah. I've
17 got a bunch of examples, but I'll pick one of my
18 favorites. Let me decide what that favorite is.
19 Give me a second.
20 Okay. This was pretty cool.
21 One second. Okay. This is a pretty cool
22 one.

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1 We did indoor location tracking of
2 people. And the way it worked was you would have
3 a server and you would -- and we created these --
4 the server -- we created every component of the
5 system. It was a research project. And we
6 published it.
7 And you had these Bluetooth beacons, they
8 were called, and we created a cryptographic
9 security component for them so they had these
10 rolling codes.
11 You'd put them around a building. The
12 codes would roll with -- for cryptographic
13 reasons that I won't get into, because it's not
14 relevant -- and the server back-end would have a
15 map of the building registered and where the
16 beacons were located. And you would walk around
17 the building and it would know where the beacons
18 were and, using Bluetooth on your phone,
19 triangulate your position inside the building to
20 know your location, first of all.
21 Then it would also have an associated
22 back-end, like, data store, and it would have an

1 application on your phone and it would present
2 information on your screen based on your
3 location. So if you're, like, in this lab, you
4 get to see this data. But if you're across the
5 building on the other side, you get to see
6 different data. And that's based on who's logged
7 in and where they're located in the building.
8 So the idea was that, like, you'd be on
9 one side of the building and you'd see some set
10 of data; you'd be on the other side and you'd see
11 other data. And that was a pretty fun project
12 too.
13 Q. So the mobile application you said,
14 that's like the user interface.
15 A. Yeah. It was a user interface that
16 connects to the different -- connects to one of
17 the servers in the system.
18 Q. And that server is a remote server; is
19 that what you're --
20 A. Yeah.
21 Q. -- saying?
22 A. Uh-huh.

1 Q. Okay. So that's kind of an example where
2 data that is displayed on the user device does
3 not include everything that's on the server,
4 right? It kind of depends on how the application
5 was programmed.
6 A. Correct. In fact, the point of that
7 system was to not display everything that's on
8 the server because the idea was you would get
9 things that were relevant to you based on where
10 you were in the building.
11 Q. Okay. What about streaming? Do you have
12 experience in streaming technologies?
13 A. So in -- one example was the data feed,
14 the streaming data feed coming in from the city.
15 That was a continuously streaming feed of data
16 packets.
17 And -- just going through my experience
18 here to come up with some others.
19 I worked on a project really recently
20 that would be here. Not that recently, I guess.
21 Really recently is a bit of a -- you know,
22 everything that happened in the past ten years is

1 really recent. Everything over ten years ago is
2 really old.
3 Q. Understood.
4 A. But I worked on a project related to
5 video streaming technology, and it was on how
6 video conferencing was implemented between
7 servers, clients, transcoding, and how that video
8 communication worked for a major product. Not
9 Zoom, but one of their competitors.
10 Also worked on Skype. Worked on -- oh, I
11 probably shouldn't be using names. But it is in
12 my CV, so actually, I can use names. In fact, I
13 can probably name all of these. Cisco, Webex,
14 Skype. I did source code analysis for those and,
15 like, reviewed and determined how the systems did
16 their video streaming.
17 There's probably others, but those are
18 two that stick out as relatively recent.
19 Q. Okay. In that example that you gave
20 about the cloud system for real-time monitoring
21 of smart-grid traffic, you said that that
22 involved a stream of data.

1 A. Yes.
2 Q. And you said the client side component
3 would pull for updates every five seconds or so.
4 A. Uh-huh.
5 Q. Was it -- it was programmed to provide
6 updates every five seconds, right?
7 A. It was programmed to get updates every
8 five seconds.
9 Q. It could have been programmed to pull for
10 updates every ten seconds?
11 A. I think it was configurable, so it was --
12 actually, you could set it to what you wanted to
13 pull for. Yeah.
14 Q. Okay. So a user could set it to only
15 pull for updates every five minutes.
16 A. Yes. The default was, I think,
17 five seconds.
18 Q. So based on your CV, a lot of your
19 experience is in the area of network security; is
20 that fair to say?
21 A. No doubt that that is fair to say. Yes.
22 Q. Is that kind of your specialization?

A. I do a lot of network security. Yeah.
Q. Is it your understanding that these IPRs relate to network security?
A. They relate to networks, generally, and I think that there's a close relationship there.
Q. Have you ever served as an expert witness before?
A. Yes.
Q. How many times? Just roughly.
A. Oh, including cases where I was not deposed?
Q. Sure.
A. Oh. A bunch. I don't know. Cases where I was likely to be deposed, maybe 30 or more. Yeah.
Q. I think I counted about 66 times on your CV.
Does that sound about right?
A. Those were cases where I also was just a consulting expert. But yeah -- actually, there's probably even more than that. Those are only cases with public filings.

Q. How much are you being paid for serving as an expert in these IPRs?
A. So I work for a company, and I do not get paid the rate that they charged. I am an employee.
They charge, I think, 675 an hour, and then it -- yeah. They charge 675 an hour.
Q. I think in your declaration you said that Harbor Experts is being compensated at a rate of $920 per hour.
Does that sound right?
A. Harbor Experts is not being compensated at $920 an hour. There was an expert finding service, I think, that's being compensated at that rate.
Q. I just want to get this clear. In paragraph 6 of your declaration you say, "The company I work for, Harbor Experts, is being compensated at the rate of $920 per hour for time that I spend on this case."
A. Yeah. Harbor Experts is getting compensated, I believe, at 675 an hour.

Q. Okay. In the cases that you've served as an expert in, have you ever had any of your testimony excluded?
A. No.
Q. Not a single time?
A. Not a single time. Not that I know of.
Q. Is it fair to say that serving as an expert makes up a sizable portion of your job?
A. Makes up a good amount of it. Yeah.
Q. All right. I'm going to hand you a document that has been previously marked as Twitch Exhibit 1001. And this is from the 307 proceeding.
A. Okay.
Q. Do you recognize that document?
A. Yes.
Q. What is it?
A. It is the patent, the '658 patent.
Q. Okay. So -- and that is in -- that is Exhibit 1001 in the 307 proceeding that relates to the '658 patent; is that your understanding?
A. Yes.

Q. Okay. I'm going to hand you another document that has been previously marked as Twitch Exhibit 1001. And this is in the 308 proceeding.
A. Okay.
Q. Do you recognize that document?
A. Yes.
Q. And what is that?
A. It is the '068 patent.
Q. Okay. So that is Exhibit 1001 from the 308 IPR, which relates to the '068 patent; is that your understanding?
A. Yes.
Q. Just to avoid any confusion, is it okay if we just refer to the -- Exhibit 1001 from the 307 proceeding as the '658 patent?
A. (No verbal response.)
Q. And then -- can you give a verbal answer?
A. Yes.
Q. Okay. And then is it okay if we refer to Exhibit 1001 from the 308 proceeding as the '068 patent?

A. Yes.
Q. Okay. Just trying to make it easy since they are both Exhibit 1001.
Have you reviewed these documents?
A. Yes.
Q. When was the last time?
A. Yesterday.
Q. So you're pretty familiar with them?
A. Yes.
Q. Okay. Do you have an understanding of the relationship between the two patents?
A. Looks like the '068 is a continuation of what is now patent '658.
Q. So is it your understanding that they have the same specification?
A. Yes.
Q. So your analysis of the specification would be the same for both patents?
A. My review of the specification for both patents was the same. My read of it was.
Q. Okay. I'm just trying to -- for the sake of simplicity here --

A. Yeah.
Q. -- can we just refer to one of the patents? Can we just refer to the '658?
A. Yes, we can.
Q. Okay. Can you take a look at the abstract of the '658 patent?
A. Yes.
Q. It says, "A cloud-based computer system and architecture for managing and migrating through web-based content data and content applications from multiple content data sources or service providers in real time is disclosed."
Do you see that?
A. Yes.
Q. So would you agree that the '658 patent relates to systems for managing and migrating through content in real time?
MR. CARTER: I'll object to form.
THE WITNESS: I'll say that the patent, you know, states that it discloses a cloud-based system and architecture for managing and migrating through web-based content data and

content applications from multiple content data sources or service providers in real time.
BY MR. DEIGHAN:
Q. So that says managing and migrating through content in real time, right?
A. It says in the abstract managing and migrating through web-based content.
And web-based content data and content applications from multiple content data sources or service providers in real time. It says that.
Q. All right. And then the abstract goes on to say that "The single-user interface is preferably an icon-based master web page with a slide tool that allows the user to scroll or page through the content data and content applications from the multiple content data sources or service providers in real time from a logged-in remote computer device"; is that right?
A. I'm so sorry, I was not with you at the beginning of when you were reading, and I'm going to have to ask you to point me to where you're reading from.

Q. Oh, sure. It's the last sentence of the abstract.
A. Okay. I won't make you read it again. I'm just going to read it quietly to myself.
Q. Yes. Please do.
A. Okay. Yes. I've read that sentence.
Q. So the '658 patent relates to a master web page that includes a slide tool so a user can scroll through content in real time from a remote device; is that accurate?
A. The '658 patent describes a slide tool that allows a user to scroll through or page through the content data or content applications from the content data sources or service providers in realtime. Yeah, that's correct.
Q. From a remote computing device.
A. Where does it say that?
Q. The last couple of words of that sentence.
A. Oh, sure. From a logged-in -- in real time from a logged-in remote computing

1 device. Yeah.
2 Q. Okay.
3 A. It said that here at the end
4 (indicating).
5 Q. So you would agree that the patent
6 relates to a system that allows a user to scroll
7 through content in real time from a remote
8 device.
9 A. Relates to a system that allows a user --
10 well, it describes a system that has a
11 single-user interface that allows a user to
12 scroll or page through content data and content
13 applications from multiple content sources or
14 service providers in real time from a logged-in
15 remote computer device.
16 Q. To scroll or page through content in
17 real time from a remote computer device, doesn't
18 the content have to be on the master web page?
19 A. What do you mean exactly? Like what?
20 Q. Well, how could a user scroll or
21 page through content in real time from a remote
22 device if the content wasn't on the user

1 interface?
2 A. What if I'm, like -- I'm just generally
3 answering this question here. But, like, what if
4 I'm scrolling on my computer and I hit the end of
5 content and it does, like, a -- it has a web
6 socket open and it pulls the content down as it's
7 scrolling to get more content, so that it does
8 that as I'm scrolling in real time? Like,
9 wouldn't that be fine? That seems reasonable to
10 me.
11 Q. Wouldn't that require the content to
12 update?
13 A. While scrolling? Yeah, but it would
14 still be scrolling through the content in
15 real time.
16 So to your specific question, it seems
17 like that would be fine, to answer your question.
18 Q. If we flip to column 1, lines 60 to 62.
19 A. Okay.
20 Q. Sorry. Give me one second.
21 So let me just go back to your last
22 point.

1 A. Yeah.
2 Q. So if you're scrolling through content
3 using a slide tool --
4 A. Yeah.
5 Q. -- before you get to the end --
6 A. Yeah.
7 Q. -- you would agree that that is not
8 scrolling through content in real time.
9 A. No. The scrolling is happening in
10 real time. So you're scrolling in real time.
11 Q. But it's not real-time content that
12 you're scrolling through.
13 A. You -- depends what the content is. The
14 content could be real-time content if you're
15 watching, for instance, a live stream of
16 something. If you're not scrolling through
17 content that's real-time content, maybe not.
18 So it depends on the content. Yeah.
19 Q. But I think the example that you gave was
20 if you get to -- if you reach the end of content
21 and --
22 A. Uh-huh.

1 Q. -- you scroll down further --
2 A. Yeah.
3 Q. -- that updates the content; is that
4 right?
5 A. That would be fetching more content.
6 Q. Sure. So in that example, before you get
7 to the end of the content, as you're scrolling
8 through that content, it's not necessarily
9 real-time content.
10 MR. CARTER: Object to form.
11 THE WITNESS: Depends what the content
12 was. So say I am watching -- I mean, because
13 we're just talking about the patent in general
14 here.
15 BY MR. DEIGHAN:
16 Q. Yeah.
17 A. I don't know, say I'm watching -- say I'm
18 scrolling -- I'm watching a Taylor Swift concert,
19 which I would not be, on YouTube. Actually, my
20 wife might be, so I might be too. On YouTube.
21 I'm scrolling, and I get to the end of the
22 screen. And that's real-time content. And then

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1 I -- it's pulling down new content as I'm hitting
2 the edge there.
3 There's real-time scrolling happening
4 while I'm watching real-time content, and then
5 more content is coming down too, and so there's a
6 lot of things happening in real time there.
7 Q. I guess I don't really follow. Because
8 if you're scrolling through content before you
9 get to the end, then you scroll down further and
10 you get real-time content.
11 That's what you're saying, right?
12 A. Well, the scrolling is -- you're
13 real-time scrolling. The scrolling is in
14 real time. And then you can also have real-time
15 content. And the content could be in real time,
16 too.
17 Q. What do you mean by real-time scrolling?
18 You're doing it --
19 A. -- in real time. I scroll, and as I
20 scroll, it's in real time.
21 Q. You're saying your scrolling is in
22 real time.

