

1 UNITED STATES PATENT AND TRADEMARK OFFICE

2 BEFORE THE PATENT TRIAL AND APPEAL BOARD

3
4
5 BOX, INC. and DROPBOX, INC.,

6 Petitioner,

7 vs.

8 TOPIA TECHNOLOGY, INC.,

9 Patent Owner.

10
11
12 U. S. Patent Nos. 9,143,561

13 Case Nos. IPR2023-00427

14
15 ATTORNEYS' EYES ONLY

16
17
18 REMOTE DEPOSITION OF

19 RAVIN BALAKRISHNAN, Ph. D.

20 Friday, October 27, 2023

21 Toronto, Ontario, Canada

22
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25 Reporter: Michael D. O'Connor, RMR, CRC, CRR

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Friday, October 27, 2023

10:02 a.m.

ATTORNEYS' EYES ONLY

REMOTE DEPOSITION of RAVIN

BALAKRISHNAN, Ph.D., in Toronto, Ontario,
Canada, pursuant to notice, before Michael
D. O'Connor, RMR, CRC, CRR, and Notary
Public

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

2

3 ATTORNEYS FOR PETITIONER:

4 (Attending Remotely)

5 COOLEY LLP

6 1299 Pennsylvania Avenue, NW, Suite 700

7 Washington, D.C. 20004-2400

8 (202) 776-2316

9 BY: SAMUEL WHITT, ESQ.

10 swhitt@cooley.com

11

12 ATTORNEYS FOR PATENT OWNER:

13 (Attending Remotely)

14 SUGHRUE MION PLLC

15 200 Pennsylvania Avenue NW, Suite 9000

16 Washington, D.C. 20006

17 (202) 775-7542

18 BY: CHIDAMBARAM IYER, ESQ.

19 ciyer@sughrue.com

20 (202) 663-7468

21 RAJA N. SALIBA, ESQ.

22 rsaliba@sughrue.com

23 (202) 857-2250

24 JANVI SHAH, ESQ.

25 jshah@sughrue.com

1 A P P E A R A N C E S:
2 (continued)

3 (Attending Remotely)

4 Also Present: Larry Moskowitz, Videographer

5 Prashant Shenoy, Ph.D.

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I N D E X

Deposition of:	Page
RAVIN BALAKRISHNAN, Ph.D.	
By Mr. Iyer	8, 162, 165
By Mr. Whitt	150, 164

* * * * *

E X H I B I T S

No.		Page
Exhibit 1	Patent Owner' s Notice of Deposition of Dr. Ravin Balakrishnan, in re: U.S. Patent No. 9,143,561	18
Exhibit 2	Patent Owner' s Notice of Deposition of Dr. Ravin Balakrishnan, in re: U.S. Patent No. 10,067,942	18
Exhibit 3	Declaration of Ravin Balakrishnan, Ph.D.	20
Exhibit 4	United States Patent Application Publication, Sigurdsson, et al.	61
Exhibit 5	United States Patent Application Publication, Shappell, et al.	137

1	E X H I B I T S		
2	(Continued)		
3	No.		Page
4	Exhibit 7	United States Patent	
5		Application Publication,	
6		Hesselink, et al.	76
7	Exhibit 8	U. S. Patent 9,143,561	84
8	Exhibit 9	U. S. Patent 10,067,942	84
9	Exhibit 11	Administrative Judges'	
10		Decision involving	
11		IPR 2023-00433, in re:	
12		U. S. Patent 10,067,942	155

* * * * *

1 PROCEEDINGS

2

10:01:40 3 THE VIDEOGRAPHER: Good morning.

10:01:41 4 Here begins file number one, Volume I,

10:01:44 5 in the deposition of Ravin Balakrishnan,

10:01:47 6 Ph.D. in the matter of Box, Inc. and

10:01:51 7 Dropbox, Inc. versus Topia Technology,

10:01:53 8 Inc.

10:01:54 9 Today's date is October 27, 2023,

10:01:59 10 and the time is 10:02 a.m. This

10:02:03 11 deposition is being taken remotely and

10:02:05 12 was made at the request of Plaintiffs.

10:02:08 13 My name is Larry Moskowitz and I'm

10:02:12 14 the videographer. The court reporter is

10:02:14 15 Michael O'Connor, and we are both from

10:02:16 16 Gregory Edwards LLC.

10:02:18 17 Counsel, please identify

10:02:20 18 yourselves and state whom you represent,

10:02:22 19 after which the witness will be sworn

10:02:24 20 in.

10:02:26 21 MR. IYER: Hi. I'm Chidambaram

10:02:32 22 Iyer here to represent the Patent

10:02:34 23 Owners, Topia. With me, from the firm

10:02:38 24 of Sughrue Mion, with me we have my

10:02:40 25 associate, Janvi Shah, and my partner

10:02:46 1 Raja Saliba. And sometime in the next
10:02:50 2 hour or so, our expert, Dr. Prashant
10:02:54 3 Shenoy, will join. I'm not sure exactly
10:02:56 4 when. So rather than interrupt in the
10:02:58 5 middle, I'm just putting on the record
10:03:02 6 he will join at some point.
10:03:04 7 MR. WHITT: Sam Whitt on behalf of
10:03:07 8 Petitioners from Cooley LLP, and joining
10:03:13 9 me at some point may be Duo Chen, D-u-o
10:03:22 10 C-h-e-n, in-house counsel at Box.

11
12 RAVIN BALAKRISHNAN, Ph.D.

13
14 having been duly sworn by the Notary Public,
15 was examined and testified as follows:

16
17 EXAMINATION

10:03:40 18 BY MR. IYER:

10:03:40 19 Q. Good morning, Dr. Balakrishnan.
10:03:47 20 Would you please state your full name for the
10:03:49 21 record.

10:03:49 22 A. Sure. My name is Ravin
10:03:54 23 Balakrishnan.

10:03:59 24 Q. Where are you today, Dr.
10:04:03 25 Balakrishnan?

10:04:03 1 A. Do you mean in terms of my
10:04:04 2 location?
10:04:05 3 Q. Yeah.
10:04:05 4 A. I'm sorry, I talked over you. I'm
10:04:09 5 in my home office just outside Toronto, Canada.
10:04:14 6 Q. Is anyone else with you in your
10:04:17 7 office?
10:04:17 8 A. Not in my office, but I have
10:04:20 9 family members in other parts of my house. My
10:04:24 10 office has a closed door.
10:04:25 11 Q. Okay. I'm going to start by going
10:04:29 12 over some of the basics of the deposition. You
10:04:32 13 understand that you have been sworn in,
10:04:34 14 correct?
10:04:34 15 A. Yes.
10:04:36 16 Q. And you understand that means you
10:04:41 17 have to testify under penalty of perjury?
10:04:45 18 A. Yes.
10:04:46 19 Q. Is there any reason that you
10:05:00 20 cannot testify fully and accurately today?
10:05:02 21 A. Not that I know of.
10:05:03 22 Q. I understand you've not been
10:05:07 23 keeping well of late, but are you under any
10:05:09 24 medications or have any medical condition that
10:05:14 25 might impair your ability to testify truthfully

10:05:18 1 and accurately today?

10:05:19 2 A. No. I'm in full recovery from the

10:05:30 3 respiratory illness I had a few weeks ago.

10:05:33 4 Q. Have you been deposed before, Dr.

10:05:36 5 Balakrishnan?

10:05:36 6 A. I have.

10:05:36 7 Q. Approximately how many times?

10:05:39 8 A. I don't have an exact count, but

10:05:42 9 definitely over two dozen times.

10:05:44 10 Q. Okay. Have any of these

10:05:49 11 depositions occurred in connection with a

10:05:52 12 patent office proceeding, such as an IPR?

10:05:56 13 A. Yes.

10:05:58 14 Q. Okay. The rules of the patent

10:06:05 15 office require me to instruct you that you

10:06:08 16 should ask me rather than your counsel for any

10:06:13 17 clarifications, definitions, or explanations of

10:06:19 18 any words, and questions you have of any

10:06:23 19 documents presented during today's examination.

10:06:26 20 Do you understand that?

10:06:27 21 A. I do.

10:06:27 22 Q. And you agree to abide by that?

10:06:35 23 A. I do. I will.

10:06:43 24 Q. And your counsel, Mr. Whitt, may

10:06:52 25 object to some of the questions I ask, but you

10:06:55 1 must nevertheless answer the question, unless

10:06:57 2 he instructs you specifically not to answer.

10:07:07 3 Do you understand that, Dr.

10:07:08 4 Balakrishnan?

10:07:08 5 A. Yes.

10:07:08 6 Q. And we're going to take breaks

10:07:10 7 periodically. If you need a break at any time,

10:07:13 8 please let me know. However, if there's a

10:07:17 9 written question -- if there's a question

10:07:19 10 pending, you should answer that question before

10:07:22 11 we go on the break.

10:07:24 12 Do you understand that?

10:07:25 13 A. I understand. Thank you.

10:07:28 14 Q. As you have noticed from the

10:07:35 15 beginning, we have a court reporter who is

10:07:36 16 transcribing the deposition. We also have a

10:07:40 17 videographer, as you're aware.

10:07:42 18 I'm going to try to not talk over

10:07:46 19 while you're answering, and I please ask that

10:07:49 20 you do the same, as it becomes difficult to

10:07:52 21 transcribe.

10:07:56 22 A. I will try my best.

10:07:57 23 Q. And I would like to say that since

10:08:01 24 both of us are of the same background, accents

10:08:04 25 should not be a problem, but if in case there

10:08:09 1 is a problem with accent, please let me know.

10:08:12 2 I've had this issue before.

10:08:15 3 A. Sure. And likewise, if there's
10:08:18 4 anything I'm unclear about, I'm happy to repeat
10:08:21 5 my answer.

10:08:21 6 Q. Okay. And while we are on the
10:08:25 7 breaks, including the lunch break, and through
10:08:28 8 the end of the deposition, you're not permitted
10:08:30 9 to speak with anybody, including the counsel
10:08:34 10 regarding the substance of your testimony.

10:08:37 11 Do you understand that, Dr.
10:08:39 12 Balakrishnan?

10:08:39 13 A. I do.

10:08:40 14 Q. Okay. And do you agree to abide
10:08:43 15 by that?

10:08:44 16 A. I do.

10:08:49 17 Q. And just out of caution, I
10:08:53 18 instruct you that in the break, please shut off
10:08:59 19 the mic and video. I've had personally run
10:09:02 20 into problems with a hot mic and I'm still
10:09:05 21 trying to recover.

10:09:07 22 A. I will do that, yes. Thank you.

10:09:08 23 Q. Do you have any documents in front
10:09:18 24 of you today in either paper or electronic
10:09:22 25 form?

10:09:22 1 A. There's a variety of stuff around
10:09:26 2 my desk, but nothing related to this case.
10:09:30 3 Obviously on my laptop here on the Zoom call
10:09:34 4 and the laptop contains many, many documents.
10:09:37 5 I don't have anything open right now.

10:09:39 6 Q. Do you have any programs other
10:09:47 7 than Zoom running on your computer?

10:09:49 8 A. I have my e-mail client up,
10:09:51 9 primarily because it has the calendar invite
10:09:54 10 for this deposition. In case it drops, I want
10:09:57 11 to be able to quickly reconnect. If you want
10:10:00 12 me to shut that down, I can do that. It will
10:10:02 13 take a bit longer to reconnect if something
10:10:05 14 happens with the Zoom call.

10:10:07 15 Q. Okay. I take this as an
10:10:11 16 affirmation that through the deposition you
10:10:15 17 will not be receiving e-mails related to the
10:10:18 18 topics under discussion today?

10:10:23 19 A. I'm not going to be looking at the
10:10:27 20 e-mails, but if somebody sends me something, I
10:10:30 21 can't control that. I can control what I see.
10:10:35 22 I can't control what people send me
10:10:38 23 asynchronously.

10:10:39 24 Q. All right. So just to be clear,
10:10:40 25 you don't have the printouts of your

10:10:44 1 declaration or CV or any other documents with
10:10:47 2 you today?

10:10:47 3 A. I do not have any printouts, no.
10:10:50 4 I do have those documents in electronic form in
10:10:54 5 a directory on my laptop that I could access if
10:10:59 6 instructed to do so by you.

10:11:01 7 Q. Okay. We'll do that
10:11:02 8 electronically; no problem. I have forwarded
10:11:08 9 the exhibits that I'm going to use so it should
10:11:11 10 be easy to upload, but just in case you want to
10:11:14 11 refer to it on your personal computer
10:11:17 12 separately if it makes it easier for you,
10:11:19 13 you're welcome.

10:11:21 14 A. My preference would be to take the
10:11:23 15 version that you send me and then look at it
10:11:25 16 locally on my computer, if that's okay. That
10:11:28 17 way we're looking at the same document, same
10:11:30 18 version.

10:11:30 19 Q. That's perfectly okay.

10:11:32 20 A. Okay.

10:11:33 21 Q. What did you do to prepare for
10:11:36 22 today's deposition, Dr. Balakrishnan?

10:11:38 23 A. I reviewed my declaration. I
10:11:48 24 reviewed the patents, the two patents at issue
10:11:51 25 for this IPR right now. I reviewed the

10:11:57 1 asserted prior art references. I looked at
10:12:05 2 the, I think, it was the PTAB, the PTAB
10:12:08 3 institution positions, that's two of them. I
10:12:17 4 also met with counsel yesterday on a Zoom call
10:12:18 5 for preparation, deposition preparation.

10:12:21 6 Q. Approximately how long would you
10:12:30 7 have met your counsel?

10:12:32 8 A. We took a bunch of breaks, but we
10:12:35 9 started at 10:30 and ended about 4:30. So, I
10:12:41 10 don't know, five -- four, five hours in total,
10:12:42 11 at most. But now that's just in prep.
10:12:48 12 Obviously a long time ago when I wrote my
10:12:50 13 declaration, I worked with counsel, and that
10:12:54 14 was eight hours.

10:12:55 15 Q. Okay. So since this deposition
10:12:57 16 was twice postponed, is it your testimony that
10:13:04 17 in the time you wrote the declaration and now,
10:13:08 18 yesterday was the first time meeting your
10:13:12 19 counsel by Zoom?

10:13:13 20 A. No. I had, prior to the first --
10:13:19 21 when the deposition was first supposed to
10:13:21 22 happen, and I lost count when that was,
10:13:23 23 probably three or four weeks ago, I had a very
10:13:25 24 short meeting with counsel as initial prep,
10:13:30 25 probably about a half hour to an hour. And

10:13:34 1 then I had subsequently met with counsel for
10:13:37 2 five minutes in between on logistics, and then
10:13:41 3 the main prep was yesterday.

10:13:43 4 Q. Other than meeting with the
10:13:54 5 counsel and reviewing the documents of the type
10:13:56 6 you mentioned, did you do anything else to
10:13:57 7 prepare for your deposition?

10:13:58 8 A. No. I may have reviewed a couple
10:14:08 9 of other documents I didn't list out that was
10:14:10 10 presented in this case, but I didn't have it
10:14:13 11 memorized which exactly which ones, but they
10:14:16 12 would all be relevant for something that was
10:14:18 13 cited, for example. Apart from that, I didn't
10:14:21 14 do anything else.

10:14:22 15 Q. So you didn't meet with anyone
10:14:27 16 else other than counsel or discuss the contents
10:14:30 17 of your declaration with anyone other than
10:14:33 18 counsel; is that right?

10:14:33 19 A. That's correct.

10:14:35 20 Q. By "counsel," you meant Mr. Whitt
10:14:41 21 here or was it anyone else?

10:14:43 22 A. Yesterday it was Mr. Whitt, and
10:14:49 23 the half hour prep that I mentioned earlier a
10:14:51 24 few weeks ago was also with Mr. Whitt. I don't
10:14:55 25 recall at the time of preparation of the

10:15:00 1 declaration there may have been other counsel
10:15:01 2 involved as well. That was quite a while ago.
10:15:03 3 I'm fuzzy as to the details of that.

10:15:05 4 Q. And when you met with your counsel
10:15:08 5 to prepare for the deposition, was anyone else
10:15:12 6 present, other than Mr. Whitt?

10:15:17 7 A. Not on my side, and I didn't see
10:15:20 8 anybody else on the Zoom call. So the answer
10:15:24 9 to that is, not as far as I know.

10:15:30 10 MR. IYER: I would request the
10:15:32 11 court reporter to upload Exhibits 1 and
10:15:35 12 2.

10:15:40 13 THE WITNESS: Is this going to
10:15:42 14 show up in the chat? What's the
10:15:44 15 process?

10:15:46 16 MR. IYER: I will ask the
10:15:49 17 videographer how does it work? These
10:15:55 18 exhibits have already been sent to you,
10:15:57 19 uploaded to your site. How does it
10:15:59 20 work?

10:16:03 21 THE VIDEOGRAPHER: Could we go off
10:16:04 22 the record for a moment, please?

10:16:07 23 MR. WHITT: Yes.

10:16:08 24 MR. IYER: Yes.

10:16:09 25 THE VIDEOGRAPHER: We're going off

10:16:10 1 the record. The time is 10:16 a.m.
10:16:13 2 (Off the record at 10:16 a.m. and
10:16:15 3 reconvening at 10:28 a.m.)
10:28:13 4 THE VIDEOGRAPHER: We are back on
10:28:14 5 the record. The time is 10:28 a.m.
10:28:17 6 BY MR. IYER:
10:28:17 7 Q. Have Exhibits 1 and 2 been
10:28:22 8 uploaded?
10:28:26 9 A. I've got Exhibit 1. I don't see
10:28:28 10 Exhibit 2.
10:28:32 11 (Document marked as Exhibit 1
10:28:50 12 for identification)
10:28:50 13 (Document marked as Exhibit 2
10:28:51 14 for identification)
10:28:51 15 A. I see it now. Shall I go ahead
10:28:53 16 and download Exhibit 2?
10:28:55 17 Q. Yes.
10:28:56 18 MR. IYER: Can we put up Exhibit 1
10:28:57 19 on the chat screen, on the screen, on
10:29:00 20 the share screen?
10:29:51 21 THE VIDEOGRAPHER: One moment.
10:29:53 22 MR. IYER: Can you scroll down to
10:29:55 23 the next page. Thank you.
10:29:56 24 Q. Dr. Balakrishnan, can you describe
10:30:00 25 this document?

10:30:01 1 A. This document appears to be a
10:30:03 2 Notice of Deposition, to take my deposition, on
10:30:08 3 September 27, 2023, starting at 10:00 a.m.
10:30:13 4 eastern.

10:30:13 5 Q. Can you review Exhibit 2?

10:30:18 6 A. Sure. I will scroll through it.

10:30:35 7 Q. All right. So you confirm that
10:30:39 8 you're here to testify on behalf of Box and
10:30:42 9 Dropbox for both the IPRs that are listed in
10:30:46 10 this notices?

10:30:49 11 A. That's correct, yes; the '561 and
10:30:57 12 the '942 patents.

10:31:10 13 Q. Do you understand your testimony
10:31:13 14 today will bind the Petitioners, Box and
10:31:15 15 Dropbox, for both of these IPRs, right?

10:31:18 16 MR. WHITT: Objection. Misstates
10:31:20 17 the standard.

10:31:21 18 A. I'm not sure what "bind" means,
10:31:24 19 but I understand that I'm here to give evidence
10:31:28 20 regarding my opinions that are provided in the
10:31:30 21 declaration about the validity of these two
10:31:33 22 patents, '561 and '942.

10:31:47 23 MR. IYER: Can you remove Exhibit
10:31:48 24 1 and 2 and put up Exhibit 3, please.

10:31:52 25 THE VIDEOGRAPHER: I'm sorry, one

10:31:53 1 more time?

10:31:54 2 MR. IYER: Can we put up Exhibit

10:31:55 3 3, please.

10:31:57 4 THE VIDEOGRAPHER: Yes.

10:31:58 5 MR. IYER: And take down Exhibits

10:32:00 6 1 and 2.

10:32:01 7 (Document marked as Exhibit 3

10:32:25 8 for identification)

10:32:25 9 THE WITNESS: Just as a

10:32:26 10 clarification, counsel, when the exhibit

10:32:28 11 shows up in the chat, is it okay if I go

10:32:30 12 ahead and download it without asking?

10:32:32 13 MR. IYER: Yes.

10:33:23 14 Q. Can you describe what's on the

10:33:26 15 screen right now?

10:33:27 16 A. On the screen, this appears to be

10:33:29 17 the first page of a document that was

10:33:33 18 downloaded as Exhibit 3, and I did a quick

10:33:37 19 scroll through Exhibit 3 on the version I

10:33:40 20 downloaded from the chat, and it appears to be

10:33:43 21 a copy of my declaration submitted for the IPR

10:33:49 22 of the two patents at issue in this case.

10:33:52 23 Q. And you confirmed that this is the

10:33:55 24 declaration that you submitted in this

10:33:57 25 proceeding, correct?

10:33:58 1 A. From a quick scroll through this
10:34:02 2 multi-page document, I can confirm that,
10:34:05 3 without having, you know, obviously checked
10:34:07 4 every single page is correctly reproduced. It
10:34:10 5 appears to be the same as what I submitted.

10:34:13 6 Q. All right. Can you go to Page 637
10:34:18 7 of this exhibit.

10:34:21 8 A. Sure. Give me one second. Yes,
10:34:31 9 I'm there.

10:36:21 10 MR. IYER: I think since the pages
10:36:22 11 are numbered, you may be able to do a
10:36:25 12 control find.

10:36:56 13 MR. WHITT: Counsel, do you think
10:36:57 14 it might be quicker to just have someone
10:36:59 15 who is running a Adobe Acrobat to share
10:37:02 16 the screen and we can jump around that
10:37:04 17 way? It might be easier.

10:37:07 18 MR. IYER: If you want to do that,
10:37:09 19 from my end, I don't know how to do
10:37:12 20 that.

10:37:14 21 THE VIDEOGRAPHER: Hold on, I
10:37:17 22 think I've figured it out. It's still
10:37:20 23 scrolling from all the mouse movements I
10:37:23 24 was doing. Once it stops, I think I can
10:37:26 25 drag a slider to get to the page you

10:37:27 1 want to get to.

10:37:37 2 MR. IYER: In the beginning

10:37:38 3 there's going to be a couple discrete

10:37:41 4 jumps of this nature. After that, it

10:37:43 5 will be much closer.

10:38:27 6 Q. Do you recognize the signature,

10:38:30 7 Dr. Balakrishnan, that you see on Page 637?

10:38:33 8 A. I do.

10:38:34 9 Q. That confirms that this is the

10:38:38 10 document you signed and submitted in support of

10:38:41 11 this IPR proceeding?

10:38:43 12 MR. WHITT: Objection. Misstates.

10:38:47 13 A. This appears to be my signature,

10:38:50 14 and as I said earlier to your earlier question,

10:38:53 15 my quick scroll through the PDF indicates that

10:38:56 16 it appears to be the document I signed.

10:39:08 17 Q. Can you go to the next page,

10:39:11 18 please. It says "Exhibit A." If you can now

10:39:14 19 go to the next page.

10:39:23 20 Can you please confirm that

10:39:25 21 Exhibit A of Exhibit 3 is a copy of the CV that

10:39:27 22 you submitted as part of your declaration?

10:39:31 23 A. Yes, I can confirm that.

10:39:37 24 Q. So this is the CV that was relied

10:39:44 25 upon to support your positions in your expert

10:39:50 1 declaration?

10:39:53 2 A. I'm not sure I understand the
10:39:55 3 notion of relying upon my CV. This is my CV.

10:40:01 4 I'm not sure I understand the question. Sorry.

10:40:03 5 Q. Have you made material updates to
10:40:09 6 your CV since that time?

10:40:11 7 A. This was -- I'm just going back to
10:40:16 8 the date -- January of 2023. I have to check
10:40:20 9 my current version, but typically I keep my CV
10:40:24 10 reasonably up to date. So it has been almost
10:40:27 11 ten months. There have been some updates,
10:40:32 12 typically with regards to new papers, et
10:40:39 13 cetera, that might have been published along
10:40:41 14 the way or anything else that's come along, the
10:40:43 15 new cases I might have been retained.

10:40:47 16 In my consulting -- yeah, it might
10:40:52 17 have been updated since then, and probably has
10:40:54 18 been updated since, but I have to do a
10:40:58 19 competent contrast to answer that definitively.

10:41:01 20 Q. So when I refer to your
10:41:07 21 declaration, you understand that I mean Exhibit
10:41:14 22 3 that's been put up?

10:41:16 23 A. Sure. I'm fine with that.

10:41:18 24 Q. Okay. And when I refer to your
10:41:20 25 CV, it would be Exhibit A of Exhibit 3?

10:41:25 1 A. Sure. I understand that.

10:41:29 2 Q. Okay. Now, can you scroll back to

10:41:41 3 Page 13 of the declaration. I hope you can do

10:41:48 4 it faster than we did before.

10:42:12 5 Do you see a table that at least

10:42:18 6 starts on this page? What is the purpose of

10:42:23 7 this table; can you describe?

10:42:25 8 A. Sure. The purpose of this table

10:42:27 9 is simply to list the documents that were

10:42:33 10 considered or I considered at the time to

10:42:36 11 conduct my analysis and to inform the opinions

10:42:43 12 that I provide in my declaration, which is

10:42:46 13 Exhibit 3.

10:42:47 14 Q. Did you consider or rely on any

10:42:51 15 documents that are not in the table of exhibits

10:42:55 16 listed?

10:42:57 17 A. Just give me one second to get a

10:43:05 18 quick look of the table here on my version that

10:43:09 19 I just downloaded.

10:43:11 20 Q. Yes, sure.

10:43:13 21 A. I would say, looking at this

10:43:32 22 table, I think, at the time of submitting the

10:43:34 23 declaration, this appears to be a complete

10:43:38 24 list, and I wasn't relying on anything else.

10:43:41 25 But since then, I have in

10:43:43 1 preparation for this deposition, as I testified
10:43:45 2 earlier, I did review the PTAB's institution
10:43:52 3 decision documents, which came out obviously
10:43:55 4 after this declaration was submitted.

10:43:58 5 So it might be my answers to your
10:44:05 6 question today those additional materials which
10:44:07 7 would be the PTAB's institution decisions are
10:44:15 8 what also inform my answers.

10:44:16 9 Q. How much time did you spend in
10:44:20 10 connection with the preparation of your
10:44:22 11 declaration when you wrote it, just your best
10:44:26 12 approximation?

10:44:27 13 A. It has been a while. I'd have to
10:44:31 14 go back to my spreadsheet of hours. I don't
10:44:37 15 have an estimate. The estimate would be
10:44:41 16 definitely well over 50 hours, maybe close to
10:44:45 17 100 hours, but I'm estimating at this point.

10:44:49 18 Q. Approximately 100 hours?

10:44:50 19 A. I'd say 50 to 100 hours as a best
10:44:55 20 guess. I can look it up if you want me to, and
10:44:59 21 I can look at my time sheet if you want me to,
10:45:03 22 to give you a more accurate answer.

10:45:05 23 Q. When were you first retained by
10:45:08 24 Box and Dropbox in connection with these IPRs?

10:45:12 25 A. I don't have a precise date in my

10:45:18 1 head. I can look it up. It would have been
10:45:20 2 well before the declaration was submitted,
10:45:22 3 obviously. Again, I can look it up if you want
10:45:26 4 me. I have the information in my computer
10:45:29 5 here.

10:45:29 6 Q. Was it after the start of the
10:45:33 7 litigation with Box and Dropbox?

10:45:38 8 MR. WHITT: Objection. Form.

10:45:39 9 A. When you say the litigation, are
10:45:44 10 you talking about the parallel District Court
10:45:50 11 litigation or are you talking about this IPR?

10:45:52 12 Q. The parallel District Court
10:45:54 13 litigation.

10:46:01 14 A. I don't know the answer to that.

10:46:02 15 Q. Was it approximately a year before
10:46:04 16 you filed the declaration or before that?

10:46:05 17 A. My retention date do you mean? I
10:46:11 18 don't recall. Again, I'm happy to look it up,
10:46:13 19 and if you give me a minute, I will look it up
10:46:15 20 right now.

10:46:15 21 Q. Yes, please do so.

10:46:17 22 A. Okay. Just give me a second.

10:46:28 23 MR. WHITT: I caution the witness
10:46:29 24 not to reveal attorney work product or
10:46:31 25 attorney-client privileged information.

10:46:41 1 A. It's hard for me to tell
10:46:44 2 attorney-client privilege. I assume, maybe,
10:46:46 3 counsel --

10:46:46 4 MR. WHITT: You can give the date
10:46:47 5 on which you were retained.

10:46:48 6 THE WITNESS: Okay.

10:46:49 7 A. So I have my retention letter
10:46:51 8 here. The date was November 1, 2022. I
10:46:58 9 probably had discussions with them a few weeks
10:47:00 10 before the formal retention was signed.

10:47:09 11 Q. Did you do any literature search
10:47:11 12 in connection with your work on this
10:47:13 13 declaration?

10:47:14 14 MR. WHITT: Again, I caution the
10:47:15 15 witness not to reveal attorney work
10:47:17 16 product, including draft reports.