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1 A. Can be. Yes.
2 Q. Like, you're doing it currently. Is that
3 what you mean by real-time scrolling?
4 A. Yeah. You can scroll in real time.
5 Q. But again, the content, before you reach
6 the end of the list --
7 A. Uh-huh.
8 Q. -- that content would not necessarily be
9 in real time.
10 A. Depends what the content is. You're
11 scrolling through the content in real time, no
12 matter what the content is. But you could also
13 have content that's real-time content or not,
14 depending on what the content itself is as well.
15 Q. I guess the part I'm not following is, if
16 you're saying that you have to go to the end of
17 the list and scroll down to fetch new content --
18 A. Yup.
19 Q. -- I guess I'm just -- or -- and that's
20 real-time content, I'm just struggling to
21 understand how the content you were looking at
22 previously would also be real-time content.

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1 If --
2 A. You're scrolling in real time. So the
3 scrolling through the content is in real time.
4 The content itself -- it depends on what
5 the content is. If the content is real-time
6 content, that depends what your content is. Is
7 it a live stream? Is it live updated baseball
8 stats? Or is it -- I don't know -- a book from
9 1985 that hasn't been changed since then.
10 So it depends on the content.
11 Q. So it's content-dependent?
12 A. That aspect of your question is
13 content-dependent. But the scrolling through the
14 content happens in real time as you're scrolling.
15 Q. Yeah. Again, I guess the part that I'm
16 struggling with is just -- if you're saying that
17 once you get to the end of the list and you
18 update it, that is real-time content, then aren't
19 you necessarily -- before you update it, aren't
20 you necessarily scrolling through non-real-time
21 content?
22 MR. CARTER: Object to form.

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1 THE WITNESS: No. Because, again, if
2 you're scrolling and your content includes, like,
3 a Taylor Swift live stream, that is definitely
4 real-time content that you're scrolling through
5 even as you're updating.
6 BY MR. DEIGHAN:
7 Q. Are you saying, like, a livestream of a
8 Taylor Swift concert?
9 A. Yeah.
10 Q. So are you drawing a distinction between,
11 like, a live broadcast versus something that
12 isn't live?
13 A. As one example. You can have a live
14 broadcast of content -- I'm not drawing a
15 distinction. I'm just saying one example is a
16 live broadcast of a concert.
17 So watching a livestream of a live Taylor
18 Swift concert -- maybe some year she'll do the
19 Super Bowl halftime show, and we're watching it
20 in real time, live, and we're scrolling through
21 that because we want to read something else
22 during halftime, and -- we're scrolling.

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1 That could be live content as we're
2 scrolling in real time as well. Because there's
3 no limit on what the content itself is.
4 Q. Can you give me an example of -- in this
5 context where it would not be a live broadcast?
6 A. You have a book from 1985 that is not
7 changed, and you are -- one of the pieces of
8 content is that book, and you are scrolling in
9 real time, but the book is what's being displayed
10 as one of the pieces of content.
11 Why you have the book, I don't know.
12 Maybe the book was just sent to a new server or
13 was just published by a new publisher. Whatever.
14 But maybe it ends up in your feed, but it's an
15 old book; it's not going to be updated again in
16 the feed. So...
17 Q. So scrolling through that book before you
18 get to the end of the list, you're saying that
19 just scrolling it is real-time scrolling --
20 A. Yeah.
21 Q. -- is that right?
22 A. That's right.

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1 Q. If there was an update made to that
2 book --
3 A. Yeah.
4 Q. -- you wouldn't see that update until you
5 scrolled to the bottom of the list and you
6 fetched new content, right?
7 A. Well, that would depend on how the thing
8 you're talking about works. If the thing you're
9 talking about doesn't get updates as they are
10 created, then it only gets them when you fetch an
11 update. That is true.
12 If it gets them as they are created, then
13 you would get it as it's created.
14 So it depends on your system. If your
15 system works such that you get it when you scroll
16 to the end of the list, that's when you would get
17 it.
18 Q. Okay. So let's go back to column 1,
19 lines 60 to 62.
20 A. Okay.
21 Q. I want to make -- I'm sorry, probably 58.
22 A. That makes more sense.

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1 Q. Let's get the whole sentence.
2 So that says, "The present invention is
3 directed to a cloud-based computing system and
4 architecture for managing the content data and/or
5 services from multiple sources through a single
6 user interface in real time"; is that right?
7 A. Yes. You read that correctly, I believe.
8 Q. So the invention is -- at least as it's
9 described here, relates to managing content
10 through an interface in real time.
11 A. It's directed to managing content data
12 and/or services from multiple sources through a
13 single user interface in real time.
14 Q. The user interface, like a web page?
15 A. That could be one example.
16 Q. And so you would -- in order to manage
17 content through a web page in real time, the
18 content has to be on the web page in real time;
19 is that right?
20 MR. CARTER: Object to form.
21 THE WITNESS: So -- I think it depends --
22 right? -- because here it says content data

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1 and/or services.
2 You can manage services in real time by
3 clicking and selecting/unselecting services like
4 that.
5 BY MR. DEIGHAN:
6 Q. That's on the user interface, right?
7 A. On the user interface, yeah. So the user
8 interface has to allow you to use it in
9 real time. I think that's what it's saying here.
10 Q. Right. Because you can't -- if there's
11 content sitting on a server -- right? -- you
12 can't manage it through a user interface in
13 real time unless it's on the user interface in
14 real time, right?
15 A. If there's content sitting on a server,
16 you can -- okay. Say it one more time.
17 Q. If there's content sitting on a server,
18 you can't manage it through a user interface in
19 real time unless it's on the user interface in
20 real time, right?
21 A. Not necessarily true. I'll give you one
22 example.

"Delete all" function in my e-mail. I have a "delete all" function in my e-mail. I click the button. It deletes all the e-mails in my inbox without me actually seeing the e-mails. Just one example.

Q. But in that instance, you're still performing an action on the user interface, right?

A. I am performing an action on the user interface.

Q. And that affects what's on the server.

A. It certainly does.

Q. Okay.

THE WITNESS: Can we take a break?

MR. DEIGHAN: Sure. Absolutely.

THE WITNESS: I just need to stretch my back.

(A recess was taken.)

BY MR. DEIGHAN:

Q. Hi again, Dr. Martin.

A. Hello.

Q. So when we left off, we were talking

about the patents, right?

A. Yes.

Q. And I was about to start asking you some questions about the overall system.

If you take a look at column 4, starting at around line 35, the patent says that the cloud-based computer system includes a log-in server or master server; is that right?

A. One moment.

Okay. I'm so sorry, I didn't recall your question. Please ask again.

Q. I just said that the cloud-based computer system described by the patent includes a log-in server or a master server; is that your understanding?

A. It says -- yeah, figure 1 includes a -- shows a schematic representation that includes a log-in server or master server?

Q. And what does the log-in server or the master server do?

A. It acts as a single point of access for a plurality of content data sources or service

providers, it says here.

Q. What does that mean?

A. That the content data sources or service providers, that they're communicating with the log-in server or master server. They're in communication with it.

Q. Okay. And the patent also says that the master server runs a master application; is that right?

A. Yes. It says the log-in server or master server supports a program to run and execute a master content application software, which is hereafter going to be referred to as master application in the patent specification. So master application.

Q. And what does the master application do?

A. It's organizing -- it's coded for organizing content data and content applications from multiple content sources or web -- or server providers on a master web page, it says right here.

Q. All right. So it organizes content data

and content applications on a master web page.

(Discussion off the record.)

THE WITNESS: I'm sorry, can you please ask again?

BY MR. DEIGHAN:

Q. Yeah. I just said -- we were talking about the master application, and I said that it's coded for organizing content data and content applications on a master web page; is that fair?

A. It's coded for organizing the content data and content applications from the multiple content sources or service providers and on a master web page. Yes.

Q. Okay. And what's the master web page?

A. Master web page is defined in column 4, 20 to 25, to be a web page viewable remotely from a remote computing device via through a log-in server or master server and which displays a slide tool that scrolls or pages through content data and/or content applications from multiple content data sources and/or service providers in

1 real time.
2 Q. You said that that's the definition of
3 master web page.
4 Did you apply that in your analysis?
5 A. Yes.
6 Q. You applied that definition in your
7 analysis?
8 A. I applied the plain and ordinary meaning,
9 but I also recognized that the patents defined
10 the terms, and I went with this definition, yes.
11 Q. Okay. Sorry. Just to make sure I
12 understand, did you apply the plain and ordinary
13 meaning or did you apply the definition that you
14 just read?
15 A. So I applied the definition that I just
16 read, which the inventor set forth.
17 Q. So in column -- so in column 2, starting
18 at about line 47, the patent kind of describes
19 the operation of this system, right?
20 I'll give you a second to read that.
21 Column 2, starting at line 47.
22 A. Where should I read to?

1 Q. Just to the end of that paragraph,
2 line 59.
3 A. Okay.
4 Q. So can you just kind of describe how the
5 system operates?
6 MR. CARTER: Object to form.
7 THE WITNESS: Can you be a little bit
8 more specific than just generally describe how it
9 operates? Like --
10 BY MR. DEIGHAN:
11 Q. Yeah, sure.
12 A. -- what aspect?
13 Q. Sure. So that portion that I just had
14 you read, column 2, lines 47 to 59, says that a
15 user logs into the master server, right?
16 A. Yes.
17 Q. And it says that the master server
18 accesses content data sources or providers.
19 A. It says, "The server accesses the
20 multiple content data sources or provider through
21 their respective servers in the cloud-based
22 computing environment." Yes. It says that.

1 Q. And then the master server runs an
2 application that organizes content on a master
3 web page.
4 A. The master server is programmed to run
5 and execute a master content application
6 software. Yes.
7 Q. And then the patent says, "The master
8 web page is dynamic in the sense that the master
9 web page displays streaming content data and
10 content applications from the multiple content
11 data sources in real time"; is that right?
12 A. It says that, yes.
13 Q. So the patent says that the master
14 web page displays streaming content in real time,
15 right?
16 MR. CARTER: Object to form.
17 MR. DEIGHAN: I'll rephrase that.
18 THE WITNESS: Yeah.
19 BY MR. DEIGHAN:
20 Q. So the patent says that the master
21 web page displays streaming content data and
22 content applications from the multiple content

1 data sources in real time.
2 A. It says that the master web page is
3 dynamic in the sense that the master web page
4 displays streaming content -- yes, it says that.
5 Q. It doesn't say that content is streamed
6 to the master server, right?
7 MR. CARTER: Object to form.
8 THE WITNESS: You need to be more
9 specific about "it" in that sentence. This
10 sentence doesn't say -- the sentence says what it
11 says. But the patent itself -- like, we have to
12 look at the patent separately if you're asking a
13 general question about the patent. Do you see
14 what I'm saying?
15 So are you asking about the sentence or
16 the patent in general, I guess is my question.
17 BY MR. DEIGHAN:
18 Q. Oh, I mean, I was asking about the
19 sentence, but --
20 A. Yeah.
21 Q. -- what's the distinction that you're
22 drawing?

A. I just wanted to make sure that we were talking only about the sentence because I don't want to, when you say "it," answer some question accidentally about the entire patent when I'm talking about a sentence. That's all.

Q. So you seem to be drawing a distinction between what it says here and what it says elsewhere.

A. Yes, but I will always do that when you point me out a specific sentence. So it's not necessarily the case that I'm doing it for any reason other than I want to be precise.

Q. Where in the patent does it say anything that's inconsistent with that sentence? Can you point me to anything?

A. You were -- so are you asking if I -- if this sentence is contradicted elsewhere in the patent? That's what you're asking?

Q. Let me rephrase.

I mean, is this a fair characterization of what the master web page does, based on your understanding of the invention?

MR. CARTER: Object to form.

THE WITNESS: So the master web page is dynamic. But the definition for master web page is in column 4 because the inventor explicitly defined it as such.

BY MR. DEIGHAN:

Q. So you're saying that the master web page does not need to display streaming content data and content applications from multiple content data sources in real time?

A. I'm saying that a dynamic web page -- sorry. A master web page is a web page viewable remotely from a remote computing device through a log-in server or master server which displays a slide tool that scrolls through or pages through content data and/or content applications from multiple content data sources and/or service providers in real time.

Q. Don't you have to read the patent as a whole to understand what the master web page does?

A. You do have to read the patent

description and the patent as a whole to have an understanding of the patent. There is an explicit definition for the term "master web page," though. And then of course the claims themselves say what things do, and the reference to that specific claim, which, in general, should be taken in the context of the patent as a whole unless the claim somehow defines something in contradiction to that.

Q. Is the sentence in column 2, lines 56 to 59, that we were just looking at, is that inconsistent with the definition of the master web page that you're referring to?

A. I don't believe that they are inconsistent with one another or that they contradict one another.

Q. Okay. So then -- you would agree, then, that the master web page displays streaming content data and content applications from the multiple content data sources in real time.

MR. CARTER: Object to form.

THE WITNESS: I think that it's possible

for the master web page to do that, but the definition of master web page, I think, is in column 4.

BY MR. DEIGHAN:

Q. So the master web page has to display content in real time, right?

MR. CARTER: Object to form.

THE WITNESS: I don't think that it has to display content in real time, but I think it can display content in real time.

I think that the master web page has to display a slide tool that scrolls through pages -- scrolls or pages through content data or content application from multiple content data sources and/or service providers in real time, though. I think it has to do that.

BY MR. DEIGHAN:

Q. In column 4, there's also a definition of the log-in server or the master server.

Do you see that?