10:47:35 17 A. The caution, I'm not sure how to
10:47:38 18 answer. I don't know if I can answer the
10:47:39 19 question at this point.

10:47:40 20 Q. You can answer if you did a search
10:47:42 21 or not. We're not asking for the contents of
10:47:44 22 the search.

10:47:45 23 MR. WHITT: You can answer yes or
10:47:48 24 no.

10:47:48 25 A. I would say yes.

10:47:50 1 Q. Did Box or Dropbox or their
10:47:58 2 counsel provide you with the documents listed
10:48:00 3 in the table of exhibits that is there on the
10:48:03 4 screen?

10:48:05 5 MR. WHITT: Again, caution the
10:48:06 6 witness not to reveal attorney work
10:48:08 7 product. I'm going to instruct the
10:48:14 8 witness not to answer.

10:48:29 9 MR. IYER: What's the basis for
10:48:31 10 making that objection? That's not
10:48:37 11 protected by attorney-client privilege
10:48:39 12 or work product.

10:48:40 13 MR. WHITT: I just think it
10:48:41 14 reveals attorney mental impressions, the
10:48:44 15 fact that certain references may have
10:48:47 16 been said to Mr. Balakrishnan.

10:48:51 17 How about this? Dr. Balakrishnan,
10:48:53 18 you can answer yes or no whether you
10:48:55 19 received any of the cited documents from
10:48:59 20 counsel.

10:49:04 21 THE WITNESS: Should I go ahead
10:49:05 22 and answer?

10:49:06 23 MR. WHITT: Yes.

10:49:07 24 A. I think the answer, I'm looking at
10:49:10 25 the entirety of the table on the "Materials

10:49:13 1 Considered" list, and I would say some of these
10:49:16 2 documents were provided to me by counsel.

10:49:23 3 Q. Can you describe your educational
10:49:29 4 background, starting with your undergrad
10:49:32 5 degree? You can refer to your CV. Sorry, we
10:49:35 6 have to go back to that part of the
10:49:38 7 declaration.

10:49:38 8 A. Can I go ahead or do you want to
10:49:44 9 wait for the Zoom?

10:49:45 10 MR. IYER: Can we scroll to the
10:49:48 11 CV, because I'm going to be relying on
10:49:51 12 that for some time. Can you please
10:49:57 13 scroll to Exhibit A?

10:50:01 14 THE VIDEOGRAPHER: I need to take
10:50:02 15 this down and put A up.

10:50:05 16 MR. IYER: 637, 638.

10:50:12 17 THE VIDEOGRAPHER: Same exhibit,
10:50:13 18 Page 637?

10:50:15 19 MR. IYER: Yes. 637 should get
10:50:17 20 you to the signature page. It should be
10:50:19 21 after that, 638.

10:50:38 22 Q. Go ahead and review that. The
10:50:43 23 question was, can you describe your educational
10:50:45 24 background, starting with your undergrad
10:50:48 25 degree?

10:50:48 1 A. Sure. Just from education, formal
10:50:52 2 education point of view, I received a
10:50:53 3 Bachelor's degree in computer science in 1993
10:50:57 4 from the University of New Brunswick.

10:51:00 5 And then I went on to graduate
10:51:02 6 school, and I received a Master's degree in
10:51:05 7 computer science from the University of Toronto
10:51:08 8 in 1997.

10:51:09 9 And after that a Ph.D. in computer
10:51:13 10 science from the University of Toronto in 2001.

10:51:25 11 Q. Did you do any thesis for your
10:51:26 12 Bachelor's degree?

10:51:27 13 A. I did. I'm not sure it was called
10:51:33 14 a thesis. It has been a long time. But I did
10:51:36 15 do a final project or a senior year project.
10:51:38 16 It may have been called a thesis.

10:51:40 17 Q. Do you remember the topic or
10:51:43 18 describe the thesis, whatever?

10:51:45 19 A. I worked on several projects at
10:51:48 20 the time. It has been 30 years. It would have
10:51:53 21 been -- I know the general area would have been
10:51:55 22 -- the formal document may have probably been
10:51:59 23 in the area of systems for interactive high
10:52:09 24 quality 3D graphics software. That's my best
10:52:15 25 recollection.

10:52:16 1 I did several other research
10:52:18 2 projects at that time. I don't quite recall
10:52:21 3 exactly which one I wrote up as the document
10:52:26 4 for what's called the senior thesis.

10:52:28 5 Q. So other than interactive graphics
10:52:32 6 and interface, in terms of topics, is there any
10:52:39 7 other topics on which you did thesis for your
10:52:46 8 Bachelor's, other than the general area of 3D
10:52:51 9 graphics and interfaces?

10:52:54 10 A. As I mentioned, the thesis -- the
10:52:56 11 projects were a bit more in the realm of
10:52:59 12 systems. So interactive systems for 3D
10:53:04 13 graphics.

10:53:05 14 When I say interactive systems,
10:53:07 15 the project would have included a computer
10:53:13 16 system that the end result was to manipulate
10:53:16 17 three-dimensional graphics objects. But
10:53:20 18 underlying that, the system itself would have
10:53:22 19 handled things like, you know, reading from
10:53:26 20 devices, outputting things onto the screen,
10:53:30 21 saving files, synchronizing between multiple
10:53:35 22 devices.

10:53:36 23 In fact, at that time I think we
10:53:39 24 were also dealing with synchronizing between
10:53:41 25 multiple computers and multiple input devices

10:53:45 1 on each of those computers, et cetera.

10:53:47 2 So there's an overall systems
10:53:52 3 based thesis or project. The other projects I
10:53:55 4 worked on at that time were also in that vein
10:53:59 5 of building interactive systems.

10:54:01 6 When I say "interactive," it means
10:54:03 7 the system that has one component to having a
10:54:08 8 user interaction component, but it wasn't the
10:54:11 9 only component. They were back end issues of
10:54:15 10 storage and reading of the data from different
10:54:18 11 sources and writing data to different sources
10:54:21 12 would have been and were a part of such a
10:54:32 13 system.

10:54:32 14 Q. Can you describe your Master's
10:54:39 15 thesis work?

10:54:39 16 A. The work that ended up in the
10:54:46 17 thesis that was formally submitted was the
10:54:49 18 development of a new form of computer input
10:54:53 19 device. And just to clarify, an input device,
10:54:57 20 so a mouse, for example, is an input device,
10:55:00 21 and here this was a new type of input device to
10:55:05 22 handle a three-dimensional input.

10:55:09 23 It involved building the device,
10:55:11 24 handling the electronics work, interfacing the
10:55:15 25 device to interactive systems that would read

10:55:18 1 the device used to input to control different
10:55:22 2 things, interactive clear graphics systems, and
10:55:28 3 write out the data to different storage media.
10:55:33 4 So that was the thesis portion.

10:55:39 5 My thesis at that time was one of
10:55:41 6 a whole series of research projects that I was
10:55:44 7 undertaking at that time during my Master's,
10:55:47 8 but that just happened to be one part of my
10:55:50 9 research during my Master's.

10:55:52 10 Q. Can you describe your Ph.D.
10:55:58 11 thesis?

10:55:59 12 A. Sure. The Ph.D. thesis had many
10:56:03 13 different components to it. Some of it was
10:56:07 14 underlying theoretical models of how users or
10:56:12 15 human users might use more than one hand, so
10:56:19 16 potentially two hands, hands of bi-manual
10:56:25 17 interaction, two hands, fingers on both hands,
10:56:27 18 to interact with the various graphical entities
10:56:30 19 on different types of displays.

10:56:32 20 So that includes, you know, kind
10:56:35 21 of a monitor type, flat monitor displays that
10:56:38 22 we see, we are using right now. We're using
10:56:42 23 that right now in the Zoom call. But also
10:56:44 24 things like head-mounted displays and more
10:56:54 25 immersive type technologies.

10:56:58 1 And throughout that four-year
10:57:03 2 period between the period that I worked on my
10:57:06 3 Ph.D., the research involved the development of
10:57:09 4 a verity of systems to explore these new
10:57:11 5 inventions and new forms of interaction, and
10:57:14 6 those systems involve connecting different
10:57:18 7 input technologies to different computer
10:57:25 8 graphics engines, and dealing with multiuser,
10:57:28 9 multicomputer, multisite in some cases.

10:57:34 10 When I say site, I mean
10:57:37 11 geographical sites. One user might be in
10:57:39 12 Toronto. Another one might be in, let's say,
10:57:46 13 Santa Barbara, and these things would have to
10:57:48 14 work interactively taking data from these
10:57:52 15 different places and putting data in the
10:57:55 16 different places, depending on particular
10:57:58 17 things we are studying.

10:58:00 18 That's a very high level
10:58:02 19 description of my thesis work at that time.

10:58:09 20 Q. Can you describe your employment
10:58:11 21 after your Ph.D. work?

10:58:14 22 A. After my Ph.D., very shortly after
10:58:20 23 I joined the faculty, the professorial faculty
10:58:26 24 at the University of Toronto in the department
10:58:29 25 of computer science, I was an assistant

10:58:31 1 professor on a tenure stream. I was
10:58:34 2 subsequently promoted to associate professor
10:58:34 3 with tenure, I think five years later would
10:58:39 4 have been -- it's here on the screen, in 2006,
10:58:41 5 and then was promoted to full professor in
10:58:45 6 2011.

10:58:46 7 On my way there, there's research
10:58:51 8 chairs, including the Canada research chair,
10:58:53 9 associate chair, and Bell Canada Labs. I also
10:58:58 10 subbed in several administrative appointments,
10:59:02 11 including the associate chair for research in
10:59:05 12 industry relations for a few years, in 2008 and
10:59:10 13 2010. And more recently, for four years, I was
10:59:13 14 chair of the entire department, 2015 to 2019.

10:59:17 15 Q. Can you go back to Paragraph 17 of
10:59:33 16 the declaration. Can you scroll to Paragraph
10:59:44 17 17?

10:59:45 18 THE VIDEOGRAPHER: I need a page
10:59:47 19 number.

10:59:51 20 MR. WHITT: Page 16 of the PDF.

11:00:10 21 Q. Can you please review that
11:00:16 22 paragraph.

11:00:28 23 A. I'm familiar with this.

11:00:29 24 Q. Okay. For the record, can you
11:00:33 25 read out the sentence starting on line 6, which

11:00:39 1 says, "In my opinion."

11:00:46 2 A. Sorry, I'm looking for the lines.

11:00:49 3 Oh, line 6 of the paragraph. Do you want me to

11:00:53 4 read it out; is that what you said?

11:00:54 5 Q. Yeah.

11:00:55 6 A. Sure. "In my opinion, a POSA,"

11:01:01 7 which is an acronym for person of skill in the

11:01:03 8 art, "as of November 2008 would have possessed

11:01:12 9 a Bachelor's degree in computer science (or

11:01:16 10 similar degree) and two years of work

11:01:17 11 experience developing software, including at

11:01:20 12 least some experience working with data

11:01:22 13 storage, data synchronization, and human

11:01:26 14 computer interaction technologies. A person

11:01:29 15 could also have qualified as a person of skill

11:01:33 16 in the art with some combination of (1) more

11:01:39 17 formal education (such as a Master's of science

11:01:44 18 degree) and less technical experience, or (2)

11:01:52 19 less formal education and more technical or

11:01:56 20 professional experience in the fields listed

11:01:59 21 above."

11:02:01 22 Q. So you list three separate topics,

11:02:04 23 namely data storage, data synchronization and

11:02:11 24 human computer interactions; is that correct?

11:02:14 25 A. As an example, yes.

11:02:16 1 Q. So is it your position that a POSA
11:02:19 2 would need experience in all the three topics?

11:02:28 3 A. I think that's fair. I will note
11:02:30 4 that this declaration was covering, let's see,
11:02:34 5 the six patents at that time, that would have
11:02:40 6 been in play at that time. I want to make that
11:02:51 7 point, it's not just for the '561 and '942
11:02:54 8 patents that are currently being discussed.

11:02:56 9 Q. For the '942 and the '561 patents,
11:03:00 10 would it be fair to say that you need
11:03:03 11 experience in data storage and data
11:03:06 12 synchronization as per this sentence?

11:03:09 13 A. Yes, I would agree with that.

11:03:11 14 Q. Okay. What level of experience
11:03:14 15 would you need in data storage?

11:03:16 16 A. I would say it would include what
11:03:29 17 would have been learned to get a Bachelor's
11:03:31 18 degree in computer science, as well as
11:03:34 19 experience in developing software, including
11:03:36 20 knowing how to store and retrieve data from
11:03:38 21 different storage mechanisms, and knowing how
11:03:41 22 to synchronize data between different machines
11:03:49 23 or different storage -- well, machines,
11:03:52 24 computers.

11:03:52 25 Q. Okay. Can you go to Paragraph 19.

11:04:11 1 Please read this paragraph.

11:04:14 2 A. Give me a moment, please. Okay.

11:04:40 3 I've read that paragraph.

11:04:41 4 Q. You state that you have been

11:04:46 5 informed that Unified patents took a certain

11:04:52 6 position concerning the level of skill in the

11:04:54 7 art; is that correct?

11:04:55 8 A. That's what I was informed, yes.

11:04:56 9 Q. And you kind of noted your

11:05:02 10 agreement with the position that Unified has

11:05:09 11 taken?

11:05:09 12 A. I think I say very explicitly that

11:05:11 13 I view this articulation of what a person of

11:05:15 14 skill in the art would have to be quite similar

11:05:20 15 to the level of skill that I articulated in

11:05:23 16 paragraph, I believe it was, Paragraph 17 that

11:05:26 17 we just talked about.

11:05:27 18 Q. Item 2, it's listed "'two or more

11:05:31 19 years of experience with file sharing systems,

11:05:34 20 with more experience substituting for less

11:05:36 21 education and vice versa. '"

11:05:39 22 So your position with respect to

11:05:43 23 '942 and '561 is that you would need experience

11:05:46 24 in data storage, data synchronization, and file

11:05:50 25 sharing systems; am I right?

11:05:53 1 MR. WHITT: Objection. Misstates.

11:06:01 2 A. I'm not sure the "and" is
11:06:03 3 appropriate or is necessarily what I'm thinking
11:06:05 4 about. I think file sharing is understanding
11:06:07 5 data storage and data synchronization.

11:06:10 6 So, you know, to the extent that
11:06:14 7 — I see it as being part of data storage and
11:06:20 8 data synchronization, and not a separate skill
11:06:23 9 set necessarily.

11:06:25 10 So I just want to make sure that
11:06:27 11 any agreement with the "and" in your
11:06:29 12 description is not intended to mean something
11:06:32 13 in addition to data storage and data
11:06:36 14 synchronization.

11:06:40 15 MR. IYER: Mr. Whitt, I would like
11:06:41 16 to notify you that as far as the Patent
11:06:45 17 Office guidelines, you're not allowed to
11:06:47 18 make speaking objections. So please do
11:06:49 19 not make speaking objections that, in
11:06:52 20 turn, guide the witness to change his
11:06:53 21 answer or affect the answer.

11:06:55 22 MR. WHITT: Sure.

11:06:57 23 Q. Did you read the papers in the
11:07:08 24 Unified IPR case?

11:07:10 25 A. When you say "the papers," what do

11:07:18 1 you mean by that?

11:07:18 2 Q. Any submissions filed in the
11:07:20 3 Unified IPR or the decisions from the board on
11:07:26 4 that.

11:07:26 5 A. I may have read portions of it. I
11:07:49 6 believe I talk about this in my declaration,
11:07:52 7 the pieces that I may agree with, and things
11:07:54 8 like that. I don't recall studying them in
11:07:56 9 great detail beyond this, but portions that I
11:07:59 10 was asked to look at.

11:08:00 11 Q. Okay. You may scroll it back and
11:08:20 12 review your CV on the sections of education,
11:08:23 13 employment, or any other activities. I have
11:08:26 14 not seen the terms "data storage, data
11:08:34 15 synchronization" or "file sharing" anywhere in
11:08:37 16 your CV. Am I correct? You can take time to
11:08:42 17 look at your CV.

11:10:30 18 A. Can I just ask you, is it okay if
11:10:31 19 I just pull up a version of my CV that's a
11:10:33 20 separate document to do a search, because when
11:10:36 21 I'm doing a search on this massive document,
11:10:38 22 it's not confined to the CV; is that okay?

11:10:41 23 Q. Yeah, absolutely no problem.
11:10:43 24 Please pull up your CV.

11:10:46 25 A. Okay.

11:10:50 1 THE VIDEOGRAPHER: Do you want me
11:10:51 2 to take down this shared document,
11:10:53 3 counsel?

11:10:54 4 MR. IYER: Leave it there. I'm
11:10:56 5 going to be relying on that for some
11:10:58 6 time.

11:11:00 7 THE VIDEOGRAPHER: All right.

11:11:23 8 Q. Do you want to take a break at
11:11:25 9 this point and you can do the search? It has
11:11:27 10 been about an hour.

11:11:27 11 A. No. I think I'm ready to answer
11:11:29 12 that particular question, actually, if you give
11:11:32 13 me just one more second.

11:11:39 14 If I recall your question
11:11:40 15 correctly, and correct me if I misunderstand
11:11:42 16 your question, your question was particular
11:11:45 17 words, "data storage" and "data
11:11:48 18 synchronization" that appear in my CV, correct?

11:11:50 19 Q. And "file sharing."

11:11:52 20 A. And "file sharing." Let me just
11:11:54 21 check.

11:11:54 22 Q. I'm making a representation I
11:11:59 23 could not find those phrases. I just wanted
11:12:01 24 you to confirm.

11:12:03 25 A. Okay. I can confirm those

11:12:05 1 particular words as "data storage" as a phrase,
11:12:12 2 "data synchronization" as a phrase, and "file
11:12:14 3 sharing" as a phrase does not appear in my CV
11:12:18 4 as such.

11:12:20 5 However, I would say there's
11:12:21 6 multiple instances of those topics being
11:12:25 7 handled within a variety of aspects of projects
11:12:30 8 and grants and papers in my CV, and I'm happy
11:12:33 9 to go through those one at a time if you want
11:12:35 10 me to, and explain how each of those include
11:12:41 11 data storage, data synchronization and file
11:12:44 12 sharing, because those are basic concepts that
11:12:47 13 would be included in broader projects.

11:12:53 14 I want to be clear for the record,
11:12:54 15 just because those particular phrases don't
11:12:57 16 show up in an academic CV doesn't mean it's not
11:12:59 17 in there in terms of the comp.

11:13:03 18 Q. So by saying that these topics
11:13:06 19 were involved, you're talking that you're using
11:13:10 20 or you stored data or you did synchronization
11:13:13 21 or you did file sharing as part of your
11:13:18 22 project, did you do research on those topics?

11:13:21 23 MR. WHITT: Objection. Form.

11:13:22 24 A. In some cases, the research on
11:13:29 25 more efficient ways to synchronize data as part

11:13:34 1 of some of those projects.

11:13:35 2 Q. So you're welcome to go through
11:13:39 3 your CV during the next break, but I would like
11:13:43 4 you to point out some things, some references
11:13:47 5 in your CV, where research on data storage,
11:13:55 6 file sharing and data synchronization were
11:13:57 7 involved as research topics. If you can point
11:14:02 8 that out, I'd really appreciate it.

11:14:04 9 A. Sure. I'm happy to do that.

11:14:06 10 Q. Do you want to take a break now?

11:14:08 11 A. We can take a break now. It has
11:14:10 12 been an hour. That's fine.

11:14:13 13 MR. IYER: All right. Let's go
11:14:14 14 off the record. Take a ten-minute
11:14:18 15 break.

11:14:19 16 THE VIDEOGRAPHER: We are going
11:14:20 17 off the record. The time is 11:14 a.m.
11:14:23 18 (Recess taken at 11:14 a.m. and
11:14:27 19 reconvening at 11:33 a.m.)

11:32:58 20 THE VIDEOGRAPHER: We are back on
11:32:59 21 the record. The time is 11:33 a.m.

11:33:03 22 BY MR. IYER:

11:33:03 23 Q. So, Dr. Balakrishnan, during the
11:33:07 24 break, did you discuss -- did you talk to
11:33:11 25 anyone?

11:33:18 1 A. Yes. I talked to my daughter
11:33:20 2 downstairs, but not about this case.

11:33:21 3 Q. So I take it that you did not
11:33:24 4 discuss with your attorneys during the break on
11:33:26 5 any topic related to the --

11:33:29 6 A. I did not talk to them at all.

11:33:31 7 Q. So, yeah, please identify, like I
11:33:35 8 said before the break, a paper or research or
11:33:39 9 anything in your CV that relate to these three
11:33:44 10 topics?

11:33:47 11 A. Sure. Maybe the way to start this
11:33:52 12 is starting with the courses on top and going
11:33:56 13 way back to the 1990s.

11:33:59 14 One of the early courses I was a
11:34:01 15 teaching assistant and included file structures
11:34:03 16 and data management, and this was on Page 24 of
11:34:07 17 my CV, that would have included storage, access
11:34:13 18 and synchronization issues at the undergraduate
11:34:17 19 level.

11:34:17 20 And then later on in 1997 I guess
11:34:21 21 several times I think I taught information
11:34:23 22 systems design and analysis that would have
11:34:25 23 included topics, you know, such as storage and
11:34:29 24 synchronization and accessing files and writing
11:34:32 25 files. So that's on the teaching side that

11:34:37 1 would have explicitly included those topics.

11:34:39 2 And I'm scrolling up, I'm going to
11:34:42 3 skip my talks for now, and go to the papers,
11:34:51 4 and just going up on Page 18 upwards. Okay.

11:35:21 5 So I know that when we get the
11:35:26 6 system or describe in paper C 111, which has to
11:35:32 7 deal with 3D navigation using spatial temporal
11:35:37 8 controls, the underlying system which is built
11:35:40 9 at a 3D graphic software company I was working
11:35:44 10 at, at that time, included the storing of data,
11:35:47 11 the underlying 3D data that we were using to
11:35:52 12 store in a distributed system. This
11:35:56 13 interactive system was accessing that data
11:35:59 14 across a network of multiple computers.

11:36:03 15 Q. You said C111?

11:36:07 16 A. I'm looking at Exhibit 3, which is
11:36:12 17 my declaration, and I'm looking at the CV
11:36:16 18 portion of it, which has page numbers on the
11:36:22 19 bottom of that. It's Page 18 of the CV of the
11:36:30 20 declaration.

11:36:31 21 On that one list of papers there's
11:36:33 22 a paper numbered C111, and that paper describes
11:36:41 23 techniques, but the underlying system was built
11:36:47 24 at a software company that I just mentioned
11:36:49 25 where it was a distributed system.

11:36:52 1 I keep going up. C101 on Page 17.

11:37:06 2 This was a research project that involved doing
11:37:10 3 three-dimensional sketching of complex 3D
11:37:16 4 objects, and that eventually became a start-up
11:37:20 5 company, and I will take you to that on my CV.

11:37:28 6 Go to Page 6 of the CV under
11:37:34 7 "Entrepreneurial Activities." The second
11:37:38 8 listing there called Arcestra.com. This
11:37:44 9 start-up company was an outcrop of that
11:37:48 10 research, initiating a start-up we called
11:37:53 11 Sketch2 Corporation, and then became Arcestra.
11:37:57 12 And then what we built there was software or
11:38:00 13 sketching designing 3D building material
11:38:03 14 layouts, and that software included accessing
11:38:06 15 what we call at the time assets.

11:38:11 16 In other words, if you're doing an
11:38:16 17 interior layout for an office, you get assets
11:38:21 18 from different suppliers, furniture,
11:38:26 19 partitions, other architectural elements that
11:38:29 20 you may want to try to lay out, and those are
11:38:31 21 all on distributed system architecture so you
11:38:35 22 could access data from different file systems,
11:38:37 23 bring it all in. And then when you put it out
11:38:40 24 or create a new layout that was stored and
11:38:46 25 distributed to clients, et cetera.

11:38:48 1 So that was definitely data
11:38:52 2 synchronization, data storage, file access.
11:38:56 3 Eventually that company got acquired recently
11:38:59 4 by a company called Cougar Group. That's in my
11:39:05 5 updated CV, not in this list here.
11:39:08 6 So going back to the papers, paper
11:39:48 7 No. C95 on Page 17, the research project there
11:39:55 8 was dealing with the very large screen displays
11:39:58 9 with data coming from different sources with
11:40:01 10 multiple users, and that involved input data
11:40:05 11 from different users, data being received from
11:40:10 12 different cameras, being stored in the process
11:40:15 13 on different processors.
11:40:18 14 So that was underlying what I
11:40:22 15 would say a system for processing inputs and
11:40:25 16 outputs and accessing asset data from a variety
11:40:29 17 of systems. So it inherently would have had
11:40:33 18 multiple different data storage, data access,
11:40:38 19 synchronization-related issues in the system
11:40:43 20 itself.
11:40:49 21 I'm continuing to look up my stuff
11:40:53 22 here. Paper C90 on Page 16, this was to do
11:41:04 23 with groupware. Groupware, if you know what
11:41:10 24 that means, it's technology that handles
11:41:12 25 multiple people working on content.

11:41:14 1 So by definition, the underlying
11:41:16 2 system would have had to be able to deal with
11:41:19 3 data coming from different people's computers,
11:41:21 4 being stored, being edited, to be shared
11:41:24 5 editing, being written back, being synchronized
11:41:26 6 across multiple user systems.

11:41:37 7 The other papers here that were
11:41:40 8 included, data from different systems would
11:41:42 9 have included paper number C84.

11:41:49 10 Q. 84?

11:41:51 11 A. C84. It would have taken data
11:41:54 12 from different places and shown it on a
11:41:59 13 display.

11:41:59 14 And then we get to paper number
11:42:02 15 C80. This was a new form of desktop computing
11:42:09 16 interface to deal with using physics of piling
11:42:17 17 and pen interaction, and this became the basis
11:42:20 18 for another company we formed. I will take you
11:42:23 19 back to the company listing on Page 6, and this
11:42:28 20 was Bumptop.com.

11:42:32 21 This we did a start-up, we got
11:42:34 22 some funding, and eventually got acquired by
11:42:38 23 Google in 2010. This was the commercial
11:42:43 24 version that actually shipped before Google
11:42:46 25 acquired it was dealing with data storage, data

11:42:51 1 access across your desktop, including any
11:42:54 2 remote file systems that you might be connected
11:42:58 3 to.

11:42:58 4 So that was a real -- like the
11:43:06 5 other company's software, this was commercially
11:43:07 6 robust technology that was actually being
11:43:09 7 shipped as opposed to research prototype. So
11:43:12 8 we started off as prototype and then became
11:43:18 9 commercially interesting.

11:43:26 10 Do you want me to keep going?

11:43:29 11 Q. That's fine so far. So a question
11:43:37 12 to you and your counsel. Please send us a copy
11:43:40 13 of C84, C80, C11, C95 and C101 as soon as you
11:43:50 14 can.

11:43:50 15 MR. WHITT: I'll take that under
11:43:53 16 advisement. I need to talk to counsel
11:43:54 17 whether that's proper under the
11:43:56 18 discovery rules in PTAB. We'll talk
11:43:58 19 about that.

11:43:59 20 MR. IYER: Yes, we believe it's
11:44:00 21 relevant, because that's what the expert
11:44:02 22 has relied on to support his position
11:44:07 23 that he's an expert in this field.

11:44:11 24 MR. WHITT: Sure. Yeah, these
11:44:13 25 papers were all submitted with his

11:44:15 1 declaration. So, you know, we might
11:44:17 2 have some questions about timeliness of
11:44:19 3 this request. I think this is something
11:44:21 4 that you could have requested earlier,
11:44:22 5 but I'll talk to my team and get back to
11:44:24 6 you.

11:44:25 7 MR. IYER: The papers were not
11:44:27 8 submitted. That's a mischaracterization
11:44:30 9 on your part.

11:44:31 10 MR. WHITT: They were cited. They
11:44:33 11 were cited.

11:44:33 12 MR. IYER: You said submitted.

11:44:35 13 MR. WHITT: Sorry. I said cited.
11:44:39 14 I thought I said cited.

11:44:46 15 MR. IYER: The same thing, Dr.
11:44:51 16 Balakrishnan mentioned two courses which
11:44:53 17 he was teaching. We would like a
11:44:56 18 syllabus and course materials for those
11:44:58 19 courses.

11:44:59 20 MR. WHITT: I'll talk about that
11:45:00 21 with my team and get back to you.

11:45:33 22 Q. Dr. Balakrishnan, in your
11:45:36 23 declaration, and in the patents that are in
11:45:41 24 consideration, the term "HTTP" is used. What's
11:45:49 25 your understanding of HTTP?

11:45:51 1 A. I would say it's a -- at a very
11:45:56 2 high level, it's simply a protocol for handling
11:45:58 3 information being moved around the worldwide
11:46:01 4 web.

11:46:10 5 Q. What does "HTTPS" mean?

11:46:11 6 A. That's just the most secure
11:46:13 7 version of HTTP.

11:46:18 8 Q. So does an HTTP client/server --
11:46:21 9 sorry, I take back.

11:46:22 10 Is web browser an example of a
11:46:28 11 HTTP client?