A. Yes.

Q. Does that say anything about streaming

1 content in real time?
2 A. It says, "A log-in server or master
3 server is a dedicated server for supporting a
4 master program and user interface to access and
5 view content data and applications from multiple
6 content data sources or providers through a
7 single user interface."
8 So it doesn't have the words "real time"
9 in there.
10 Q. And did you apply that definition in your
11 analysis?
12 A. Yes.
13 Q. So it refers to a single user interface.
14 What is that?
15 A. So I applied plain and ordinary meaning
16 to single user interface, and so that term is
17 generally just what it says. It's a single user
18 interface, an interface that's -- collects things
19 for a single user, broadly, but without any
20 specific nuance, like, on-the-fly definition.
21 Q. I mean, in the context of the patent,
22 it's saying that -- or let me rephrase that.

1 In the context of the patent, it's really
2 talking about the master web page, isn't it?
3 Sorry, that got a little jumbled. Let me
4 ask that more clearly.
5 A. Yeah.
6 Q. In the context of the patent, single user
7 interface is talking about the master web page,
8 right?
9 A. The two concepts are closely related.
10 Q. What do you mean by that?
11 A. So the master web page provides an
12 interface to the user.
13 Q. I think what you're saying -- correct me
14 if I'm wrong, but I think what you're saying is
15 that a single user interface could include the
16 master web page.
17 A. The opposite, I think. The master
18 web page can include a single user interface, I
19 think.
20 Q. I don't -- I'm not sure I follow.
21 Can you explain that?
22 A. The single user interface prov- -- the

1 master web page provides a single user interface
2 when it's rendered and displayed on the client
3 computer.
4 Q. And when it's -- and it's rendered and
5 displayed on the client computer as the master
6 web page?
7 A. Yes. But it is generated on a server, of
8 course.
9 I'm not sure if this is a distinction
10 that's important for you. I'm just trying to be
11 careful with my language.
12 Q. Yeah, I guess I'm -- I guess I'm just not
13 really understanding the distinction you're
14 drawing.
15 I mean, are you saying the single user
16 interface could refer more broadly to, like, the
17 remote device? Is that what you're saying?
18 A. No. I'm just trying to say that the
19 master web page provides that interface, but you
20 need to actually show the web page somewhere.
21 But -- because web pages are files. So until
22 you, like, actually show the file, you're not

1 presenting an interface.
2 Q. I see. I see. Okay.
3 So when it's presented, right, the master
4 web page is --
5 A. It's providing interface.
6 Q. It's providing interface. Okay.
7 A. Yeah.
8 Q. Okay. All right. We're on the same
9 page.
10 So in that definition of master server,
11 it says the user interface -- or the master
12 server supports the user interface to access and
13 view content through the single user interface,
14 right?
15 A. I'm sorry, ask again.
16 Q. Yeah. The patent says that the master
17 server -- and I'm paraphrasing a little bit, but
18 the master server supports a user interface to
19 access and view content through a single user
20 interface.
21 A. The master server supports a master
22 programming user interface to access and view

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1 content data and applications from multiple
2 content data sources and providers through a
3 single user interface. Yes.
4 Q. And you need that user interface to view
5 content data and applications from multiple
6 content data sources or providers, right?
7 A. The viewing of that content will occur
8 through that interface.
9 Q. And like we said, that interface is the
10 master web page as it's displayed.
11 A. I think that's right. At least it
12 encompasses that. I don't want to tie myself to
13 any particular, you know, nuanced definition --
14 Q. Sure.
15 A. -- on the fly.
16 Q. All right. I'm going down a little bit
17 further here, but in that same discussion -- I
18 think is in column 5. But it talks about the
19 master application, also including a tool box.
20 A. Where in column 5?
21 Q. I think it starts at around line 31-ish.
22 A. Okay.

1 Q. Do you see that?
2 A. I do.
3 Q. What's the tool box?
4 A. Tool box is defined in column 4. "A
5 tool box is a set of subfeatures, generally
6 accessible through an administrator account or
7 password, that allow a web page layout and/or
8 operation to be customized by linking tools with
9 content applications."
10 Q. So then going back to column 5, it gives,
11 I think, some examples of some tool box
12 capabilities, including things like lock-out
13 controls, history analytics, and subsets of
14 accessible content data or content applications.
15 Do you see that? Line 48.
16 A. Okay. I am looking now.
17 Actually, I think here it's saying the
18 master application and corresponding tool box.
19 So it's not clear, just from this quote,
20 that the tool box provides, for instance, those
21 capabilities, like collect history and analytics
22 and have subsets of accessible content or content

1 applications.
2 You know, it's not clear just from this
3 sentence that the examples are modifying just
4 tool box. It looks like master application and
5 corresponding tool box is being modified there.
6 Q. In line 31 it says the master application
7 is equipped with a tool box.
8 A. It does say that.
9 Q. So the master application -- let me
10 rephrase. I'm thinking about how to phrase this.
11 The master application has a tool box,
12 right, that provides for those features?
13 A. The master application has a tool box.
14 It's just not clear to me that -- and certainly
15 some of these features are provided by the
16 tool box.
17 It's just not clear to me that all of
18 these features are, based on this sentence.
19 Q. Okay.
20 A. If some of them are master application
21 features only, I don't know.
22 Q. Okay. What are lock-out controls?

1 A. I don't know if they're referenced
2 anywhere else in the patent. I don't think they
3 are. But to me, they are likely referring to
4 some type of feature to prevent things from being
5 changed somewhere in the system. I'm not exactly
6 sure, without more description here in the
7 patent, what they're referring to exactly.
8 Q. What do you mean prevent things from
9 being changed?
10 A. Well, just when I see the
11 phrase "lock-out control," you're locking
12 something. You're preventing it from being
13 changed. Right? A lock-out control. You're,
14 like, locking it out from being changed is how it
15 reads to me.
16 Q. What about things like parental controls?
17 A. It's possible. I don't -- if you can
18 point me to something else in the specification
19 that describes lock-out controls in more detail,
20 that would inform me in more detail. But --
21 Q. I was just asking generally.
22 A. Yeah, I don't -- I don't really have any

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1 more context to -- you know, beyond the language.
2 Q. Okay. What's your understanding of
3 history analytics? What does that mean?
4 A. I think I do discuss that in my report.
5 So I provide a fair number of examples of
6 analytics in my report at, like, paragraph --
7 starting at 444.
8 Would you like me to kind of enumerate
9 some from here?
10 Q. I was just kind of asking for what your
11 general understanding of history analytics are.
12 A. It's really -- can encompass many
13 different things, everything from data related to
14 the recency or quality of content to insights
15 about users' preferences and interest patterns.
16 That's just a few examples but, you know,
17 it can encompass a whole bunch of things that can
18 fall into the umbrella.
19 Recency of data or a recency of how --
20 when data was accessed is another example.
21 Just some examples.
22 But, you know, history analytics

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1 encompasses a lot of things.
2 Q. Okay. And then the last example in that
3 portion of the patent that we were looking at
4 says, "subsets of accessible content data or
5 content applications."
6 Does that refer to, like, limiting the
7 content that is accessible for a certain user?
8 A. One moment.
9 It says, "have subsets of accessible
10 content data or content applications."
11 I think it depends on your
12 phrase "limiting." But I think it's -- you know,
13 allows you to make subsets of the content data
14 and the content applications. That doesn't
15 necessarily mean limiting, but it could mean
16 grouping, for instance. It could mean -- it
17 could mean limiting. It could mean -- it could
18 mean hiding. Could mean excerpting. It could
19 mean any number of different things.
20 But, you know, they both broadly fall
21 into that umbrella.
22 Q. So for all those examples -- the lock-out

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1 controls, history analytics, subsets of
2 content -- doesn't that require the content
3 itself to be on the master web page?
4 A. No, I don't think so. For example, say I
5 want to lock out a category of content, content
6 from a particular provider. Right? Those are
7 just lock-out controls. I could say, hey, don't
8 show me things with this word in it. That would
9 be, you know, a control that you could toggle
10 that wouldn't require any particular content on
11 the web page. Say it's even an search box, so I
12 enter it myself, that the server could process.
13 That's just an example off the top of my
14 head here.
15 Q. How would you collect history analytics
16 if the content wasn't displayed to a user?
17 A. Depends what history analytics you're
18 collecting. You could collect the history
19 analytics of all of the content that you've
20 collected at the server but not the history of
21 the contents you send to the user.
22 You could collect the history of the

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1 content you have sent to the user but not
2 necessarily the content the user looked at.
3 You could collect history of how
4 frequency -- frequently a content provider sent
5 information to a server.
6 So just -- you know, it depends what the
7 history analytics are referring to here. So just
8 from this brief section you pointed to, not
9 clear. But if you point me elsewhere in the
10 specification -- I don't have it memorized --
11 Q. No, I understand.
12 A. -- I'm sure that I could -- yeah.
13 MR. DEIGHAN: Now would not be a bad time
14 for a break. Do you guys want to --
15 THE WITNESS: That works.
16 (A recess was taken.)
17 BY MR. DEIGHAN:
18 Q. Hi, Dr. Martin.
19 A. Hello.
20 Q. Did you have a good lunch?
21 A. Yeah. Thank you. I hope you did, too.
22 Q. Thank you.

1 Did you have any discussions with counsel
2 about the substance of your testimony?
3 A. No.
4 Q. Anything about your expert report?
5 A. No.
6 Q. Okay. Let's turn to paragraphs 85 and 86
7 of your report.
8 A. Okay.
9 Q. All right. Are you there?
10 A. Yes.
11 Q. So you say that you are asked to assume
12 that the challenged patents claim priority to
13 October 12th, 2010; is that right?
14 A. That's right.
15 Q. So you -- in your analysis, you assumed a
16 priority date of October 12th, 2010 for the
17 patents?
18 A. Yes.
19 Q. All right. Let's go to paragraph 119.
20 A. Okay.
21 Q. Sorry, I should say the section starting
22 at paragraph 119.

1 And here you provide your opinion on the
2 level of ordinary skill in the art?
3 A. Yes.
4 Q. In paragraph 121 I think is where you
5 actually define it. And you say, "That person
6 would have had a bachelor's degree in computer
7 science, or a related field, and at least two
8 years of experience in research, design, and
9 development of cloud computing and network
10 systems, or the equivalent of a master's degree
11 in computer science or similar field, with
12 additional education substituting for experience,
13 and vice versa."
14 A. Yes.
15 Q. That's your definition that you applied?
16 A. It is.
17 Q. So a person of ordinary skill in the art
18 would have had a bachelor's degree and two years
19 of experience or a master's degree.
20 Am I summarizing that right?
21 A. Or additional education substituting for
22 that experience, or vice versa.

1 Q. Okay. Did you have a degree in October
2 of 2010?
3 A. I did not have my bachelor's in
4 October of 2010.
5 Q. Okay. So you were not a person of
6 ordinary skill in the art in October 2010?
7 A. I had a good amount of experience in
8 October of 2010, so I would say that I was a
9 person of ordinary skill in October of 2010.
10 Q. But here you say that the person of
11 ordinary skill in the art would have had a
12 bachelor's degree or equivalent or a master's
13 degree.
14 You don't say anything about people
15 without a degree and experience, right?
16 MR. CARTER: Object to form.
17 THE WITNESS: Additional education
18 substituting for experience, and vice versa.
19 BY MR. DEIGHAN:
20 Q. Okay. So you think a person of ordinary
21 skill in the art could be somebody who does not
22 have a degree?

1 A. Depends. But in certain instances, sure.
2 Q. Okay. So you don't agree with the
3 definition as written in your report in
4 paragraph 121?
5 MR. CARTER: Object to form.
6 THE WITNESS: I agree precisely with the
7 definition as written in my report.
8 BY MR. DEIGHAN:
9 Q. And that's because you're saying that the
10 last sentence, with additional education
11 substituting for experience --
12 A. And vice versa.
13 Q. That's not modifying the "equivalent or a
14 master's degree in computer science or similar
15 field"?
16 A. Correct. It's modifying education in
17 general.
18 Q. Okay.
19 A. Since in 2012 I was just about to be
20 offered a Ph.D. position and I had a fair amount
21 of experience, yes. Sorry. In 2010 I was just
22 about to be offered a Ph.D. experience.

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1 October 12, 2010.
2 Q. Okay. Let's flip to section V of your
3 report. Starts in paragraph 56.
4 A. You said paragraph 56?
5 Q. Yeah. The section starting at
6 paragraph 56.
7 A. Okay. Okay.
8 Q. In this section, you are providing an
9 overview of the '658 and '068 patents, right?
10 A. Yes.
11 Q. Okay. I'm just going to ask you a couple
12 of questions about a few of the paragraphs in
13 this section. You can go ahead and read them if
14 you need to.
15 So the first paragraph is paragraph 57.
16 A. Okay.
17 Q. Go ahead and read that if you would like.
18 A. Okay.
19 Q. So based on that description, the
20 patented system allows users to access, manage,
21 and navigate content from the master web page,
22 right?

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1 A. It "purportedly enables users to interact
2 with multiple data sources, accessing, managing,
3 and navigating content from a centralized master
4 web page on remote devices such as computers,
5 tablets, and smartphones." Yes.
6 Q. Okay. So you agree that the patents
7 allow users to access, manage, and navigate
8 content from the master web page.
9 A. The patent's description describes users
10 interacting with multiple data sources,
11 accessing, managing, and navigating content on
12 the master web page -- or from a master web page
13 on remote computing devices.
14 Q. All right. Paragraphs 58 to 60.
15 You summarize some challenges that the
16 patents aim to solve; is that right?
17 A. Yes.
18 Q. Again, take -- if you want to read
19 through those, go ahead.
20 A. Oh, you said 58 through 60, what we'll
21 discuss?
22 Q. Yes. Just right around there.