11:46:30 12 A. When you say "web browser," you
11:46:39 13 mean something like Firefox or Chrome; that's
11:46:42 14 what you mean?

11:46:43 15 Q. Yes.

11:46:43 16 A. I would say it could be HTTP
11:46:50 17 timed, yes.

11:47:13 18 Q. Explain how a web browser uses
11:47:20 19 HTTP to get a web page from a web browser --
11:47:27 20 from a web server?

11:47:28 21 MR. WHITT: Objection. Form.

11:47:29 22 A. One way a web browser can use
11:47:37 23 HTTP, which is to get data, is to make a
11:47:45 24 request from the relevant website that it's
11:47:53 25 trying to commit to to make a request to get

11:47:56 1 data from that website and to open up a pipe
11:47:59 2 between that website and the browser.

11:48:03 3 Q. So the HTTP would have a web link
11:48:10 4 address followed by a request, right?

11:48:12 5 A. As it's phrased that way, I'm not
11:48:20 6 sure what you mean the HTTP would have. To
11:48:24 7 make that connection to the website that a
11:48:30 8 browser wants to connect to, there would be a
11:48:33 9 HTTP or HTTPS web link. If that's what you're
11:48:40 10 asking me, the answer is, yes.

11:48:42 11 Q. So the request would be a web link
11:48:46 12 followed by the request that you're making,
11:48:49 13 right?

11:48:49 14 A. I would simply say the initial
11:48:55 15 thing would be a link to connect. You're just
11:48:57 16 connecting to that website.

11:49:05 17 Q. And where would the request be?

11:49:06 18 A. Was the question where would the
11:49:08 19 question be or where was it to?

11:49:11 20 Q. When a client, HTTP client, is
11:49:16 21 requesting a service to a HTTP server, a web
11:49:21 22 browser in this case, the web link will be
11:49:24 23 followed by a command representing the request,
11:49:25 24 right?

11:49:27 25 MR. WHITT: Objection. Form.

11:49:28 1 A. It can be.

11:49:29 2 Q. What's the other way of doing it?

11:49:32 3 A. When you say a command, if I just

11:49:38 4 say go to Microsoft.com, it's asking to connect

11:49:43 5 to Microsoft.com, and then the server at that

11:49:47 6 point will send me whatever it is that the

11:49:49 7 default home page of Microsoft.com wants to

11:49:54 8 show the web browser that connected to

11:49:58 9 Microsoft.com.

11:50:00 10 The request didn't explicitly say

11:50:03 11 I want to see these, these, and these things.

11:50:07 12 It just asks for a connection and it receives

11:50:11 13 whatever it is the website happens to have for

11:50:13 14 that particular link.

11:50:21 15 Q. So in the example of a web browser

11:50:23 16 trying to get a web page from a web server,

11:50:25 17 does the web client send an HTTP request for

11:50:30 18 the server?

11:50:30 19 A. Yes, if it's a particular page, it

11:50:34 20 would say here's the link with a particular

11:50:37 21 page. Show me that page. That is a request,

11:50:39 22 yes.

11:50:39 23 Q. And when the server receives the

11:50:47 24 HTTP request from the client, such as the

11:50:50 25 browser, will it send a response to the client?

11:50:53 1 A. It should. Sometimes it doesn't,
11:51:00 2 but it should and it could.

11:51:02 3 Q. Okay.

11:51:09 4 A. When you say "client," you meant
11:51:11 5 the web browser?

11:51:13 6 Q. That made the request.

11:51:14 7 A. Okay. Yes.

11:51:17 8 Q. So in other words, if the request
11:51:19 9 is a valid request, the response involved
11:51:21 10 sending the requested web page to the client;
11:51:23 11 am I right?

11:51:24 12 A. If it's a valid request and
11:51:31 13 permissions and everything else are
11:51:33 14 appropriately satisfied, that could be a
11:51:36 15 response, yes.

11:51:37 16 Q. So is HTTP an example of a request
11:51:44 17 response protocol?

11:51:46 18 MR. WHITT: Objection. Form.

11:51:47 19 A. In part, yes, but not in whole.

11:51:58 20 Q. Why do you say it's not in whole?

11:52:00 21 A. Because often I'll request a
11:52:04 22 particular web page, but I'll get additional
11:52:06 23 stuff I never requested. So once I've got that
11:52:09 24 pipe open to a website, the site can send me
11:52:12 25 all kinds of things that I may or may not want.

11:52:15 1 I think we've all dealt with the
11:52:18 2 irritation of -- what I'll call an irritation
11:52:22 3 -- of going to a site, asking for a particular
11:52:24 4 web page, and getting additional things like
11:52:27 5 ads, and so forth, that were never explicitly
11:52:32 6 asked for.

11:52:33 7 So that's the server automatically
11:52:35 8 sending me a bunch of stuff I didn't want or
11:52:37 9 didn't ask for and didn't request.

11:52:39 10 Q. So other than information that you
11:53:10 11 characterize as ads and other irritating
11:53:13 12 information, does the server send information
11:53:18 13 to the client that was not asked for?

11:53:22 14 A. Well, I just gave you a long set
11:53:29 15 of things that wasn't asked for. So there is
11:53:33 16 essentially an input number of things it could
11:53:36 17 send that was never asked for.

11:53:38 18 Q. For example, would it send you a
11:53:44 19 file?

11:53:45 20 A. It could. That's how we end up
11:53:50 21 with viruses.

11:53:51 22 Q. So your examples are ads and
11:53:56 23 viruses?

11:53:57 24 A. As examples, but it's not a final
11:54:01 25 set of examples.

11:54:02 1 Q. Are you familiar with the term
11:54:07 2 "client pull"?
11:54:11 3 A. I'm sorry, client what?
11:54:14 4 Q. Pull, p-u-l-l.
11:54:16 5 A. Sure.
11:54:17 6 Q. What does it mean?
11:54:26 7 A. One common meaning of it is the
11:54:28 8 client, and here I assume you're talking about
11:54:32 9 computer system Clients here and not a client
11:54:35 10 of a law firm, for example, but a system client
11:54:38 11 would ask or get that data -- ask for something
11:54:41 12 from another system, and that system could be a
11:54:46 13 server, it could be another peer client, it
11:54:59 14 could be pulled from a storage or data store.
11:55:03 15 It could be pulled from any number of data
11:55:07 16 sources maybe is the way to say it.
11:55:09 17 Q. What do you mean by a peer client
11:55:24 18 in the answer you just gave?
11:55:25 19 A. So if I'm in a situation where
11:55:29 20 I've a distributed network -- when I say "I," I
11:55:34 21 mean the system, not me as the human -- Client
11:55:37 22 A could be connected to Client B, Client C and
11:55:42 23 Client D, and may be connected to something
11:55:45 24 that's acting as a server or not.
11:55:47 25 So in a peer-to-peer system, a

11:55:49 1 system that I just described, it could be
11:55:54 2 pulling -- Client A could pull data from
11:56:01 3 another client, Client B, a peer client.

11:56:05 4 Q. So it's your testimony that under
11:56:09 5 the HTTP protocol, a peer Client A could pull
11:56:15 6 information from peer Client B by sending a
11:56:18 7 request?

11:56:19 8 MR. WHITT: Objection. Form.

11:56:24 9 A. I didn't explicitly phrase my
11:56:26 10 earlier answer with regards to the HTTP
11:56:30 11 protocol. I thought you asked a general
11:56:32 12 question what client pulls data, and the answer
11:56:35 13 was in that context.

11:56:36 14 Q. So can you rephrase your answer
11:56:39 15 under the HTTP protocol context?

11:56:43 16 MR. WHITT: Same objection.

11:56:49 17 A. Under HTTP protocol context, if
11:56:51 18 the peer client happened to run in the
11:56:54 19 appropriate HTTP -- sorry, web service, it
11:56:58 20 could provide the data that the first client is
11:57:00 21 requesting.

11:57:02 22 Q. I didn't quite understand. I'm
11:57:06 23 asking under the HTTP protocol, can a client
11:57:11 24 pull data or pull information of whatever
11:57:16 25 service from a peer Client B?

11:57:19 1 MR. WHITT: Objection.

11:57:20 2 A. I'm sorry, I talked over counsel.

11:57:24 3 MR. WHITT: Objection to form.

11:57:25 4 A. If peer Client B is running the

11:57:32 5 appropriate software, it could act as a server,

11:57:45 6 yes, a server of information. Just because

11:57:47 7 it's a peer client doesn't preclude it acting

11:57:50 8 as a client and a server of web information in

11:57:53 9 the HTTP context.

11:57:54 10 Q. So in other words, the peer client

11:57:57 11 B has to be another server so that in the HTTP

11:58:02 12 context you can pull from Client A to Client B?

11:58:07 13 A. Sorry, Client B would be

11:58:15 14 configured as both a client and a server in

11:58:18 15 that situation, yes.

11:58:19 16 Q. But if it is not configured as a

11:58:22 17 server, can A pull information or services from

11:58:29 18 B in the HTTP protocol?

11:58:30 19 A. Not unless there is some other

11:58:44 20 mechanism set up in Client B to process

11:58:50 21 incoming HTTP requests.

11:58:51 22 Q. Are you familiar with the term

11:59:02 23 "server push"?

11:59:03 24 A. As a general matter, yes.

11:59:05 25 Q. What does it mean?

11:59:07 1 A. As a general matter, and again,
11:59:12 2 I'm answering this outside the specifics of
11:59:15 3 HTTP, it simply means a server pushing data,
11:59:20 4 sending data out to other computing systems
11:59:25 5 that may be connected to it. It could be other
11:59:28 6 clients, for example, or other servers.

11:59:30 7 Q. Would such a push be a result of
11:59:36 8 an HTTP request?

11:59:40 9 MR. WHITT: Objection. Form.

11:59:41 10 A. It could be. It doesn't have to
11:59:46 11 be.

11:59:46 12 Q. Can a push be accomplished without
11:59:50 13 any kind of request under the HTTP protocol?

11:59:54 14 A. If a connection has already been
11:59:59 15 made to the server from the client, the answer
12:00:02 16 is, yes. And I gave you some examples earlier
12:00:07 17 where I did not request an ad or I did not
12:00:10 18 request a virus file, and the server pushes it
12:00:15 19 anyway. Those are just examples.

12:00:18 20 An initial connection has to be
12:00:20 21 made obviously so there is a pipe between the
12:00:43 22 server and whatever other machine it is
12:00:46 23 connected to, whether it's a client or another
12:00:49 24 server, there has to be a pipe or connection
12:00:54 25 between those two entities in order for a push

12:00:58 1 to happen.

12:00:59 2 Q. So under the server push, the
12:01:04 3 server initiates the process of sending data to
12:01:07 4 the client, correct?

12:01:08 5 A. Sending the data out? That is
12:01:15 6 correct. I just want to be careful there,
12:01:21 7 though, because you say "initiates." Your term
12:01:29 8 "initiate" starts on the timeline.

12:01:33 9 Q. Can you elaborate?

12:01:35 10 A. As I testified a few minutes ago,
12:01:36 11 there has to be a connection between the client
12:01:39 12 and the server established before any pushing
12:01:43 13 can happen.

12:01:45 14 So when you say "initiate," it
12:01:48 15 depends on where -- if the connection has
12:01:53 16 already been established, there's already a
12:01:55 17 pipe, then the server can send block data as it
12:02:01 18 wants to, assuming the client is willing to
12:02:03 19 receive it as a block.

12:02:12 20 Q. Referring to Sigurdsson, which is
12:02:34 21 the primary reference used for Count I, are you
12:02:38 22 familiar or do you need to put that up on the
12:02:40 23 screen?

12:02:42 24 A. I am familiar with it, but I think
12:02:44 25 it would be good to have a record or send it to

12:02:49 1 me so I'm looking at the same thing that you're
12:02:51 2 looking at so there's no confusion. For the
12:02:54 3 record, I think it would be good. It doesn't
12:02:56 4 have to be on the screen. I can look at the
12:02:58 5 PDF.

12:03:01 6 Q. We are referring to Exhibit 4,
12:03:04 7 Sigurdsson. So if the reporter or videographer
12:03:07 8 can send it to Dr. Balakrishnan, that would be
12:03:13 9 -- we'll come back to this in detail later, but
12:03:16 10 right now I just want to ask some general
12:03:18 11 questions.

12:03:19 12 (Document marked as Exhibit 4
12:04:10 13 for identification)

12:04:10 14 A. Okay. I have the Sigurdsson
12:04:13 15 application in my PDF on my computer.

12:04:17 16 Q. Does Sigurdsson, in general, teach
12:04:22 17 a client/server application?

12:04:25 18 A. Among other things, yes.

12:04:29 19 Q. Does Sigurdsson teach a web server
12:04:34 20 in particular?

12:04:35 21 A. It is one example, yes. One
12:04:45 22 example of an implementation, yes.

12:04:47 23 Q. What other examples or what other
12:04:50 24 type of servers does it discuss?

12:04:55 25 A. My point is that it's not limited

12:04:59 1 to a web server. Just looking, I can go
12:05:05 2 through the document with you if you want.
12:05:07 3 Q. I'm asking generally. We can come
12:05:09 4 back to the document.
12:05:10 5 A. Well, it uses general technology.
12:05:13 6 For example, if you look at paragraph labeled
12:05:19 7 No. 9 on page -- let me make sure I know how to
12:05:23 8 refer to these things correctly -- Page 11 of
12:05:26 9 the PDF, which is Page 1 of the application.
12:05:29 10 So Paragraph 9. It says a computer system
12:05:32 11 having one or more servers as it's described.
12:05:35 12 It doesn't limit it to a web server per se.
12:05:38 13 Q. Does Sigurdsson teach an HTTPS
12:05:44 14 server?
12:05:44 15 A. I don't think I would agree with
12:05:50 16 that characterization. I think it has examples
12:05:52 17 of using the HTTP -- not HTTP, but let's see if
12:06:00 18 it is HTTPS. It includes HTTP as an example,
12:06:05 19 yes. Oh, HTTPS as an example, yes.
12:06:09 20 Q. Sigurdsson's HTTP server, does it
12:06:15 21 use a pull approach that's used by the HTTP
12:06:22 22 protocol or HTTPS protocol?
12:06:24 23 A. So which one -- what are we
12:06:29 24 talking about here? There's a lot of
12:06:31 25 references to HTTPS in Sigurdsson, and I want

12:06:34 1 to be careful. If you want to point me to a
12:06:36 2 particular section, let's do that.

12:06:40 3 Q. In general, I'm asking the HTTP
12:06:45 4 server that you said was provided as an example
12:06:47 5 in Sigurdsson.

12:06:50 6 Do any of the HTTP servers that
12:06:53 7 are provided as examples in Sigurdsson use a
12:06:56 8 client pull approach that's part of the HTTP
12:06:58 9 protocol?

12:06:59 10 A. Sure. It would include pulling
12:07:05 11 from the client as well as pushing to the
12:07:07 12 client.

12:07:08 13 Q. Does -- well, you said pushing to
12:07:14 14 the client. Show me where it discloses pushing
12:07:18 15 to the client without receiving a request?

12:07:23 16 A. Well, as I discussed earlier, it
12:07:29 17 says in Paragraph 47, for example, it says it
12:07:32 18 protects transfer protocol secure
12:07:38 19 client/server, and as I discussed earlier, this
12:07:40 20 very clearly HTTP protocol does allow for, once
12:07:47 21 the connection has been opened, for things to
12:07:51 22 be done in response to a client request, but
12:07:53 23 also to settle things directly to the client
12:08:01 24 from a server.

12:08:02 25 If we look at the images, for

12:08:05 1 example, we see in -- I'm turning my head
12:08:16 2 because it's not rotated correctly -- Figure 4,
12:08:20 3 for example, shows data going back and forth,
12:08:22 4 and data going from client to client as well.

12:08:26 5 So Sigurdsson clearly anticipates
12:08:29 6 both or discloses both pulling and pushing.

12:08:33 7 Q. Show me an explicit disclosure?

12:08:39 8 A. Of what?

12:08:39 9 Q. Of pushing data without being
12:08:43 10 requested.

12:08:44 11 A. I think it's all over the place.

12:08:56 12 So, for example, in Paragraph 47, the last
12:09:00 13 sentence says, "The HTTPS Client/server can be
12:09:03 14 used as a server to provide content to peer
12:09:06 15 clients, which is described in more detail
12:09:10 16 below." It doesn't limit it to being only in
12:09:14 17 response to a request, and that would be a
12:09:20 18 person of skill understanding of how HTTP
12:09:23 19 works, would understand that to be included,
12:09:26 20 pulling and pushing, for example.

12:09:27 21 Q. So your testimony is that HTTP
12:09:50 22 servers can push information without being
12:09:54 23 requested?

12:09:57 24 A. After the initial connection is
12:09:59 25 made to a client, yes. And I think I gave you

12:10:03 1 multiple examples of that already.

12:10:05 2 Q. You keep saying that the
12:10:27 3 specification does not limit this, that, and
12:10:30 4 the other. But is that the same as actually
12:10:33 5 describing that data is pushed without a
12:10:37 6 request?

12:10:40 7 MR. WHITT: Objection. Form.

12:10:41 8 A. Well, it should. It also talks
12:10:46 9 about a peer-to-peer architecture that doesn't
12:10:49 10 require a server. So when something says it
12:10:55 11 can transmit content without saying it meets a
12:10:59 12 request, I think anybody reading this would say
12:11:01 13 there's no mention of a request. So that could
12:11:05 14 be a push or a pull and a reasonable
12:11:08 15 interpretation would be to include both,
12:11:10 16 because it's not limited.

12:11:11 17 Q. That is if the HTTP server can
12:11:15 18 actually push. Only with that assumption, what
12:11:18 19 you're saying is correct; am I right?

12:11:21 20 MR. WHITT: Objection. Form.

12:11:22 21 A. I'm sorry, I didn't understand the
12:11:24 22 question. What do you mean by "assumption"?

12:11:27 23 Q. For your statement to be correct,
12:11:30 24 your earlier statement that HTTP protocol
12:11:33 25 allows for pushing content without being

12:11:36 1 requested so long as there's a pipeline, that
12:11:40 2 has to be correct for this statement to be
12:11:41 3 correct?

12:11:49 4 MR. WHITT: Objection. Form.

12:11:50 5 A. If there wasn't a connection, you
12:11:53 6 would nor be able to send anything.

12:11:54 7 Q. A connection plus the HTTP server
12:11:58 8 has to be able to push data out without being
12:12:02 9 asked, push content without being asked, that
12:12:05 10 has to be correct for your further testimony to
12:12:09 11 be correct; am I right?

12:12:12 12 If HTTP is not allowing for
12:12:15 13 pushing content without being requested, your
12:12:22 14 further assertion would not be correct?

12:12:24 15 MR. WHITT: Objection. Form.

12:12:26 16 A. If for some reason HTTP blocks
12:12:31 17 data from coming from the server that it
12:12:36 18 requests in a particular implementation, then,
12:12:39 19 sure. But barring any blocking, it would
12:12:45 20 certainly be able to push data out.

12:12:49 21 I will note again that the
12:12:51 22 Sigurdsson reference is not limited to the HTTP
12:12:54 23 protocol, which I think you seem to be
12:12:58 24 implying. I'm not sure that's your intent, but
12:13:01 25 it's just an example. HTTP protocol in

12:13:07 1 Sigurdsson just uses an example, not the
12:13:09 2 entirety of the disclosure.

12:13:10 3 Q. In your earlier answer, you
12:13:14 4 mentioned peer to peer. Okay? Can you
12:13:19 5 describe what is a peer-to-peer system?

12:13:21 6 A. As a general matter --

12:13:25 7 Q. Yes.

12:13:26 8 A. As a general matter, it would be
12:13:29 9 two or more systems connected to each other and
12:13:34 10 able to communicate, sending data back and
12:13:37 11 forth between the different systems.

12:13:41 12 So let's say there's three peers,
12:13:43 13 A, B and C. A, B and C should be able to
12:13:47 14 connect and talk to each other sending data
12:13:50 15 back and forth, if appropriate permissions are
12:13:53 16 in place and abided by, as a general -- very
12:13:56 17 general, high level description.

12:13:58 18 Q. Does a peer-to-peer system require
12:14:02 19 a server?

12:14:04 20 A. When you say "server," do you mean
12:14:09 21 a separate server or do you mean the peers
12:14:14 22 themselves acting as a client and server?

12:14:16 23 Q. I mean --

12:14:21 24 A. I'm sorry, I talked over you.

12:14:23 25 Could you repeat your answer please or your

12:14:26 1 qualification?

12:14:27 2 Q. Answer it both ways, whether it's
12:14:29 3 a separate server or a second peer access, a
12:14:32 4 client and a server.

12:14:34 5 A. Okay. Thank you for that
12:14:40 6 clarification.

12:14:41 7 In a peer-to-peer system, let's
12:14:43 8 say there's three peers connected to each
12:14:45 9 other. With that, a separate server in play,
12:14:47 10 then I would say assuming the peers are each
12:14:53 11 able to receive and send information to each
12:14:54 12 other, then they are acting as both. Each of
12:14:57 13 the peers are acting as both a client and
12:15:00 14 server in and of themselves.

12:15:04 15 You could have a different setup
12:15:06 16 where there are multiple peers and a central
12:15:11 17 server as well, and that's an example the
12:15:20 18 picture in Figure 4 of Sigurdsson is stylized
12:15:24 19 or a description of something like that, where
12:15:27 20 the peers or the clients could talk to each
12:15:29 21 other, but also talk to the server.

12:15:31 22 So in that sense, the server acts
12:15:33 23 as a server, but also acts as a client in the
12:15:37 24 sense that it gets information from the
12:15:38 25 clients. And when the clients also act as

12:15:45 1 clients and servers because they are able to
12:15:47 2 talk to each other.
12:15:48 3 So I don't think I can draw a line
12:15:50 4 and say this is only a server in that kind of a
12:15:53 5 setup.

12:15:53 6 Q. So then how is a peer-to-peer
12:16:01 7 system different from a client file server
12:16:03 8 system?

12:16:03 9 A. So purely client/server systems,
12:16:09 10 the different clients typically would not talk
12:16:11 11 to each other directly. Everything would go
12:16:13 12 through the server, hence the term
12:16:17 13 "client/server."

12:16:19 14 But in a mixed model setup where
12:16:22 15 peers are talking to peers or clients talking
12:16:24 16 to clients, as well as clients talking to
12:16:26 17 servers, you get a mixed model of peer to peer
12:16:35 18 and client/server.

12:16:41 19 Q. So in a pure peer-to-peer system
12:16:43 20 or in a mixed system, which is acting as a
12:16:45 21 peer-to-peer system for a specific
12:16:48 22 communication, do the two peers communicate
12:16:52 23 directly?

12:16:53 24 A. They could. It depends on the
12:17:00 25 setup. If you have a server, it could also be

12:17:05 1 a peer going to the server and then coming back
12:17:07 2 down to the other peer. It's all
12:17:11 3 possibilities. It depends on how things are
12:17:13 4 set up in this hypothetical.

12:17:14 5 Q. So under the context of a
12:17:19 6 particular communication, you think the
12:17:20 7 peer-to-peer protocol or whatever, is the
12:17:24 8 communication direct?

12:17:28 9 A. What do you mean by "direct"?

12:17:31 10 Q. Direct as in a temporal sense. Is
12:17:35 11 the communication happening in a practical
12:17:37 12 sense in realtime?

12:17:40 13 MR. WHITT: Objection. Form.

12:17:41 14 A. I'd be cautious with the use of
12:17:49 15 realtime, because that has particular technical
12:17:53 16 meanings depending on the context.

12:17:55 17 Q. Realtime as in, for example,
12:17:57 18 making a phone call when you're directly
12:17:59 19 talking to people when the line is dedicated to
12:18:03 20 you, in that context.

12:18:04 21 A. So what exactly is your question?
12:18:12 22 Maybe I will ask for a clarification. If
12:18:15 23 you're saying Peer A is talking to Peer B and
12:18:20 24 there's a connection, and that connection is
12:18:21 25 synchronous?

12:18:23 1 Q. Yes.

12:18:23 2 A. Is that your hypothetical?

12:18:26 3 Q. Yes. I'm asking exactly that.

12:18:29 4 A. Okay. So in that situation, what

12:18:31 5 is the question that you're asking?

12:18:33 6 Q. Waiting for some communication to

12:18:39 7 be considered peer to peer, is a practical

12:18:45 8 synchronous communication necessary?

12:18:48 9 A. A practical synchronous? I'm not

12:18:50 10 sure what "practical" means there.

12:18:53 11 Q. I'm not saying instant as in a

12:18:56 12 mathematical certainty. The normal practical

12:19:01 13 delays in communication and all of that I

12:19:03 14 factor in.

12:19:04 15 But in a practical sense, there is

12:19:07 16 a data connection and a message goes from A to

12:19:10 17 B and B to A?

12:19:11 18 MR. WHITT: Objection. Form.

12:19:13 19 A. I would say the message would go

12:19:16 20 from A to B and/or B to A. It does not have to

12:19:20 21 be synchronous. It could be synchronous. It

12:19:23 22 could be asynchronous, there could be lengthy

12:19:28 23 delays in between. I don't think it

12:19:29 24 necessarily precludes into leading hops,

12:19:34 25 because, for example, if I have a peer-to-peer

12:19:36 1 connection to the internet, my file or my data
12:19:40 2 is going to go through many, many hops before
12:19:43 3 it gets from Peer A to Peer B. So there could
12:19:46 4 be many in between machines acting as conduits.

12:19:52 5 So I don't think I would say it
12:19:53 6 has to be only those two connections -- those
12:19:59 7 two things talking to each other and nothing in
12:20:01 8 between. I don't think that's appropriate. I
12:20:04 9 would not restrict it that way.

12:20:05 10 Q. When you say "conduit," you
12:20:07 11 mentioned the word of machines in between as
12:20:11 12 conduits. Those conduits, do they store
12:20:15 13 information in persistent storage?

12:20:20 14 MR. WHITT: Objection. Form.

12:20:21 15 A. They may.

12:20:26 16 Q. So you're saying in peer-to-peer
12:20:29 17 communication, as is known in the general
12:20:32 18 computer science parlance, the conduit machines
12:20:35 19 in between can store information in a
12:20:40 20 persistent storage?

12:20:43 21 A. I don't think peer to peer
12:20:45 22 necessarily precludes an in-between machine
12:20:50 23 storing or not storing something persistent.
12:20:54 24 It would depend on the particular architecture
12:21:02 25 that you build.

12:21:02 1 Q. So if you have a peer-to-peer
12:21:14 2 system where an in-between machine has
12:21:18 3 persistent storage and stores the data, would
12:21:21 4 that be considered peer to peer or
12:21:22 5 client/server?

12:21:23 6 MR. WHITT: Objection. Form.

12:21:25 7 A. I'm sorry, I'm finding this a bit
12:21:31 8 distracting, because there's a big screen
12:21:33 9 display with somebody's calendar on the screen.
12:21:35 10 Could we go back to just having the gallery
12:21:38 11 view, if that's okay, so I can actually see
12:21:40 12 counsel asking the question? I don't seem to
12:21:50 13 be able to switch it myself. I'm sorry to
12:21:53 14 interrupt the question.

12:22:00 15 Q. So if we can remove the calendar,
12:22:02 16 it's not mine.

12:22:03 17 A. Actually, I will reduce it. I'm
12:22:05 18 good. Sorry. I'm now looking at a cleaner
12:22:09 19 screen. Thank you. Maybe repeat the question.

12:22:12 20 Q. So in a peer-to-peer system where
12:22:16 21 you're saying that there are in-between
12:22:18 22 machines that have persistent storage and store
12:22:23 23 the information in persistent storage, would
12:22:25 24 that still be considered peer to peer or would
12:22:28 25 that be a client/server system?

12:22:31 1 MR. WHITT: Objection. Form.

12:22:32 2 A. I would still consider that peer
12:22:35 3 to peer, because the in between things, storage
12:22:42 4 would be, at best, incidental. It may not be
12:22:44 5 necessary per se. It may be necessary in the
12:22:48 6 particular implementation because the peers are
12:22:49 7 so far away, but I would not typically consider
12:22:53 8 that a client/server architecture per se.

12:22:58 9 My initial comment that each peer
12:23:02 10 is acting as a client and server to the other
12:23:06 11 peers. So I don't think there's a hard
12:23:08 12 distinction of peer to peer in client/server in
12:23:13 13 that sense.

12:23:14 14 Q. What's the rationale for applying
12:23:29 15 teachings from a peer-to-peer system to a
12:23:31 16 client/server system when these two are
12:23:34 17 separate architectures?

12:23:38 18 MR. WHITT: Objection. Form.

12:23:40 19 A. As I said earlier, I don't think
12:23:43 20 the demarcation is that hard. So depending on
12:23:49 21 the context, and depending on what the
12:24:03 22 teachings are, I don't think one would read
12:24:04 23 this in isolation saying it says peer to peer,
12:24:09 24 therefore, I'm not going to look at it at all
12:24:11 25 to apply it to something else that normally may

12:24:14 1 be a client/server, because, as I said as an
12:24:17 2 example, peer-to-peer systems in and of
12:24:19 3 themselves, each peer is a client and a server,
12:24:29 4 in maybe no other sense, but certainly for some
12:24:31 5 purposes.