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1 A. All right. I'll read them.
2 Okay. Yes. I remember this.
3 Q. Okay. And one challenge that you talk
4 about is that, in traditional cloud-based
5 systems, users needed to log into each content
6 source separately; is that right?
7 A. The patent explains that multiple log-ins
8 are required to access content from different
9 content sources in some cloud-based systems.
10 Yes.
11 Q. And the inventors solved that problem by
12 providing a single user interface that allows
13 users to access, manage, and migrate through
14 content; is that right?
15 A. The inventors claimed to solve this
16 problem by doing so. Yes.
17 Q. Okay. And that's providing that content
18 on the single user interface?
19 A. They provide the single user interface,
20 and that allows users to access the content from
21 various sources.
22 Q. Okay. And we talked about this earlier,

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1 but the single user interface is the master
2 web page provided to the user.
3 A. As displayed to the user.
4 Q. Displayed to the user. Okay.
5 The master web page displayed to the
6 user.
7 A. Say that one more time. The single user
8 interface is the master web page displayed to the
9 user -- at least it encompasses that.
10 Q. Okay. Paragraph -- let's see -- 63. You
11 describe the cloud-based computer system that was
12 proposed by the patents; is that right?
13 A. Yes.
14 Q. You can go ahead and read it if you would
15 like.
16 A. Okay.
17 Q. And so the architecture of the system
18 allows users to scroll or page through content in
19 real time on the master web page, right?
20 A. It includes a master web page that users
21 can view from a remote computing device, and that
22 enables them to scroll or page through the

1 content data or content applications from the
2 multiple content data sources or service
3 providers in real time. Yes.
4 Q. All right. Paragraph 123.
5 A. Okay.
6 Q. This section is where you talk about
7 claim construction.
8 A. Yes.
9 Q. And in paragraph 123, you indicate that
10 you gave all claim terms of the challenged
11 patents their plain and ordinary meaning; is that
12 correct?
13 A. Yes.
14 Q. And you did give all the claim terms -- I
15 know that that's what you indicated here, but you
16 did apply the plain and ordinary meaning of the
17 terms in your analysis?
18 A. Yes.
19 Q. Okay. In paragraph 124, you provide a
20 list of terms, and I think we've talked about
21 some of these.
22 Are you on paragraph 24 --

1 A. Yes.
2 Q. -- 124, I'm sorry?
3 A. I am.
4 Q. So you provide here a list of terms and
5 constructions.
6 Did you apply these constructions in your
7 analysis?
8 A. I used these constructions to guide my
9 analysis.
10 Q. Okay.
11 A. Yes.
12 Q. Okay. And we talked about master server.
13 And you applied that definition of master server
14 in your analysis?
15 A. Yes. I used this definition in guiding
16 my analysis.
17 Q. Okay. And the same goes for the master
18 web page. You applied the definition here in
19 your analysis?
20 A. I used this in guiding my analysis as
21 well.
22 Q. What do you mean by "guiding my

1 analysis"?
2 A. I considered these definitions when
3 applying my analysis. Yes.
4 Q. I'm just trying to make sure that I
5 understand the difference between guiding and
6 applying.
7 A. I think that they are the same.
8 Q. Okay. 142 of your declaration. Again,
9 the section starting at paragraph 142.
10 You're providing a summary of your
11 opinions as it relates to the '658 and the
12 '068 patent; is that right?
13 A. Yes.
14 Q. All right. And you --
15 A. There is a typo here.
16 Q. Oh. What's the typo?
17 A. I say, "education in applied mathematics
18 and electrical engineering."
19 That should say "computer science," of
20 course.
21 Q. Do you also have education in applied
22 mathematics and electrical engineering?

1 A. I took some applied mathematics classes,
2 and my dissertation incorporates a fair amount of
3 electrical systems analysis, but I do not have a
4 formal degree in either of those subjects.
5 Q. What was your dissertation in?
6 A. It was in security and privacy, and our
7 funding was for medical applications of it. So I
8 just applied it to medical devices.
9 Q. Was this copied and pasted from another
10 declaration, I assume?
11 A. I am not sure, but I wouldn't --
12 certainly -- I see that -- it's some kind of an
13 error that propagated here that...
14 Q. No worries.
15 Okay. So your opinions as to the
16 '658 patent. It looks like you're presenting
17 them in grounds 1A, 1B, 2A and 2B.
18 A. Say one more time.
19 Q. The opinion -- your opinions as it
20 relates to the '658 patent, you're presenting
21 those in a couple of different grounds: 1A, 1B,
22 2A, 2B.

A. Yes.
Q. All right. And all those are based on some combination of Darnell, Kim, and Dasgupta, right?
A. Yeah. That's right.
Q. All right. No other references, just those three?
A. That's right.
Q. Okay. All those are obviousness grounds?
A. Yes.
Q. Okay. No -- you're not presenting any anticipation grounds?
A. Not at this time, no. That I know of.
Q. Okay. I'm just checking because, in paragraph 142, it says, "In my opinion, all challenged claims are invalid as either anticipated or obvious."
I'm not trying to trick you here. I'm just trying to make sure that --
A. No, I understand.
Q. -- they're obviousness grounds, not anticipation grounds?

A. Yes. The reason I'm checking is just to make sure that -- I believe that's correct, they're all obviousness grounds. If my report somehow is written in a way that that's not true, then okay. But I think that that's not right, so I think that's correct; they're all obviousness grounds, I believe.
Q. Okay. And then the next page, again, you have your -- a summary of your opinions as it relates to the '068 patent. And those are presented in grounds 1 and 2.
A. Yes, that's right.
Q. Okay. And again, all based -- I guess both grounds are based on some combination of Darnell, Kim, and Dasgupta?
A. Yes.
Q. Again, just those three references?
A. Correct. Where do we -- I'm sorry, where was the anticipation language? I'm just trying to --
Q. It's in paragraph 142.
A. 142?

Q. The last sentence.
A. Oh, I see. Yes, yes, yes. Right. That's just -- sure. It's stock language. Sure.
Okay. Yeah. No, that's right, they're all obviousness grounds.
Q. Okay.
A. We're good.
Q. All right. I just wanted to make sure.
A. Yeah. It's anticipated and/or obvious for the stock language, and then I provide specific language for the patents. And they're all obviousness grounds. That is correct.
Q. Okay.
A. And that is certainly in line with my recollection --
Q. Okay.
A. -- so...
Q. Just making sure we're on the same page.
A. Okay.
Q. So then, just to finish this up for the '068, you said that grounds 1 and 2 based on some combination of Darnell, Kim, and Dasgupta?

A. Correct.
Q. And just those three references?
A. Yes.
Q. All obviousness grounds?
A. Correct. I will point out, though, that I also combine all of these references with knowledge of a POSITA in various points.
Q. Okay. So none of the references that you relied on anticipate any of the claims of the '658 or the '068 patent?
A. I haven't performed that analysis, but I don't have any opinions that they do.
Q. Okay. I'm going to hand you a document that has been previously marked as Twitch Exhibit 1004 in the 00307 proceeding.
A. Okay.
THE WITNESS: And can I please take a quick bathroom break?
MR. DEIGHAN: Sure.
(A recess was taken.)
BY MR. DEIGHAN:
Q. All right. I'm going to start that over.

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So I've handed you a document that has been previously marked as Twitch Exhibit 1004 in the 00307 proceeding.

Do you have that?

A. Yes.

Q. All right. Do you recognize that document?

A. Yes.

Q. What is it?

A. Darnell. It is one of the references that I discuss.

Q. Okay. So this is the -- this exhibit is the Darnell reference that you referred to in your declaration, right?

A. Correct.

Q. Okay. I've given you the version that was submitted in the 307 proceeding. I believe that this same document was marked as Exhibit 1004 in the 308 proceeding.

Do you understand them to be the same?

A. I would expect that to be the case.

Q. Okay. And we can just talk about the

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version that I've given you, right?

A. Let's do that.

Q. Okay. Make this easy on ourselves here.

Okay. Is it fair to characterize Darnell's system as an aggregator?

A. What do you mean by "aggregator"?

Q. How would you interpret that?

A. I think it's a -- could mean many different things. Broad term.

Parts of Darnell collect content, but Darnell does more than just that, I guess.

Q. I'll give you a couple of examples.

So paragraph 32 of Darnell.

A. Sure.

Q. It refers to the content feed aggregation system.

A. Okay. I am looking now to see what it says about that. Give me one moment.

So 32, the language of Darnell is referring to a content feed aggregation system, presumably because one of its functions is to collect content feeds together.

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Q. All right. And I think in paragraph 128 of your declaration you also call it the content feed aggregation system.

A. Yes. I refer to the content feed aggregation system in Darnell in paragraph 128. Because that's the language Darnell uses, of course.

Q. Darnell's system aggregates content, right?

A. One of the things that Darnell's system does is it collects content. It collects it into a single point. Yeah.

So in that respect, that's why I think it refers to itself as a feed aggregation system. It collects feeds, I guess is a better way to put it.

Q. It aggregates feeds?

A. It is -- yes. It says here specifically, "In a content feed aggregation system, a user may subscribe to one or more content feeds and be presented to the items presented in those content feeds."

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Q. Where were you reading from?

A. Darnell at paragraph 30.

Q. Got you. Okay.

So looking at paragraph 32, Darnell's content feed aggregation system includes a server system 104, coupled to client systems 102, right?

A. Please repeat.

Q. Do you want a second to review paragraph 32?

A. Oh, yes. That was...

Okay. Please repeat.

Q. Darnell's content feed aggregation system includes a server system 104 --

A. Yes.

Q. -- which is coupled to client systems 102 and hosts 120, right?

A. Yes. It says that.

Q. Okay. What's the server system 104?

A. The server system 104 accesses content feeds from the feed sources, and it also does other things too.

Q. And the server system 104 includes a

1 server 108 and a database 110; is that right?
2 A. Yes.
3 Q. What's the server 108?
4 A. Server 108, which is sometimes called a
5 front-end server, retrieves the content feeds
6 from the feed sources.
7 Q. What's a front-end server?
8 A. Broadly speaking, without giving a
9 specific definition, a front-end server is
10 generally a server that is the interface point
11 for other systems.
12 Q. Is there such a thing as a back-end
13 server?
14 A. There can be.
15 Q. And just generally speaking, what is a
16 back-end server?
17 A. A back-end server, just like front-end
18 server, can be used in different contexts. The
19 back-end server, generally, can be a server that
20 does things that are not facing other systems
21 except for the front-end servers.
22 Q. Sorry, what do you mean by does things

1 that are not facing other systems?
2 A. So this is general; it's not something
3 that I think I've specifically opined on. But a
4 back-end server, you know, can do tasks that
5 are -- I'm trying to find a word there -- not
6 directly facing -- they're often tasks that are,
7 well, on the back-end.
8 I'm trying to it describe it without
9 using the word "back-end."
10 But it's not something I've officially
11 actually opined on directly. Maybe you can point
12 me to where it appears here and I can, like,
13 describe it off of the context, the word
14 "back-end." Front-end appears here, so I can
15 talk about that.
16 But, like, back-end, does it appear here?
17 So I can, like...
18 Q. I'm just asking generally. Honestly, I
19 just kind of want to --
20 A. Yeah.
21 Q. Wanted to better understand the
22 difference.

1 A. It's like -- so the front-end systems,
2 they typically allow you to interface to
3 computers. One of those computers might be a
4 back-end system, so one that's not really
5 designed to be communicating directly with other
6 computer systems.
7 Q. Okay.
8 A. But that's just a general, off-the-cuff
9 term.
10 Q. All right. Then we talked about the
11 client system in Darnell's content feed
12 aggregation system.
13 What does that do?
14 Just to move this along a little bit --
15 A. Yeah.
16 Q. -- paragraph 39. I'm not trying to limit
17 you to that, but that might be a good place to --
18 A. Thank you.
19 Q. Sure. So I'll ask the question again.
20 What does the client system in Darnell's
21 content feed aggregation system do?
22 A. So the user interfaces with the server

1 system and these content items at a client system
2 or device. And that's going to be called the
3 client system.
4 The client system, it includes a computer
5 or other computery [sic] devices like PDAs, cell
6 phones, or the like.
7 Q. And how does a user interact with the
8 server system 104?
9 A. They view content items at the client
10 system -- through the client system.
11 Q. Is that through feed reader user
12 interface 116?
13 A. Yes. Client system 102 includes a
14 computer 118. And computer 118 typically will
15 have a display 114. And therefore, in some
16 embodiments at least, a user may interact with
17 the server system through the feed reader user
18 interface that may be presented on that display
19 114, which is a part of the display of the client
20 system 102, which includes a computer 118.
21 Q. In Darnell's system, content items in
22 feeds are stored in a database before being

1 presented to the user via the feed reader user
2 interface, right?
3 A. Is there a section here that you're
4 quoting as I look through, maybe?
5 Q. Sure. Paragraph 34, for example, says,
6 "The server system 104 stores content items in
7 the content feeds in the database 110."
8 A. Okay. So 34 says the server system
9 stores content items in the content feed
10 from [sic] the database. In some embodiments,
11 the database stores both metadata and the
12 content of each content item. However, in some
13 other embodiments, the database stores the
14 metadata but not the content for each content
15 item. Yes.
16 Q. Okay. So content items in the content
17 feeds are stored in a database before being
18 presented to the user?
19 MR. CARTER: Object to form.
20 THE WITNESS: So the server system stores
21 those. That was part 1 that I just answered.
22 Part 2 is whether that occurs before it's

1 being presented to the user.
2 Is that correct? I just want to
3 understand your question.
4 BY MR. DEIGHAN:
5 Q. I was just -- that's kind of what I'm
6 asking you.
7 A. Okay. Let me take a look.
8 It looks like Darnell, at least in some
9 embodiments, describes content being stored in
10 the database in its transmission path to the
11 user. So along that transmission path it gets
12 stored.
13 Q. But what you're getting hung up on, I
14 guess, is that -- whether or not it's stored in
15 the database before it's sent to a user; is that
16 right?
17 A. No. As part of the transmission path, it
18 goes into the database -- in some embodiments it
19 goes into the database as part of the
20 transmission path to the user. So it gets stored
21 on the way to the user. Yes.
22 Q. Okay.