12:24:31 6 Q. Can you refer to Paragraph 611 of
12:25:08 7 your declaration.

12:25:10 8 A. Just give me a second to get back
12:25:12 9 to that. You said paragraph, right?

12:25:17 10 Q. Yes. Paragraph 611.

12:25:36 11 A. Go ahead.

12:25:38 12 Q. Can we have it on the chat, the
12:25:40 13 declaration?

12:25:42 14 THE VIDEOGRAPHER: Do you mean on
12:25:44 15 the screen?

12:25:44 16 MR. IYER: On the screen. Sorry.

12:25:47 17 THE VIDEOGRAPHER: Which exhibit
12:25:48 18 is that?

12:25:49 19 MR. IYER: Exhibit 3.

12:25:51 20 THE VIDEOGRAPHER: One moment.
12:26:14 21 And then where?

12:26:15 22 MR. IYER: Paragraph 611.

12:27:09 23 Q. I referred to Paragraph 611. Can
12:27:13 24 you scroll to that? It's on Page 437.

12:27:40 25 Can you review this paragraph?

12:27:43 1 A. I'm doing that right now. Okay.

12:28:54 2 I've read the paragraph again.

12:28:56 3 Q. Okay. 611 on 437, it goes to --

12:29:06 4 okay. On Page 438, you take a position that --

12:29:24 5 line 7 on 438, you take a position that

12:29:29 6 "Hesselink also does not specifically disparage

12:29:34 7 or motivate away from applying its relevant

12:29:39 8 synchronization scheduling function to a

12:29:42 9 client/server synchronization system."

12:29:45 10 Do you see that?

12:29:47 11 A. I do.

12:29:47 12 Q. Now, if you could turn to --

12:29:52 13 please upload Exhibit 7, which is Hesselink.

12:30:28 14 MR. IYER: Can we have Hesselink

12:30:29 15 on the screen, please, Exhibit 7.

12:30:48 16 (Document marked as Exhibit 7

12:30:52 17 for identification)

12:30:52 18 A. Could I get a copy of this in the

12:30:54 19 chat, too, so I have an exact same copy?

12:31:48 20 Q. Okay. Please go to Paragraph 6,

12:31:56 21 and scroll down to Page 1 after all the

12:31:59 22 diagrams. You have it on your system. Can you

12:33:14 23 please look at Paragraph 6?

12:33:16 24 A. I am looking at it, yes.

12:33:17 25 Q. So look at the last sentence,

12:33:23 1 starting with the word "While," and please read

12:33:30 2 that.

12:33:32 3 A. Sure. I have read that sentence.

12:34:13 4 Q. So isn't that a statement showing

12:34:18 5 -- describing the disadvantages of a

12:34:22 6 client/server system?

12:34:24 7 A. This is a sentence in the

12:34:27 8 background of the Hesselink patent or patent

12:34:45 9 application that gives an example of a

12:34:51 10 particular solution, which is a photo service

12:34:55 11 website that one could upload files and then

12:34:58 12 have that be a server, giving one example of

12:35:04 13 what might be called a client/server setup.

12:35:08 14 It's just an example, and a particular

12:35:12 15 implementation of an example.

12:35:13 16 Q. So in this particular

12:35:15 17 implementation of the client/server example,

12:35:18 18 Hesselink talks about the disadvantage or the

12:35:21 19 negative aspects of storing personal

12:35:25 20 information in servers; am I right?

12:35:27 21 MR. WHITT: Objection. Form.

12:35:29 22 A. In this particular example, it's

12:35:31 23 talking about one possible negative or

12:35:36 24 disadvantage of storing personal photos on a

12:35:40 25 server where it might be not known what

12:35:45 1 securities provided.

12:35:48 2 Obviously, as we all know, there's
12:35:51 3 many photo storage systems where there are
12:35:53 4 secure ways of storing things and where the
12:35:59 5 provider provides assurances of security and
12:36:04 6 password protection, et cetera.

12:36:07 7 So this is just simply one example
12:36:08 8 where Hesselink describes a possible scenario
12:36:12 9 where one does not know what the security
12:36:16 10 protocols might be in this particular example.

12:36:20 11 Q. So Hesselink's disclosure is for a
12:36:25 12 peer-to-peer system that does not have this
12:36:29 13 disadvantage; is that reasonable to say?

12:36:39 14 MR. WHITT: Objection to form.

12:36:42 15 A. An unknown server with unknown
12:36:45 16 security protocols; is that what you're asking?

12:36:47 17 Q. Yes.

12:36:48 18 A. I think that's fair as a general
12:36:53 19 matter, yes.

12:36:54 20 Q. Okay.

12:36:59 21 MR. IYER: Do you want to break
12:37:00 22 for lunch at this point? We've gone for
12:37:02 23 over an hour since the previous break.
12:37:05 24 It's 12:30 here. I don't know about in
12:37:09 25 Toronto?

12:37:11 1 THE WITNESS: Sure, I'm happy to
12:37:12 2 take lunch.
12:37:14 3 MR. IYER: How much time would you
12:37:15 4 need?
12:37:17 5 THE WITNESS: Half hour.
12:37:20 6 MR. IYER: Okay. Let's plan on
12:37:21 7 meeting in 45 minutes.
12:37:24 8 THE WITNESS: Sure. Okay.
12:37:26 9 THE VIDEOGRAPHER: We are going
12:37:27 10 off the record. The time is 12:37 p.m.
12:37:40 11 (Luncheon recess taken at 12:37
12:37:49 12 p.m. and reconvening 1:33 p.m.)
01:33:13 13 THE VIDEOGRAPHER: We are back on
01:33:14 14 the record. The time is 1:33 p.m.
01:33:22 15 MR. IYER: Can we put up Exhibit
01:33:29 16 4, which is Sigurdsson. We already
01:33:31 17 introduced it earlier.
01:33:38 18 THE VIDEOGRAPHER: It's currently
01:33:39 19 up.
01:33:40 20 MR. IYER: Okay. Is that the one?
01:33:42 21 All right.
01:33:42 22 Q. So, Dr. Balakrishnan, I should
01:33:54 23 have asked you before, but can you confirm that
01:33:57 24 this is the same Sigurdsson reference that you
01:33:59 25 have used as primary references in grounds one

01:34:05 1 and two against the '561 and '942 patents?

01:34:08 2 A. It appears to be the same.

01:34:12 3 Obviously I haven't done a word-for-word

01:34:14 4 comparison. It looks like the same.

01:34:16 5 Q. Okay. Since we are on that topic,

01:34:21 6 I just wanted, for the record, I just wanted to

01:34:24 7 make a discrepancy between your declaration and

01:34:29 8 the actual IPR that was filed regarding the

01:34:33 9 various grounds.

01:34:36 10 A. Okay. You'll have to point me to

01:34:42 11 that.

01:34:43 12 Q. Okay. You have three grounds

01:34:44 13 against '942 and '561 patent, grounds one, two

01:34:50 14 and three.

01:34:52 15 A. Give me one second to double-check

01:34:55 16 that. So going back to my declaration here.

01:35:04 17 Q. While the table of contents --

01:35:13 18 A. That's where I'm at. You're

01:35:15 19 right, there are three grounds for the '942 and

01:35:18 20 three grounds for the '561; that is correct, in

01:35:22 21 my declaration.

01:35:23 22 Q. Okay. So on the other hand, the

01:35:26 23 petition that was filed only has two grounds

01:35:33 24 for '561 and '942, and the institution is also

01:35:38 25 based only on the two grounds. Okay?

01:35:42 1 So if I make a presentation that
01:35:44 2 your ground three is actually ground two of the
01:35:48 3 petition, and your ground two is not part of
01:35:52 4 the petition?

01:35:56 5 MR. WHITT: Objection to form.

01:35:58 6 A. I believe that is correct. Before
01:36:02 7 I say yes or no definitively, I would like to
01:36:07 8 see the petitions so we can, just for the
01:36:10 9 record, be precise about this. If you want to
01:36:13 10 just upload that just to be completely clear,
01:36:20 11 because I don't have it memorized which became
01:36:23 12 which one.

01:36:25 13 Q. Okay. How do I -- I can put it in
01:36:36 14 part of my screen share. Can I share my
01:37:19 15 screen?

01:37:23 16 THE VIDEOGRAPHER: Sure. Let me
01:37:25 17 take down what I'm sharing and you can
01:37:27 18 go ahead and do that.

01:37:45 19 Q. Can you see the screen?

01:37:47 20 A. I can.

01:37:48 21 Q. You can or you can't?

01:37:52 22 A. I can. Yes, I can see it.

01:37:56 23 Q. Okay. So do you see on Page (i),
01:38:09 24 that is Page 2, ground one, "Obviousness of
01:38:20 25 claims over Sigurdsson and Shappell," and Claim

01:38:23 1 2, "Obviousness of claims over Brown and
01:38:27 2 Hesselink. "
01:38:28 3 Do you see that?
01:38:29 4 A. Yes.
01:38:29 5 Q. So this is the same in '942. So
01:38:33 6 there are only two grounds that the Petitioners
01:38:38 7 have filed. In your declaration, what you
01:38:41 8 called ground three is actually ground two of
01:38:43 9 the petition?
01:38:45 10 A. I believe that is correct. Ground
01:38:47 11 three was in my declaration was Brown with
01:38:50 12 Hesselink. In the petition it's ground two is
01:38:55 13 Brown with Hesselink. You're correct, yes. I
01:39:03 14 believe that is correct for '942 as well.
01:39:06 15 Q. And the ground two of your
01:39:08 16 petition, which has Moromisato, which is not
01:39:14 17 part of the petition, that is kind of
01:39:17 18 redundant?
01:39:18 19 A. I'm not sure I'd say it's
01:39:19 20 redundant, but I would agree it's not part of
01:39:22 21 the petition.
01:39:23 22 Q. Just so we make it clear. Anyway.
01:39:32 23 I will take that down so that we have that on
01:39:34 24 record. Let's go back to Exhibit 4.
01:39:43 25 A. That was Sigurdsson, correct?

01:39:43 1 Q. Yeah. Can we have Exhibit 4 put
01:40:08 2 up? So I will repeat my previous question.
01:40:11 3 Can you confirm this is the same Sigurdsson
01:40:13 4 reference you have used as the primary
01:40:15 5 reference in grounds one and two of the
01:40:17 6 petition against the '561 and '942 declaration?

01:40:24 7 MR. WHITT: Object to the form.

01:40:24 8 A. I could confirm that this is the
01:40:29 9 same, appears to be the same, as the Sigurdsson
01:40:33 10 reference I have been using. If I understand
01:40:35 11 your question correctly, you're referring to
01:40:37 12 grounds one and two in the petition, which is
01:40:39 13 the same as one and three in my declaration.
01:40:43 14 We already went over that. But I believe it's
01:40:45 15 the same document, yes.

01:40:46 16 Q. Okay. All right. Thanks.

01:40:57 17 Can you please review Claim 1 of
01:40:59 18 the '941 patent, and Claim 1 of '561 patent?

01:41:07 19 A. You meant the '942 patent?

01:41:10 20 Q. Sorry. '942 and '561. Sorry.

01:41:13 21 A. Yes.

01:41:18 22 Q. If they have not already been
01:41:20 23 introduced, these are Exhibits 8 and 9 of the
01:41:23 24 exhibit list.

01:41:25 25

01:41:25 1 (Document marked as Exhibit 8
01:41:27 2 for identification)
01:41:27 3 (Document marked as Exhibit 9
01:41:28 4 for identification)
01:41:28 5 A. Maybe you can put it in the chat
01:41:30 6 so I'm looking at the exact same thing you
01:41:33 7 folks are looking at.
01:41:52 8 THE VIDEOGRAPHER: Do I need to
01:41:53 9 put something in the chat?
01:41:56 10 MR. IYER: '561 would be fine.
01:41:58 11 Put Exhibit 8 in the chat.
01:42:06 12 A. We don't have Exhibits 5 and 6
01:42:10 13 yet, right? We only have --
01:42:12 14 Q. Exhibits 5 and 6 we have not.
01:42:15 15 Exhibit 5 -- sorry, five and six we have not
01:42:20 16 put up yet.
01:42:21 17 A. Okay. I just want to make sure
01:42:23 18 I'm not missing something.
01:42:31 19 Okay. I've got Exhibit 8, which
01:42:33 20 appears to be the '561 patent. I obviously
01:42:36 21 haven't looked through the entire thing, but it
01:42:39 22 looks like the '561 patent.
01:42:41 23 Q. No problem. No problem. Can you
01:42:47 24 also look at Paragraph 412 as it relates to
01:43:33 25 Claim 1 of '942 and Paragraph 500 as it relates

01:43:40 1 to Claim 1 of '561. Same both, because after
01:43:40 2 this, my last questions were with reference to
01:43:47 3 only one, just to make sure both are covered.

01:43:47 4 A. These paragraphs in my
01:43:49 5 declaration?

01:43:50 6 Q. Yes. 412 and '561.

01:43:56 7 A. Give me a moment to get that,
01:43:58 8 please. Okay. I'm looking at Paragraph 412,
01:44:19 9 which is the '942, Claim 1. What do you want
01:44:27 10 me to do with those?

01:44:29 11 Q. Again, review that paragraph, and
01:44:31 12 also look at Claim 1 of '942, just so that
01:44:35 13 you're familiar with what I'm going to ask.

01:44:39 14 A. So this is the '942. So you want
01:44:42 15 me to compare it to what; the '561 of Claim 1?

01:44:47 16 Q. The '942 patent and look at also
01:44:50 17 look at Claim 1 of the '942 patent.

01:44:52 18 MR. WHITT: Counsel, I don't think
01:44:54 19 we have Exhibit 9. I think you asked
01:44:56 20 for that to be dropped into the chat, if
01:44:58 21 I'm not mistaken.

01:44:59 22 MR. IYER: Okay.

01:45:01 23 Q. Let's stick to Paragraph 500 and
01:45:04 24 Claim 1 of '561.

01:45:06 25 A. The other paragraph is 500?

01:45:07 1 Q. Yes.

01:45:08 2 A. 412 -- give me one second. I'm

01:45:15 3 writing these page numbers down, if that's

01:45:18 4 okay, because otherwise it's difficult to

01:45:20 5 balance back and forth.

01:45:21 6 Q. Because in Paragraph 500, you're

01:45:23 7 referring to Claim 1. That's why I wanted to

01:45:26 8 establish --

01:45:28 9 A. Right. Of the other patent. So

01:45:40 10 411 was referring to Claim 1 of the '942 patent

01:45:45 11 and Paragraph 500 is citing Claim 1 of the '561

01:45:49 12 patent.