1 A. It can get stored on the way to the user,
2 at least.
3 Q. Paragraph 167 of your declaration talks
4 about the feed content database. It says, "The
5 content data is received at the server and stored
6 remotely in a database before being sent over the
7 internet to the user through the feed reader
8 interface."
9 A. Yes.
10 Q. Okay.
11 A. And that's along the path.
12 Q. Okay. So again, the content items are
13 stored in the database before being presented to
14 the user?
15 MR. CARTER: Object to form.
16 THE WITNESS: That's the quote from --
17 that I'm referencing from the patent here. So in
18 that embodiment it's describing the content is
19 received at the server and stored remotely in a
20 database before being sent over the internet to
21 the user through the feed reader interface.
22 That's right.

1 BY MR. DEIGHAN:
2 Q. Is there another embodiment?
3 A. Well, it describes an embodiment here. I
4 don't know --
5 Q. Okay.
6 A. -- whether other embodiments exist.
7 Q. Okay. So figure 5, which is discussed in
8 Darnell starting around paragraph 74 -- I'm
9 sorry, 71, that discusses Darnell's server
10 computer, right?
11 A. Figure 5 is a block diagram illustrating
12 a server computer in accordance with some
13 embodiments.
14 Q. All right. And that server computer, it
15 includes a feed tracker module; is that right?
16 A. The memory of the server computer has
17 instructions that appear to comprise a feed
18 tracker module.
19 Q. All right. And it says that the feed
20 tracker module is for receiving [sic] content
21 items for storage periodically and/or as content
22 feeds are updated.

1 That's in paragraph 74.
2 A. A feed tracker module for retrieving
3 content items for storage periodically and/or as
4 content feeds are updated.
5 Q. Right. And then the server computer also
6 includes a feed content database; is that right?
7 A. Yes.
8 Q. And what's that for?
9 A. I should say yes for this embodiment.
10 Feed content database for storing content
11 items from content feeds and user information
12 about content items that respective users have
13 read, labeled, and so on.
14 Q. All right. So the feed track- -- sorry,
15 the feed content database stores content items
16 from feeds?
17 A. Feed content database for storing content
18 items from content feeds and user information
19 about content items. Yes --
20 Q. Okay.
21 A. -- it says that.
22 Q. So this is kind of similar to the cloud

1 computing system that we were talking about
2 earlier, right? It includes a server system with
3 a database? We talked about that earlier?
4 MR. CARTER: Object to form.
5 THE WITNESS: I'm so sorry, we talked
6 about several cloud computing systems earlier.
7 BY MR. DEIGHAN:
8 Q. We were just generally discussing cloud
9 computing systems, right?
10 A. Oh, geez.
11 MR. CARTER: Same objection.
12 THE WITNESS: I don't really -- okay.
13 Maybe you could ask the question in a way that
14 refreshes my memory of which aspects of which
15 system we were talking about, or something along
16 those lines just so that I -- yeah.
17 BY MR. DEIGHAN:
18 Q. You recall earlier that we were talking
19 about general aspects of cloud computing systems.
20 A. I do recall that.
21 Q. And we were talking about cloud
22 applications.

1 A. Yes. I recall that.
2 Q. We were talking about interfaces.
3 A. Yes.
4 Q. User interfaces.
5 And we were talking about how, in some
6 instances, you can have remote servers that call
7 on databases, right?
8 A. Yes. That is something you can have.
9 Q. And so Darnell's system is similar to
10 that; it includes a server system with a
11 database, right?
12 A. Darnell's system includes a remote server
13 or a server system that contains or has access to
14 a database. That is correct.
15 Q. Okay.
16 A. Yes.
17 Q. All right. So --
18 A. You --
19 Q. Sorry, I thought you were --
20 A. I was going to ask for a restroom break.
21 MR. DEIGHAN: Sure.
22 THE WITNESS: Thanks.

1 (A recess was taken.)
2 BY MR. DEIGHAN:
3 Q. Hi again, Dr. Martin.
4 A. Hello.
5 Q. All right. So would you agree that the
6 role of the server in Darnell's system is to
7 aggregate content?
8 A. Not only. So it describes itself as
9 containing a feed aggregation system, but it does
10 other things, too. It presents a user interface.
11 It serves data. It fetches at that time. It
12 does a whole bunch of different things. Yeah.
13 Q. Looking at paragraph 155 of your
14 declaration.
15 A. Uh-huh.
16 Q. You're talking about the structure of
17 Darnell. And you say figure 1 depicts a
18 server-client setup designed to aggregate and
19 distribute content across a network --
20 A. Uh-huh.
21 Q. -- right?
22 A. Yup. Sorry, ask your question.

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1 Q. Oh, no, that's okay.
2 So based on your description, Darnell's
3 structure is designed to aggregate and distribute
4 content?
5 A. Yes. It aggregates content. It
6 distributes content. And it does some other
7 things, too, yeah.
8 Q. Okay. So content is aggregated at the
9 server and then distributed across the network?
10 A. Those are two things that the server
11 does.
12 Q. Okay. Referring to paragraph 156 -- why
13 don't you go ahead and read that and then I'm
14 going to ask you a couple of questions about it.
15 A. Okay.
16 Q. So in your view, Darnell's server and
17 client systems have specific roles in the system.
18 A. I think that's fair to say.
19 Q. And you say, "Darnell describes that
20 client systems may be configured to receive,
21 store, and organize feed content aggregated by
22 the server."

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1 A. That's an example that I give. Yes.
2 Q. And so the role -- or one of the roles of
3 the server is to aggregate content?
4 A. Yes. That's one of the things that
5 server can do --
6 Q. Okay.
7 A. -- it can aggregate -- it is a content
8 feed aggregation system, among other things.
9 Q. And then the role of the client system is
10 to receive, store, and organize content?
11 A. Those are some things that the client
12 system can do. They can receive, store, and
13 organize feed content, yup. Also display it, of
14 course, and some other things, too.
15 Q. All right. And then paragraph 157. If
16 you want to go ahead and read that.
17 A. Okay.
18 Q. So Darnell's system includes databases
19 that are configured to store the feeds, right?
20 A. Darnell explains that the server may
21 include or have access to one or more databases
22 configured to store the feeds. That's true.

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1 Q. And then I think you go on to say that
2 databases manage content aggregation?
3 A. Darnell also describes using databases to
4 manage content aggregation and access.
5 Q. Okay. The next paragraph, 158.
6 A. Okay.
7 Q. If you want to read that really quickly.
8 A. Okay.
9 Q. So again, you're saying here that the
10 server system collects feed content and
11 aggregates it, right?
12 A. I think the point of 158 is actually what
13 happens after the aggregation of the content.
14 Now it's talking about the structure of Darnell's
15 network and how it supports flexible and scalable
16 access to the content that has been aggregated.
17 And it talks about the server system,
18 once it's collected the content and aggregated it
19 from the host, is going to allow client systems
20 to access that content in various ways and to do
21 things with it on the client side. Yeah.
22 Q. Okay.

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1 A. So I think we're past the -- past that
2 part of it here.
3 Q. All right. So based on the parts of your
4 declaration that we just went over, fair to say
5 that Darnell's server aggregates content before
6 it's sent to users?
7 A. One of the things that Darnell's server
8 does is aggregate content. That is part of what
9 it does, though I'm still not entirely clear on
10 the definition you're using for "aggregate."
11 At least as Darnell described it, it
12 aggregates content.
13 Q. Okay. For content to be aggregated, it
14 has to be received in its entirety, right?
15 A. Well, that depends on the definition that
16 you use for aggregate and for content, I think.
17 Q. How so?
18 A. I can aggregate things and receive parts
19 of them. I can aggregate things and receive the
20 whole of them.
21 I'm just talking about the general
22 English use of the words "aggregate" and

1 "content," for instance. Right? So I think it
2 depends.
3 Maybe you can point me to an example or
4 something like that and I can more concretely,
5 like, anchor that to something in my report or
6 something. That would be helpful.
7 Q. Well, I'm just going -- asking you
8 questions about Darnell --
9 A. Yeah, point me to something in Darnell,
10 maybe, and I can, like, talk about it in that
11 way.
12 Q. Well, like I said, I'm just asking you
13 questions about Darnell.
14 A. Uh-huh.
15 Q. So from your understanding of Darnell and
16 the way it describes an aggregation system,
17 right --
18 A. Okay.
19 Q. -- for content to be aggregated, how
20 could it be -- let me rephrase that.
21 How could content be aggregated if it's
22 not received in its entirety first?

1 A. So what does it mean from your question
2 for content to not be received in its entirety?
3 Isn't a piece of content still content?
4 So I guess what I'm asking is, are you
5 implying that a piece of content is not content?
6 Q. Can content be a piece of content, in
7 your view?
8 A. In what context? Content data? Content
9 applications? Just the word content? And --
10 content as used in Darnell? Like, what are we --
11 what are we trying to talk about here?
12 Q. Well, I was asking you questions about
13 Darnell specifically.
14 A. So -- okay. So what is your question?
15 Q. Well, again, how -- in Darnell's system,
16 how could content be aggregated if it's not
17 received by the server in its entirety first?
18 A. Well, let's look for an instance where
19 Darnell talks about receiving content from the
20 server, and maybe we can look at that and get an
21 understanding.
22 So let me look for that here.

1 Okay. We can look at paragraph 36, I
2 guess. It says here, "Content feed is a resource
3 or service that provides a list of content items
4 that are present, recently added, or recently
5 updated at a feed source. A content item in a
6 content feed made include the content associated
7 with the item itself," and in parentheses says,
8 "(the actual content that the content item
9 specifies), a title (sometimes called a
10 headline), and/or a description of the content, a
11 network location, and -- or locater of the
12 content, or any combination thereof."
13 So the content item may include the
14 content associated with the item itself, or it
15 could include something related to the content.
16 And something related to the content would be a
17 part of the content, I guess. So I guess content
18 could be a part of the content.
19 Also -- the reason I'm getting hung up on
20 this is that I'm trying to figure out if you're
21 asking me, like, what if the content gets cut off
22 or something? Like, is that what you're asking?

1 If there's an error in transmission and the
2 content gets cut off, is it still going to work?
3 Like, what is the -- what are you trying to get
4 at?
5 Q. I mean, that's one example. Or let's say
6 that content -- it's a large piece of content,
7 and it's only partially received.
8 A. Okay.
9 Q. Could that be aggregated in Darnell's
10 system?
11 A. I don't think that Darnell explicitly
12 describes what would happen on the case of, like,
13 an error condition. My experience with errors in
14 systems is that it very well could end up like
15 that -- a system both -- from Darnell would
16 actually display it, but incorrectly if it gets
17 cut off. But -- I've seen lots of examples of
18 that.
19 But it's unclear what would happen if the
20 content gets cut off and you get partial content.
21 I guess that technically could still be content
22 and it could technically still work in the sense

that it displays, but it could display improperly or something, I guess.

Q. So was that -- you were talking specifically there about an error condition.

Would that be the same if a piece of content was large and it was only partially received?

A. That's what I took it to mean when you say the content is large and it's only partially received. Like, the download of the content gets cut off prematurely or something like that.

Did you mean something else?

Q. Well, I'm just thinking of a situation where you have content that is in the process of being received at the server --

A. Right.

Q. -- right? While it's being received and it's not entirely received, could that content be aggregated, or do you have to wait until it's fully received?

A. Oh. I think I understand what you're saying. Okay. It actually entirely depends on

the content and how it's being sent and -- it depends.

So like, for instance, live video is chunked up into smaller chunks. So, like, you might get 2-megabyte chunks, and you'll just be receiving a 2-megabyte chunk, 2-megabyte chunk, 2-megabyte chunk, et cetera, and you'll be displaying each 2-megabyte chunk as you get it, and that's how the content is actually sent because live video just continuously rolls, if you will.

And so -- that's one example.

If you're downloading a bulk data file that's encrypted and you need to wait until the very end to decrypt the file, then you're going to have to wait until the end for the content to be received. If it gets cut off halfway through, there's going to be an error; you're not going to be able to do anything with it, probably. I mean, your system might still treat it like it was real content. It might not know it was cut off, but it won't work right.

So I think it depends on the context, is the answer.

So it depends on the content and how it's designed to be transmitted.

Q. Okay. Are there any examples in Darnell that you're aware of where Darnell's system aggregated partial content?

A. I think so.

Okay. Darnell at 76. No, that's not right. Darnell at 36. I'm sorry.

Ah. It says at the very end of that paragraph, the next page, the content may include the data, including, but not limited to web pages, images, digital audio, digital video, portable document format documents, and so forth.

So like, at least to me, in the case of describing digital audio and digital video, those types of content are often chunked and streamed in that way. So those are two examples where it, you know, points to cases where that could occur. It's transmitted in chunks like that. Yeah.

Q. But would Darnell's system aggregate one

of those chunks, or would it wait until the full content is received before it aggregates it?

A. I would think that Darnell's system -- I think it would -- it could work in a variety of ways, but one thing it could do is actually aggregate each chunk as it comes in. And also, like, forward those chunks on. So that's one possibility.

Yeah, I don't know. I would have to consider that --

Q. Wouldn't --

A. -- in more detail.

Q. If that were the case, though, wouldn't you end up with multiple instances in your feed where it's talking about -- or the content is showing up in multiple -- let me rephrase that.

If that were the case, wouldn't there be multiple instances of the same content in your feed?

A. I think it depends on how it's presented. It could be presented in the feed such that when you click it, it enables the playing, and then

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1 that's what kicks off the stream, but the stream
2 is still collected through the server.
3 It could be presented in a bunch of
4 different ways, so it would depend, I think, on
5 how it's designed. Yeah.
6 Q. Do you --
7 A. I'd have to think more about it, but...
8 Q. Is that something that you're actually
9 pulling from Darnell, or are you just saying
10 that's how it could work?
11 A. That -- it's -- you know, Darnell just
12 has audio and video, and I'm just thinking to
13 respond to your question. But I'm not -- it's
14 not something that I've thought about previously.
15 Q. Well, let me direct you to a couple
16 paragraphs, and then I'll ask you a couple of
17 questions.
18 A. Sure.
19 Q. So paragraphs 106, 107, and 108 of
20 Darnell basically relate to figure 9A, which is
21 illustrating a process for retrieving and storing
22 content items for subsequent transmission to the

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1 client computer, right?
2 A. Yes.
3 Q. And feel free to read it.
4 A. Uh-huh.
5 Q. Actually, I'll just give you a second to
6 read through it and then I'll ask you a couple of
7 questions.
8 A. Okay. I'm reading 107 now. Okay.
9 Q. So it talks about how content items are
10 merged into a stored set of previously published
11 content items, right?
12 A. Yes.
13 Q. And then it talks about how content
14 that's being merged is identified, right?
15 A. Yes.
16 Q. And isn't the reason why they're doing
17 that identification so that the system can
18 recognize if it's the same piece of content so
19 it's not merging the same piece of content into
20 the feed multiple times?
21 A. Yes.
22 Q. So if you had -- going back to our

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1 discussion about a partial piece of content --
2 right --
3 A. Uh-huh.
4 Q. -- wouldn't a partial piece of content
5 have a different identifier from another partial
6 piece of that same content?
7 A. Oh, I see. That actually depends on how
8 the content gets chopped up and transmitted.
9 So if it gets chopped up into chunks for
10 all the same subscribers and transmitted, they'll
11 all get the same piece, and they'll just start
12 playing from that piece, and so it will actually
13 end up being the case that that deduplication can
14 still occur.
15 But again, this is something that I would
16 need to think more about. I'm not -- you know,
17 I'm just trying to answer your question.
18 Q. Okay. So it's your testimony, then, that
19 a partial piece of content could be aggregated in
20 Darnell's system?
21 A. It's not -- it doesn't -- nothing in
22 Darnell prevents that from occurring. It would

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1 depend on how the content is structured. Yeah.
2 Q. Okay. But nothing in Darnell's
3 description says that that occurs.
4 A. Well, by talking about video and audio,
5 it seems to me that Darnell at least contemplates
6 the idea for those applications where there are
7 common applications.
8 I don't know about partial content for
9 things like incorrect or errored-out data
10 transfers or things like that. But at least in
11 some context, I think that Darnell contemplates
12 it.
13 Q. And that's just based on the fact that
14 Darnell says that the content can include video
15 and audio?
16 A. Yeah. That's right.
17 THE WITNESS: New line of questioning?
18 MR. DEIGHAN: Yes. We can take a break.
19 THE WITNESS: Thanks.
20 (A recess was taken.)
21 BY MR. DEIGHAN:
22 Q. Hi, again, Dr. Martin. I had one last

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Twitch Interactive, Inc. v. RazDog Holdings LLC IPR2025-00308

1 question on that last line of questioning.
2 A. Oh, okay.
3 Q. There's nothing beyond the fact -- or let
4 me restart.
5 There's nothing in Darnell beyond the
6 fact that it says that it can include video and
7 audio that discloses that Darnell can aggregate
8 partial content, right?
9 A. Haven't looked for that yet. I could do
10 so now, but it's not something that I've, like,
11 actually looked through Darnell for, because
12 these partial content questions you are kind of
13 just throwing at me now.
14 So -- I can look for it. Do you want me
15 to?
16 Q. How long do you think it would take you
17 to look for that?
18 A. It might be tough because I'll have to
19 kind of, like, do a deep dive through it. It
20 sort of will take a long time to do it on the
21 fly, I think.
22 Q. How familiar are you with Darnell?

1 A. Pretty familiar with Darnell. I mean
2 quite -- very familiar with Darnell.
3 Q. I mean, as you sit here today, can you
4 think of anything else where Darnell talked about
5 aggregating partial content?
6 A. Yeah, like -- that's why I said, you
7 know, like, pretty familiar. Like, without
8 doing -- I'm not familiar to the point that I
9 have it memorized, but I'm familiar with all the
10 parts that I've cited in my report.
11 So -- for the other parts, I would have
12 to, like -- I'd have to really do a deep dive to
13 see if I could find anything else.
14 Q. Nothing in your report talks about
15 aggregating partial content in Darnell?
16 A. Other than the citation to that passage,
17 I don't think anything else is specifically
18 directed at that in Darnell.
19 Q. All right. Let's turn to paragraph 179
20 of your declaration.
21 A. Okay.
22 Q. I'll give you a second to read it if

1 you'd like.
2 A. Sure.
3 Q. So in this paragraph you're providing a
4 quote from the patents, and you say that what
5 that means is that content updates and
6 transmissions occur with minimum lag, right?
7 A. Yes.
8 Q. And you say, which a person of ordinary
9 skill in the art would have recognized to ensure
10 users can access the most current data from
11 multiple sources in real time.
12 A. I say that.
13 Q. So for a user to access the most current
14 data in real time, doesn't it have to be made
15 available to the user on the master web page?
16 A. Okay. Ask that question again just so I
17 can understand it.
18 Q. For a user to access the most current
19 data in real time, doesn't it have to be made
20 available to the user on the master web page?
21 A. For the user to access the most current
22 data in real time, the user would access that

1 data through the master web page.
2 Q. Right. Because a user can't access the
3 most current data if it's just sitting on the
4 remote server, right?
5 A. The data travels from the server to the
6 user through -- and the master web page is how
7 the user accesses it. Through the interface
8 provided by the master web page.
9 Q. Okay. Again, so the -- in order for a
10 user to have access to the most current data, it
11 has to be displayed on the master web page.
12 A. The data will ultimately be displayed on
13 the master web page. Correct.
14 Q. Paragraph 151. You quote the patents
15 and you say, "As content updates on a source
16 server, the master application, which organizes
17 and displays content on the master web page,
18 receives [sic] this content promptly to ensure
19 users experience minimal delay when viewing
20 updated data."
21 MR. CARTER: Sorry, I think you said
22 paragraph 151, and I believe you meant

1 paragraph 181.
2 MR. DEIGHAN: Oh, I'm sorry. Did I --
3 yes. I apologize.
4 THE WITNESS: Okay.
5 MR. DEIGHAN: I meant 181. Sorry about
6 that.
7 THE WITNESS: Okay. Can you please say
8 whatever you were saying again, because I was
9 reading 151 when you were talking.
10 MR. DEIGHAN: I -- I apologize. Slip of
11 the tongue.
12 BY MR. DEIGHAN:
13 Q. So in paragraph 181 -- right? -- you
14 provide a quote from the patent, and what you say
15 is the "description shows that, as content
16 updates on a source server, the master
17 application, which organizes and displays content
18 on the master web page, retrieves this content
19 promptly to ensure users experience minimal delay
20 when viewing updated data."
21 A. Exactly. Yes.
22 Q. So doesn't that mean that the patent

1 requires that users experience minimal delay --
2 I'm sorry.
3 If content is updated on the source
4 server but it's not provided on the master
5 web page, wouldn't the user experience delay in
6 viewing that data?
7 A. If content is updated on a source server,
8 the master application, which is putting together
9 the master web page, will retrieve that content
10 promptly, and that way they'll ensure the users
11 experience minimal delay when viewing the data.
12 Q. So you said the master application, which
13 is putting together the master web page,
14 retrieves the content promptly.
15 A. Yes.
16 Q. But that still has to be shown on the
17 master web page, right?
18 A. Yes. The content is going to ultimately
19 be organized and displayed on the master
20 web page. Yeah.
21 Q. What do you mean when you say ultimately
22 organized and displayed?

1 A. Master application organizes and displays
2 content on the master web page, and it's going to
3 be shown on the user's computer, or however the
4 user is accessing the master application.
5 Q. Okay. Because a user would experience
6 delay when viewing the data if the information
7 was on the server but not showing on the
8 web page.
9 A. If the information were on the server but
10 not shown on the web page, then the user would
11 not see the data that was on the server but not
12 on the web page.
13 Q. All right. Paragraph 182. Not 152.
14 182.
15 A. Very good.
16 Q. Go ahead and read that.
17 A. Okay.
18 Q. So in your opinion, "simultaneously" and
19 "real time" mean a system where content from
20 multiple sources is updated and displayed as soon
21 as it becomes available; is that right?
22 A. I don't think I would say that they mean

1 a system where content from multiple sources is
2 updated and displayed as soon as it becomes
3 available, but I think a POSITA could understand
4 them to describe such a system.
5 Q. What's the difference between "mean" and
6 "describe"?
7 A. When you mean something, you're saying
8 this thing is that thing. When you're describing
9 something, you're describing characteristics of a
10 thing or you're understanding a thing to have
11 certain characteristics, but it might have other
12 aspects, too. So it's not a definition.
13 Q. So in your view, simultaneously -- a
14 characteristic of "simultaneously" and
15 "real time" is that it's a system where content
16 is updated and displayed as soon as it becomes
17 available?
18 A. "Simultaneously" and "real time" a POSITA
19 could understand to be describing a system where
20 content from multiple sources is updated and
21 displayed as soon as it becomes available, I
22 think is what I'm saying here.

Q. What about a system where content is only updated but not displayed? Would that system be simultaneous and in real time?

A. I think, here, we're talking about this particular claim in the patent, so I think that, in the context of this particular claim, that type of system. So I don't want to say any system.

But for the purposes of claim 1 limitation (b)(2), I think what we're saying here is that it could encompass a situation where a POSITA would understand that these "simultaneous" and "real time" terms are describing a system where content from multiple sources is updated and displayed as soon as it becomes available.

Q. Again -- I think what you're saying is that content has to be updated and displayed, right?

MR. CARTER: Object to form.

THE WITNESS: I'm not saying that it has to be. I'm saying that, at the very least, a POSITA -- the claims are broad enough to

encompass such a system, and a POSITA could understand that.

BY MR. DEIGHAN:

Q. They're broad enough to encompass a system that requires content be updated and displayed is what you're saying.

A. Yes. I don't know if they have to be or not. I haven't considered that. But at the very least, it encompasses a system or could encompass a system where that occurs.

Q. So this is -- is this your definition of "simultaneously" and "real time"?

A. It's not the definition of "simultaneously" and "real time." Instead, I'm saying that these are terms that are being used to describe a system.

And so I'm saying, based on that description of the system, a POSITA, you know, would have understood that system to be a system where content from multiple sources is updated and displayed as soon as it becomes available. That's what I'm saying here.

Q. So again, a system where content is only updated but not displayed wouldn't meet that description?

A. I think that these terms -- a POSITA would have understood them to be describing a system where the content is updated and displayed. And so that's at the very least how I was thinking about them here.

Q. The next -- sorry, not -- paragraph 184. I'll give you a minute to read that.

A. Okay. Okay.

Q. So in this paragraph you refer to the feed tracker module, right?

A. I do.

Q. And that's part of the server computer, right?

A. Ah, yes. It is.

Q. Okay. It's not part of the client?

A. The feed reader module is part of the client.

Q. Okay. So the feed tracker module doesn't display any content to the user, right?

A. The feed tracker module retrieves content items periodically and/or as content feeds are updated.

And the feed reader module is what displays feeds to the user, or part of what displays feeds to the user.

Q. Okay. I'm going to backtrack just a bit here.

Paragraph 178.

A. Okay.

Q. You say a POSITA would have understood the terms "simultaneously" or "real time" to mean that the content from more than one source is sent to the server when it is available, right?

A. Yes. That is something that a POSITA would understand.

Q. And you said that that's in the context of the '658 patent specification, right, and file history?

A. Yes. Also, just to be clear, when we're talking about the '658 patent specification, we are also talking about the specification for the

1 '068 patent. Is that okay?
2 Q. Yes. Of course.
3 A. Okay. Very good.
4 Q. Where in the specification does it
5 provide support for that definition?
6 A. Paragraph 179 is where I provide that
7 support, it looks like.
8 Q. Okay. And how does that support your
9 definition there?
10 A. Also paragraph 180, sorry, and 181.
11 So it's 179 through 181, just to be clear
12 for the record.
13 Q. Okay. And how did those portions of the
14 specification provide support for your definition
15 of "simultaneously" and "real time"?
16 A. So column 1:51 says, "Cloud-based
17 computing can include the delivery of any kind of
18 content data and/or services in real time, which
19 extend the capabilities to a remote computing
20 device, typically over the internet."
21 So -- oh, sorry, I was actually looking
22 there. Also, though -- so that is one place.

1 And also 38, "More particularly, the present
2 invention relates to computer systems for
3 managing and migrating through web-based content
4 data in a cloud-based computing environment from
5 multiple content data sources through a single
6 point of access and/or user interface from a
7 remote computing device."
8 So here they're describing -- and also it
9 continues, "Cloud-based computing provides
10 computation, software, data access, and storage
11 services that do not require a user to have
12 knowledge of the physical location and
13 configuration of the system and architecture that
14 delivered the content data and/or services.
15 Cloud-based computing can include the delivery of
16 any kind of content data and/or services in
17 real time, which extend the capabilities to a
18 remote computing device, typically over the
19 internet."
20 Okay. So here I'm basically just saying
21 that it can include the delivery of any kind of
22 content data and/or services in real time, and

1 that extends the capability of the remote
2 computing device, typically over the internet.
3 And that's a description of a cloud-based system
4 and it means that content updates and
5 transmission, they occur with minimal lag.
6 And so a POSITA would understand that to
7 be recognizing that users can access the most
8 current data from multiple sources in real time.
9 Then in column 4, lines 1 through 3 --
10 Q. Before we go there, can I just ask you a
11 couple of questions about what you --
12 A. Yeah.
13 Q. -- just read?
14 A. Do you want to do it by paragraph?
15 Q. Sure.
16 A. It might be easier to just do it that
17 way.
18 Q. Yeah. Sure.
19 So in that discussion -- or in that
20 description that you just read, doesn't delivery
21 refer to delivery to the client?
22 A. I'm sorry, what line number?

1 Q. It was just in the --
2 A. No, I know. I just lost my place.
3 Q. Well, in your declaration, you're citing
4 to column 1, lines 43 to 46.
5 A. Okay. So here it's just talking about
6 delivery generally, so it's just saying
7 cloud-based computing generally can include the
8 delivery of any kind of content data and/or
9 services in real time.
10 So it's just saying what the cloud
11 enables. It can extend the capabilities to a
12 remote computing device, typically over the
13 internet. It's not really saying what kind of
14 remote computing device it is, at least not yet,
15 not here. It's because it's the background of
16 the invention. Just talking about what the cloud
17 enables.
18 Q. So in that paragraph of your declaration
19 where you're talking about this, though,
20 paragraph 179 --
21 A. Uh-huh.
22 Q. -- and you talked about this a little

1 earlier -- but you said that a person of ordinary
2 skill in the art would have recognized that this
3 ensures users can access the most current data
4 from multiple sources in real time, right?
5 A. That is correct.
6 Q. So ensuring users can access the most
7 current data, doesn't that require the data to
8 actually be displayed to the user?
9 A. Ensuring users can access the most
10 current data -- here, this is talking about data
11 making its ways to users in the abstract, this
12 particular sentence.
13 And here we're talking about users
14 accessing current data from multiple sources in
15 real time.
16 And here we're talking about, in the
17 patent, data-reaching devices because we're still
18 talking in the abstract. And I'm saying the
19 implication of that sentence is that a POSITA
20 would recognize that one implication of that is
21 it would ensure that users can access the most
22 current data from multiple sources in real time.

1 Q. Right. You're saying that this portion
2 of the patent -- or you're saying this
3 description -- right? And that refers to those
4 lines in the patent.
5 A. Yes.
6 Q. So again, back to my original question,
7 how does that support your definition of
8 "simultaneously" and "real time"?
9 A. Right. So what I'm saying with that,
10 though, for your previous question, you're
11 saying -- I think you were saying has to be
12 viewed. But here we're talking about the
13 delivery of any kind of content -- right? --
14 because we're in the context of the background.
15 That could be content that's not even viewable.
16 So here we're just talking about the delivery of
17 content; the cloud enables it to be transmitted
18 with minimal lag. And a POSITA would recognize
19 that would ensure that users can access the most
20 current data from multiple sources in real time.
21 That's all they're saying here.
22 And it supports, though, the notion that

1 real time would be something a POSITA would
2 understand is signifying that content from
3 multiple sources is transmitted to the server
4 when it becomes available without significant
5 delay between the content sources.
6 And I go on with other sources of
7 evidence, too, other things to support that.
8 This is just one piece of the whole puzzle, of
9 course.
10 Q. Yeah, I'm not sure I'm entirely
11 following. Because your definition is that
12 content from more than one source is sent from
13 the server when it becomes available. And then,
14 in paragraph 179, you're saying that the portion
15 of the patent that you cite would have been
16 recognized by a person of ordinary skill in the
17 art to ensure users can access the most current
18 data from multiple sources in real time, right?
19 A. Oh, I think you're taking just issue with
20 the fact that it says the word "users" here? You
21 can replace the word "users" with "computers" and
22 the sentence would still hold true, if that's

1 what the issue is.
2 Q. I mean, the issue is -- that I'm trying
3 to get at here is that your definition requires
4 that content is sent to the server, but --
5 A. Uh-huh.
6 Q. -- in this paragraph you're talking about
7 users accessing current data.
8 And what I'm saying is that, in order for
9 users to access current data, just having content
10 sent to the server is not enough.
11 A. Oh, I think I understand what your
12 question is.
13 No. Actually, if your users are
14 accessing data through a server, if you minimize
15 the delay of transmission of the data to the
16 server and the users are accessing data from that
17 server instantaneously, you can minimize the lag
18 that the users access that data with. Just
19 because it goes through a server doesn't mean
20 that it can't be transmitted with minimal lag.
21 Q. So are you adding something to your
22 definition of "real time" and "simultaneously,"

1 then?
2 A. No. I'm just describing to you what it
3 says here.
4 I wrote here, "This description of a
5 cloud-based system means that content updates and
6 transmissions occur with minimal lag."
7 So pause there. Okay?
8 My definition is, the terms signify that
9 the content from multiple sources is transmitted
10 to the server when it becomes available.
11 Next I'm going to jump to 179: The
12 description of a cloud-based system means that
13 the content and transmission occurs with minimal
14 lag.
15 Then, "A POSITA would have recognized to
16 ensure that users can access the most current
17 data from multiple sources in real time."
18 If the server collects the data from
19 multiple sources, it's going to want to have
20 minimal lag when it collects that data. The
21 users will also want to have minimal lag when
22 they access it from the server. That could still

1 be real time even if it goes through the server.
2 Q. Yeah. So again, it's -- you're talking
3 about the users there.
4 A. The users might --
5 Q. -- you're not just limiting it to the
6 data being sent to the server; you're also saying
7 that the users have to get it with minimal lag.
8 A. Okay. But a POSITA would recognize that
9 users want to access the data from multiple
10 sources in real time. And if the users are
11 accessing that data through a server, that
12 doesn't change anything in terms of what I've
13 written here, or my meaning. I think that that's
14 what I'm saying here. Right?
15 So I guess I'm still confused with what
16 the -- like, what you're getting at.
17 Q. What I'm getting at is that, in your
18 definition, you're saying that content sent to
19 the server --
20 A. Right.
21 Q. -- is enough to meet the definition of
22 "real time" and "simultaneous," right? And when

1 you're discussing this portion of the patent,
2 you're talking about it being displayed or
3 received by a user.
4 And so, in your definition, I'm saying it
5 doesn't seem like it's enough for content to be
6 sent to the server. It's got to be also
7 accessible to a user.
8 MR. CARTER: Object to form.
9 THE WITNESS: I don't see how those two
10 things follow from one another.
11 So yes, it needs to be sent to the
12 server, and that is the definition of real time.
13 Later I talk about how users want to
14 access data from multiple sources in real time as
15 well and that how one way that that needs to
16 occur is, at the very least -- and I'm telling
17 you one way that that needs to occur at the very
18 least is for the data to be transmitted from the
19 multiple sources to the server when it becomes
20 available without significant delay.
21 Whether or not users want to access
22 things and how they want to access things would

1 need to be something that's contemplated by the
2 claims if that's something that would appear in a
3 definition.
4 So maybe if we anchored a discussion to
5 the claims, that would help us out here. But if
6 you're just asking about the definition I've
7 used, I'm looking at the claim language
8 specifically when using a definition here.
9 BY MR. DEIGHAN:
10 Q. All right. So outside of the claim
11 language, though, where in the spec does it say
12 that content sent to a server means real time or
13 simultaneous?
14 MR. CARTER: Object to form.
15 THE WITNESS: Well, first of all, I don't
16 say means; I say signify. Right? It's an
17 aspect. Right? I'm not defining anything here.
18 I am just saying that the terms signify an aspect
19 of what "real time" is.
20 But regardless, so when we go to
21 column 4, lines 1 to 3 -- that's the next example
22 I use.

1 Do you want me to jump there?
2 BY MR. DEIGHAN:
3 Q. Sure.
4 A. Okay. I think it's actually lines 13
5 through 15. Because it says -- refers to content
6 data as "data or information that is stored
7 remotely on servers that are generally accessible
8 over the internet/intranet via service provided
9 servers."
10 And here the point that I'm trying to
11 make is that the setup indicates that the content
12 is dynamically available and that it has to be
13 readily retrievable by the master server, and
14 that the expectation of a prompt retrieval is
15 going to suggest that the content updates from
16 each service provider would appear on the master
17 server as soon as they're available,
18 concurrently, given the system's design to
19 integrate various feeds into a cohesive and
20 accessible interface.
21 Q. Okay. And then paragraph 181. You said
22 that that also supports your definition?

1 A. Yes. 181, column 4, lines 4 through 6,
2 discusses content applications. The patent
3 numbers are slightly different. So I've been
4 looking at the '068 patent, and that's why my
5 line numbers are slightly off. So I apologize
6 for that.
7 Q. That's all right.
8 A. The line numbers in the report are
9 accurate, it appears, so I'm just going to...
10 It says, "Content applications are
11 software applications that accesses display and
12 organized content data generally from websites."
13 And here it shows that content updates on
14 a source server -- that as content updates on a
15 source server, the master application, which is
16 organizing and displaying the content in the
17 master web page, is going to be retrieving the
18 content promptly to ensure that the users
19 experience minimal delay when viewing the data.
20 The goal is to minimize the delay that
21 the users experience when viewing the data. But
22 the way that you achieve that goal, from the

1 perspective of this claim, is to make sure that
2 the server gets the content as soon as it becomes
3 available.
4 Q. Once again, your discussion there
5 referred to ensuring that the users experience
6 minimal delay, right?
7 A. Yes.
8 Q. It doesn't say that the server
9 experiences minimal delay, right?
10 A. Well, part of it is that the server has
11 to experience minimal delay in order for the user
12 to experience minimal delay.
13 Q. Right. And then it has to be shown to
14 the user and the user has to experience minimal
15 delay.
16 MR. CARTER: Object to form.
17 THE WITNESS: At some point, things will
18 be shown to the user, and the user might want to
19 experience minimal delay. But we would have to
20 talk about that part of the claim to the extent
21 that that's what we would talk about for that to
22 be the part that we are discussing.

1 BY MR. DEIGHAN:
2 Q. Isn't the whole point of the patents to
3 provide a system that displays content to a user
4 with minimal delay?
5 A. So I think that an aspect of the system
6 is that it's going to want to display content to
7 the users so that they can see it with minimal
8 delay and scroll through it with minimal delay in
9 the scrolling.
10 Q. And so, in other words, an aspect of the
11 system is that it's going to want to display
12 content to the users so they can see it in
13 real time and scroll through it in real time in
14 the scrolling.
15 MR. CARTER: Object to form.
16 THE WITNESS: I think that -- I think
17 that the claim requires that the system -- so an
18 aspect of the system is actually that it includes
19 software coded for organizing content data and
20 content applications from multiple content
21 sources or service providers in real time from
22 their respective servers on a master web page.

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1 And then that is viewable from remote computing
2 devices through the master server on the master
3 web page.
4 That doesn't say that the viewing has to
5 occur in real time.
6 And then there has to be a scrolling or
7 paging through the content data or content
8 applications from multiple content sources or
9 service providers simultaneously and through the
10 master server in real time from the master
11 web page.
12 So I think that there are two uses of
13 realtime here that are different from each other.
14 BY MR. DEIGHAN:
15 Q. I think you skipped some words there in
16 your reading of the claim, but --
17 A. I did, to group them. Like, to group my
18 reading of the claim, if that makes sense.
19 Q. Right. Because you said that -- let me
20 see where you state it.
21 All right. You say that software coded
22 for organizing content and content applications

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1 from multiple content sources or service
2 providers in real time.
3 A. Oh, did I skip an entire line? I
4 apologize.
5 Service -- content sources or service
6 providers preselected by the user and streamed to
7 the master server simultaneous in real time.
8 So the streaming is to the master server
9 simultaneously in real time.
10 Q. But then why does it say "from their
11 respective servers on a master web page"?
12 A. They are streamed to the master server in
13 real time from their respective servers. And the
14 "on a master web page" goes with the "and are
15 viewable from the remote computer."
16 So the content sources get put onto a
17 master web page and they are viewable from a
18 remote computer. The "being put onto the master
19 web page" occurs on the server. The viewing
20 occurs on the remote computer. Those two steps
21 are separated by a sending of the master
22 web page.

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1 Q. Well, that clause you're referring to,
2 viewable -- it says, "are viewable from the
3 remote computer devices through the master server
4 on the master web page."
5 A. Correct.
6 Q. So why would the preceding "on a master
7 web page" be referring to that clause?
8 A. No. It says, "in real time, from their
9 respective servers on a master web page."
10 So -- let me take a step back. So it
11 says here, "organizing content data and content
12 application from multiple content sources or
13 service providers preselected by the user and
14 streamed to the master server simultaneously in
15 real time from their respective servers."
16 The organizing is being done on the
17 master web page, and it is viewable from remote
18 computer devices through the master server on the
19 master web page.
20 Do you see what I'm saying? That's why I
21 skipped some words, so that the "organizing" goes
22 to the point where I'm trying to connect it,

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1 which is how I think you're supposed to read
2 this.
3 Q. Yeah. I mean, we don't need to keep
4 going around in circles. But again, where else
5 in the patent other than the claim does it say
6 that simply organizing content on the master
7 web page is enough? Doesn't the rest of the
8 patent talk about how the content has to be
9 realtime on the master web page?
10 A. If it does, you're going to need to point
11 me to some examples, because I think that the
12 places that I saw real time are referring to
13 real time retrieval by the server or being
14 streamed to the server in real time.
15 Q. I think we talked about a lot of these
16 earlier. I mean, column 2, lines 56 to 59, for
17 example.
18 A. Well, that just says that the master
19 web page is dynamic. It's kind of describing
20 what "dynamic" means.
21 Q. Yeah, "in the sense that the master
22 web page displays streaming content data and

1 content applications from the multiple content
2 data sources in real time."
3 A. So it's possible that the master web page
4 could display some things in real time. But
5 claim 1 doesn't require that.
6 Q. Once again, it seems like you're basing
7 your interpretation on claim 1, and then I'm
8 showing you parts of the spec that would
9 contradict that interpretation, and then you're
10 disputing that by going back to claim 1.
11 Don't you have to read the claim language
12 in the context of the whole specification?
13 MR. CARTER: I'm going to object to the
14 form of that question.
15 THE WITNESS: So you have to read claim
16 language in the context of the specification.
17 But when the language says something explicit and
18 clear, it is what it is. If they wanted to
19 incorporate part of what claim 2 said in terms of
20 realtime content being on the page, they could
21 certainly have said so. They didn't say so, but
22 they could have. They could have used the exact

1 language they used in the specification in
2 claim 1 to put it that way. But they didn't.
3 They only talked about realtime streaming to the
4 server.
5 They could have talked about it to a
6 user, too, if they wanted to incorporate that
7 into their patent claim, or into a dependent
8 claim. They didn't do that, but they could have.
9 BY MR. DEIGHAN:
10 Q. You referenced claim 2. What do you mean
11 claim 2?
12 A. What?
13 Q. You said if they wanted to incorporate
14 part of what claim 2 said.
15 A. I'm not sure that transcribed it
16 correctly. They could have done it into -- oh, a
17 hypothetical claim 2, I think. What I was
18 saying -- like a dependent claim. Or it didn't
19 transcribe correctly. One of the two. I can't
20 see what your transcript says, so I don't know
21 exactly what...
22 Q. You said, if they wanted to incorporate

1 part of what claim 2 said in terms of realtime
2 content being on a page.
3 A. That doesn't sound like it transcribed my
4 words correctly.
5 Q. For what it's worth, that's what I heard,
6 but --
7 A. Okay. Maybe I should just reanswer the
8 question, then.
9 What was your question?
10 Q. Claim 2 doesn't say anything about that,
11 right?
12 A. No. Claim 2 doesn't say anything about
13 that. I wasn't talking about claim 2. I'm not
14 sure where that came from.
15 Q. Okay.
16 MR. DEIGHAN: All right. Do you guys
17 want to take a break?
18 THE WITNESS: Yeah.
19 MR. DEIGHAN: I think I've got just a
20 little bit left here.
21 MR. CARTER: Sounds good.
22 (A recess was taken.)

1 BY MR. DEIGHAN:
2 Q. Welcome back, Dr. Martin.
3 A. Thank you.
4 Q. I'm going to hand you what has been
5 previously marked as Twitch Exhibit 1006 in the
6 0037 [sic] IPR.
7 A. Thank you.
8 Q. Do you recognize this document?
9 A. I do.
10 Q. And what is it?
11 A. It is Dasgupta.
12 Q. All right. So this is the Dasgupta
13 reference that you refer to in your declaration,
14 right?
15 A. Correct.
16 Q. Okay. And same thing as last time: This
17 was submitted as Exhibit 1006 in both IPRs.
18 A. Okay.
19 Q. Is it okay if we just refer to the 307
20 version?
21 A. Yes.
22 Q. Okay. It was the same exhibit in both

1 IPRs, right?
2 A. That's my recollection, actually. Yes.
3 Q. Okay. Dasgupta relates to media content
4 access systems; is that right?
5 A. Generally, that's right.
6 Q. What types of media content access
7 systems does Dasgupta relate to?
8 A. Can you be more specific?
9 Q. I mean, it refers to something like a
10 set-top box, right?
11 A. Oh, I see. It refers to things like
12 set-top boxes, IPTV devices, and generally that
13 sort of thing. At least in part it refers to
14 that. Yes.
15 Q. And a set-top box, that's like a cable
16 box, right?
17 A. One example of a set-top box is a cable
18 box.
19 Q. And just generally speaking, Dasgupta
20 describes systems for improving the graphical
21 user interface on set-top boxes; is that fair?
22 A. Say one more time.

1 Q. Generally speaking, Dasgupta describes
2 systems for improving the graphical user
3 interface on set-top boxes.
4 A. I think that's right. The title is,
5 "User interface enhancements for media content
6 access systems and methods."
7 And one of the places that Dasgupta can
8 run is on a set-top box. Parts of Dasgupta can
9 run, I should say, because there are multiple
10 parts of it. But the interface part can run on
11 set-top boxes.
12 Q. All right. I'm going to refer to your
13 declaration right around paragraph 311, just
14 to kind of lay some foundation here for
15 Dasgupta and make sure we're talking about the
16 same thing.
17 In your view, Dasgupta's subsystem 202 --
18 that's the server, right?
19 A. Yeah. Subsystem 202 would map to the
20 master server. It's a server.
21 Q. And Dasgupta's subsystem 204 are remote
22 devices?

1 A. It can be implemented on remote devices,
2 including a personal computer, and it facilitates
3 access to user content. Yes.
4 Q. Paragraph 314. You say that content is
5 presented to users through a graphical user
6 interface, or GUI, displaying a channel guide?
7 A. Yes. I say that Dasgupta explains that
8 channel guide facility, advertisement facility,
9 and user interface facility interact to arrange
10 and present content to users, particularly
11 through a graphical user interface displaying a
12 channel guide with icons representing various
13 media content channels.
14 Q. All right. And then paragraph 315. I
15 think what you say is that a person of ordinary
16 skill in the art would have understood Dasgupta's
17 channel icons to be content data and content
18 applications; is that right?
19 A. A person of ordinary skill in the art
20 would have understood Dasgupta's channel icons
21 to represent content data and content
22 applications.

1 Q. And then paragraphs 317 through 319, I
2 think you're listing reasons why, in your view,
3 Dasgupta's channel icons are preselected by a
4 user.
5 A. Okay. Say that one more time, please.
6 Q. In paragraphs 317 to 19, I think you're
7 listing reasons why, in your view, Dasgupta's
8 channel icons are preselected by a user.
9 A. That appears to be generally accurate.
10 Q. All right. And so those paragraphs, they
11 all relate to preselecting channels like HBO,
12 right?
13 A. Certainly the paragraphs relate to
14 preselecting channels, and HBO is an example.
15 Sure.
16 Q. All right. You don't talk anywhere in
17 those paragraphs about a user preselecting
18 anything else, right?
19 A. What do you mean by "anything else"?
20 Like a channel that's not HBO or something?
21 Q. Well, you don't say anything here about a
22 user preselecting advertisements, right?

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A. So the user preselects channels, and then content from the channel would be purchased before it could be presented in the UI.

When you mouse over the -- scroll over the channels, you get content associated with them, like advertisements related to the channels and things like that.

I don't know if that's what you're asking. But, like, figure --

Q. I'm just kind of talking about what's in these paragraphs.

A. Yeah, I'm just going to need to see what I cited here, then.

So in, for instance, 318, talking about Dasgupta's UI, which can be configured to control the contents -- so there I'm talking about Dasgupta's UI and populating content with the UI. So 318 is kind of talking about something other than just preselecting HBO. Right?

HBO is an example that I give in these, I think, is the best way to answer the question.

Q. Okay. And just to be clear, in 318 you

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say that the UI system can populate GUI with content, right?

A. Correct.

Q. Okay. And then paragraphs 320 to 21, you give your opinion that, in your view, it would have been obvious to incorporate Darnell's feed subscription methods into Dasgupta's access facility; is that right?

A. Yes. POSITAs would have been motivated to incorporate Darnell's feed subscription method into Dasgupta's access facility.

Q. Right. Because you say the user could preselect and organize specific content sources within the UI, right?

A. By applying Darnell's feed selection and management to Dasgupta's system, the user could preselect and organize specific content sources within the UI. Yes.

Q. Okay. So again, that's content sources like HBO.

A. That would be one example of a content source. Sure.

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Q. And other examples of a content source would be other channels?

A. Those could be other channels.

Q. Turning back to 314, paragraph 314 of your declaration.

You can go ahead and read it if you want. I'll ask you just a few questions about it.

A. Okay.

Q. So in that paragraph, you're saying that Dasgupta's GUI displays a channel guide with icons that represent media content channels, right?

A. Yes.

Q. And you say that the interface serves as a platform for accessing content because the channel icons are configured as launching points to interactive portals, right?

A. The interface serves as a centralized platform for accessing the content. The icons are configured as launching points to the interactive portals. So that's going to provide users access to diverse content sources directly

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within that system. Yeah.

Q. So Dasgupta's system allows users to navigate to external interactive portals.

A. So it's more like it provides the ability to navigate to portals, but they are still within the Dasgupta system. So they can get to the content sources directly within the system, even though they are interactive portals. They are external content in the interactive portals.

Q. The interactive portals are different from the channel guide, right?

A. They're different from the channel guide --

Q. Okay.

A. -- in -- well, the channel guide contains the icons that are launching points to the interactive portals. I think I would put it that way.

Q. Okay. And I'll just refer you to Dasgupta column 13, around line 9.

A. Okay.

Q. I'll give you a second to read it.
A. Okay. Where do you want me to stop reading?
Q. Just the end of that paragraph.
A. Okay. I've stopped.
Q. So Dasgupta's channel icons are associated with a media content channel, right?
A. Yes. That's right. It says that.
Q. So you could have, like, an icon that shows the HBO logo, right, and that would be associated with HBO?
A. It would be associated with the HBO media content channel. Yes.
Q. And if a user clicked on that logo, it would take them to the interactive portal for HBO.
A. By clicking on that portal, the user would navigate to the interactive portal for HBO within the system.
Q. Okay. The channel icons, they're just static images of logos, right?
A. The channel icons are logos of channels.

Q. And if you look at figure 7, that's what it shows, right?
A. Referring specifically to the channel icons in figure 7 I assume you mean?
Q. Yeah.
A. Yes. The channel icons in figure 7 are showing logos for channels.
Q. Okay.
MR. DEIGHAN: Okay. I think I'm about wrapped up. Can you just give me, like, five minutes?
MR. CARTER: Sure.
MR. DEIGHAN: And let me just make sure that I've covered everything.
(A recess was taken.)
MR. DEIGHAN: I have no further questions for you, Dr. Martin.
THE WITNESS: Okay. Thank you.
MR. CARTER: No redirect from me.
THE WITNESS: Okay. Thank you, both.
MR. DEIGHAN: Thank you very much for your time today. Appreciate it.

THE WITNESS: Thank you.
(Whereupon at 3:51 p.m., the deposition of Paul D. Martin, Ph.D., was concluded.)

CERTIFICATE OF NOTARY PUBLIC

I, CHRISTINA S. HOTSKO, the officer before whom the foregoing deposition was taken, do hereby certify that the witness whose testimony appears in the foregoing deposition was duly sworn by me; that the testimony of said witness was taken by me in stenotypy and thereafter reduced to typewriting under my direction; that said statement is a true record of the proceedings; that I am neither counsel for, related to, nor employed by any of the parties to the action in which this statement was taken; and, further, that I am not a relative or employee of any counsel or attorney employed by the parties hereto, nor financially or otherwise interested in the outcome of this action.

CHRISTINA S. HOTSKO
Notary Public in and for the
District of Columbia
My commission expires:
1 January 2027

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Federal Rules of Civil Procedure

Rule 30

(e) Review By the Witness; Changes.

(1) Review; Statement of Changes. On request by the deponent or a party before the deposition is completed, the deponent must be allowed 30 days after being notified by the officer that the transcript or recording is available in which:

(A) to review the transcript or recording; and

(B) if there are changes in form or substance, to sign a statement listing the changes and the reasons for making them.

(2) Changes Indicated in the Officer's Certificate. The officer must note in the certificate prescribed by Rule 30(f)(1) whether a review was requested and, if so, must attach any changes the deponent makes during the 30-day period.

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