01:45:50 13 Q. Right, right.

01:45:51 14 A. Okay.

01:45:52 15 Q. I'm sorry, because both of these

01:45:56 16 IPRs we're doing together. It's much more

01:46:00 17 efficient this way if I had to repeat the same

01:46:02 18 thing with respect to the second one.

01:46:03 19 A. Sure.

01:46:04 20 Q. So we have to go through this

01:46:06 21 process. Okay.

01:46:17 22 A. And what was the question or is

01:46:19 23 there a question pending?

01:46:23 24 Q. Yeah. And now refer to Figures 3,

01:46:28 25 4 and 7 of Sigurdsson. They are similar

01:46:31 1 figures, Figures 3, 4 and 7.

01:46:36 2 A. Of Sigurdsson?

01:46:37 3 Q. Of Sigurdsson, which is on the

01:46:39 4 screen.

01:46:46 5 A. Which exhibit is Sigurdsson?

01:46:48 6 Q. Sigurdsson is four.

01:46:50 7 A. Okay. Okay. I have it up here.

01:46:56 8 Four, five and six, you said?

01:46:59 9 Q. Yeah. Three, four and seven.

01:47:04 10 A. Three, four and seven. Okay.

01:47:08 11 Q. So now, can you confirm that you

01:47:15 12 are reading the second device of Claim 1 of

01:47:22 13 both '561 and '942 on Client A in Figures 3, 4

01:47:32 14 and 7?

01:47:32 15 MR. WHITT: Objection to form.

01:47:40 16 A. You have to give me a minute here

01:47:41 17 to compare the two and whatnot.

01:47:58 18 Q. The second device, which is the

01:48:00 19 first client device is Client A in three, four

01:48:03 20 and seven. I just wanted to establish the

01:48:06 21 correlation.

01:48:06 22 A. Okay. I'm just going to my report

01:48:08 23 to make sure that it's...

01:48:12 24 Q. Yeah.

01:48:17 25 A. Client A is the second electronic

01:48:22 1 device. Give me one second. I need to rotate
01:48:25 2 this, these pages in Figure 3. Just to do this
01:48:39 3 systematically in my mind, looking at the '942
01:48:42 4 patent, I can say that the second electronic
01:48:48 5 device would be Client A in the analysis.

01:48:55 6 And then for the --

01:48:59 7 Q. '561.

01:49:01 8 A. -- '561, let me go to that. It's
01:49:17 9 also referring to Client A is the second
01:49:21 10 electronic device in the '561 analysis.

01:49:24 11 Q. Can you confirm that Client B,
01:49:27 12 you're reading the third device of Claim 1 of
01:49:30 13 both '561 and '942 on Client B in Figures 3, 4
01:49:37 14 and 7?

01:49:37 15 MR. WHITT: Objection to form.

01:49:39 16 A. What claims?

01:49:50 17 Q. The third device of Claim 1 of
01:49:52 18 '561, and '942 on Client B in three, four and
01:50:02 19 seven.

01:50:04 20 MR. WHITT: Same objection.

01:50:05 21 A. I just want to make sure I'm not
01:50:21 22 getting confused here. If I go to my report,
01:50:24 23 my declaration, on Paragraph 419, which is in
01:50:28 24 the section talking about this '942 patent,
01:50:31 25 Claim 1, I refer to Client A as the second

01:50:37 1 electronic device and Client C as the third
01:50:40 2 electronic device. You said Client B. So I
01:50:51 3 want to make sure they're not getting all out
01:50:57 4 of synch here.

01:50:58 5 Q. Yeah. If you look at Figure 4,
01:50:59 6 Client C is not even connected to the server.
01:51:03 7 So either in your declaration there's some
01:51:05 8 mistake.

01:51:11 9 A. No, I don't believe it's a
01:51:13 10 mistake. Client C, if I read Sigurdsson, I
01:51:16 11 believe it can be connected to the server as
01:51:18 12 well. It's just not illustrated in that manner
01:51:20 13 in Figure 4.

01:51:22 14 Q. Okay. Let me put it that way.
01:51:27 15 Regardless of what is said in your declaration,
01:51:30 16 would it be correct to read an electronic
01:51:37 17 device on Client B of Figures 3, 4 and 7?

01:51:43 18 MR. WHITT: Objection.
01:51:44 19 Foundation. Form.

01:51:44 20 MR. IYER: Mr. Whitt, please
01:51:47 21 refrain from making speaking objections.
01:51:49 22 As I noted --

01:51:49 23 MR. WHITT: That's not a speaking
01:51:50 24 objection.

01:51:50 25 MR. IYER: It is a speaking

01:51:51 1 objection.

01:51:51 2 MR. WHITT: No, it's not.

01:51:52 3 MR. IYER: I would take issue.

01:51:55 4 MR. WHITT: I don't think it's a

01:51:56 5 speaking objection to say objection to

01:51:58 6 form, foundation. I disagree.

01:52:06 7 A. To get back to the earlier point

01:52:09 8 where I think you made the assertion, sir,

01:52:12 9 Client C is not connected to the server. I

01:52:15 10 think I specifically point to this in Paragraph

01:52:18 11 419 where it says in Sigurdsson, Paragraph 51

01:52:29 12 -- sorry, I'm trying to rerotate this PDF,

01:52:32 13 because the figures are in a different --

01:52:35 14 Figure 1 says -- yeah, the end of Paragraph 51

01:52:48 15 of Sigurdsson, which is Exhibit 4, clearly says

01:52:53 16 that, "Although Figure 4 does not show explicit

01:52:56 17 arrows between the Client C and the server 106,

01:53:00 18 the Client C 406 can communicate with the

01:53:06 19 server 106 in a manner similar to the method

01:53:09 20 used by Clients A or B. "

01:53:11 21 So I think I definitely disagree

01:53:13 22 with your earlier assertion that C is not

01:53:16 23 connected to the server. I just want to

01:53:20 24 clarify that.

01:53:20 25 Q. Let's get beyond Client C. Can

01:53:24 1 you look at Client B of Figures 3, 4 and 7.

01:53:29 2 Would you read the third electronic device on

01:53:32 3 Client B of three, four and seven?

01:53:36 4 MR. WHITT: Objection. Form.

01:53:37 5 A. It's difficult for me to say

01:55:02 6 offhand. I'd prefer to stick to what I've used

01:55:06 7 in my declaration, just so the mappings to the

01:55:09 8 figures are easier to map. I'm not sure right

01:55:13 9 now I want to make that equivalent statement.

01:55:18 10 Since the declaration is very

01:55:18 11 detailed, I'd like to stick with it. I think

01:55:21 12 we can get easily confused -- or I might get

01:55:24 13 easily confused -- by switching it now, because

01:55:24 14 if I look at Figure 7, for example, of

01:55:26 15 Sigurdsson, there's slightly different

01:55:26 16 descriptions in Figure 7 as to what each of the

01:55:32 17 clients could do, and I don't want to make an

01:55:34 18 equivalent statement.

01:55:36 19 Given that I've analyzed it with A

01:55:39 20 and C in my report. I'd prefer to stick with A

01:55:42 21 and C if that's okay.

01:55:43 22 Q. Yeah, I said it's okay. Let's

01:55:46 23 look at -- can you confirm that your first

01:55:51 24 electronic device you are reading on the server

01:55:55 25 106 in Figures 3, 4 and 7?

01:56:50 1 A. I was just making sure I was using
01:56:53 2 it the same way. I think it's correct.
01:56:59 3 Q. Then can you please read paragraph
01:57:04 4 0035 of Sigurdsson.
01:57:08 5 A. Give me a moment.
01:57:24 6 Q. Okay.
01:57:25 7 A. I'm just reading it right now.
01:57:49 8 Okay, I've read Paragraph 35 of Sigurdsson.
01:59:04 9 Are you waiting for me? I've already said I
01:59:08 10 read it.
01:59:08 11 Q. All right. Basically that
01:59:10 12 paragraph says that "The Server 106 updates
01:59:13 13 database tables with the Client A content 108."
01:59:19 14 Do you see that?
01:59:20 15 A. Yes, I do.
01:59:24 16 Q. If you look at Figures 3 and 7,
01:59:28 17 for example, only three and seven, that has a
01:59:29 18 table. Do you see that in the server where it
01:59:38 19 says database, it refers to -- there's a table
01:59:50 20 out there with TS A, Content A, and in Figure
01:59:55 21 7, TS A, Content A, Source A.
01:59:57 22 Do you see that?
01:59:57 23 A. As an example, yes.
01:59:58 24 Q. And that is what that -- that
02:00:01 25 table is what is referred to in Paragraph 0035,

02:00:05 1 right?

02:00:06 2 MR. WHITT: Objection. Form.

02:00:07 3 A. Paragraph 35 says, "Server updates

02:00:19 4 database tables with the Client A content" in

02:00:25 5 Step 210. Well, I think I can say that that

02:01:25 6 storage contains -- storage 330 in Figure 7,

02:01:33 7 was it?

02:01:34 8 Q. Yeah, four and seven.

02:01:35 9 A. In four and seven it has the

02:01:39 10 contents from coming from the different Clients

02:01:42 11 A, B and C.

02:01:44 12 Q. Yeah, it's shown as a table, and

02:01:46 13 that table, it's reasonable to conclude that

02:01:52 14 0035 database tables are these tables.

02:01:55 15 MR. WHITT: Objection to form.

02:01:56 16 Q. Is there a reason why it cannot be

02:01:58 17 the same?

02:01:58 18 MR. WHITT: Objection to form.

02:01:59 19 A. I don't think the patent

02:02:46 20 explicitly calls that aspect or that part of

02:02:49 21 that figure the table, but it doesn't say it's

02:02:52 22 not either. And the contents of it does

02:02:55 23 correspond when it talks about the contents of

02:02:57 24 the table.

02:02:58 25 Q. Well, you have read things that

02:03:02 1 were not explicitly stated before. So if it is
02:03:05 2 reasonable to conclude that, it is reasonable
02:03:07 3 to conclude that; am I right?

02:03:10 4 A. Yeah, I think it's a reasonable
02:03:11 5 interpretation. I don't see it explicitly
02:03:14 6 stated, but I think it's a reasonable
02:03:16 7 interpretation.

02:03:16 8 Q. All right. So if you look at
02:03:26 9 Figures 4 and 7, and look at the table, what
02:03:30 10 would be your understanding of what those
02:03:32 11 tables are?

02:03:33 12 A. Figure 4 doesn't have a table.
02:03:51 13 Are you talking about Figure 7?

02:03:54 14 Q. Sorry. Figures 3 and 7.

02:03:58 15 A. Three and seven, when you say what
02:04:02 16 is my understanding of those tables, it appears
02:04:04 17 to contain content from the different clients,
02:04:07 18 plus some timestamp information, for example.
02:04:12 19 As an example, fields in the table.

02:04:14 20 Q. Okay. You already mentioned TS as
02:04:27 21 being timestamp. If I say this is the
02:04:29 22 timestamp as noted in Paragraph 0048, would you
02:04:32 23 agree with that?

02:04:33 24 A. I just need to get to Paragraph
02:04:42 25 48. Give me one second. It's taking me longer

02:04:44 1 because I have to rotate the PDF to see if it's
02:04:48 2 correct.

02:04:53 3 Yes, so the TS A and TS B referred
02:04:55 4 to in Paragraph 48 would be the same, would be
02:04:58 5 the timestamp.

02:05:00 6 Q. So this table in Figure 3 and 7,
02:05:04 7 which represents the figures -- represent the
02:05:08 8 data of the table that was discussed in the
02:05:13 9 spec, seem to contain at least two columns, one
02:05:16 10 with the timestamp and the other with the
02:05:18 11 content. Am I representing it right?

02:05:23 12 A. Yeah, sure, at least the two.
02:05:27 13 There's additional Figure 7, I see, another
02:05:31 14 column saying "Source." But at least your
02:05:35 15 characterization seems accurate.

02:05:37 16 Q. So is it fair to say that the
02:05:47 17 database table of Figure 3 and the database
02:05:51 18 table of Figure 7 are all analogous tables?

02:05:55 19 A. Are what; analogous tables?

02:05:57 20 Q. Yeah. Where the content is shown
02:06:00 21 with the timestamp, and in Figure 7 you're also
02:06:03 22 adding source?

02:06:06 23 A. I think that's fair. I'm not sure
02:06:24 24 "analogous" is the word I would choose, but
02:06:26 25 there seem to be similarities. They contain

02:06:29 1 similar content, and Figure 7 is additional
02:06:33 2 columns.

02:06:33 3 Q. Okay. You use or they have used
02:06:36 4 the word Content A and Content B all the way
02:06:41 5 through Content N. What is your understanding
02:06:44 6 of what is content with respect to Sigurdsson?

02:06:46 7 A. My understanding is when you say a
02:06:49 8 "content," you mean Content A to Content B to
02:06:53 9 Content N in the storage, it's just referring
02:06:57 10 to content coming from the respective Client A,
02:07:03 11 Client B, all the way to Client N.

02:07:12 12 Q. So what is referred to as content
02:07:14 13 in Sigurdsson? What is the content you're
02:07:16 14 referring to in Sigurdsson? For example, are
02:07:24 15 these changes to files? Modifications to
02:07:27 16 files?

02:07:29 17 MR. WHITT: Objection to form.

02:07:30 18 A. If I read Sigurdsson again here,
02:08:16 19 well, Sigurdsson just gave examples. For
02:08:19 20 example, it could be an entirety of the file,
02:08:25 21 for Client A, for example.

02:08:26 22 Q. It could be an entirety of the
02:08:27 23 file?

02:08:28 24 A. Yes, as one example. And I'm
02:08:30 25 getting this from Paragraph 28 of Sigurdsson,

02:08:36 1 it gives an example of such content.

02:08:40 2 Q. So what is the entire scope of the
02:08:44 3 word "content"? One, you said could be a file.
02:08:48 4 What other things could be content as far as
02:08:52 5 Sigurdsson is concerned?

02:08:53 6 A. Sigurdsson also contemplates or
02:09:21 7 discloses the notion of extracted content, for
02:09:25 8 example, text or images extracted from a file
02:09:30 9 may be considered content saved in the server,
02:09:34 10 as an example, or additionally, metadata
02:09:37 11 describing the content may also be saved on the
02:09:41 12 server.

02:09:42 13 So there are several examples
02:09:44 14 given in Sigurdsson as to what that content may
02:09:48 15 be.

02:09:49 16 Q. Is the definition of "content"
02:09:55 17 open ended or is it referring to extracts or
02:10:07 18 full files or metadata or anything else? Could
02:10:14 19 it be changes, for example, changes or
02:10:18 20 modifications to files, for example?

02:10:19 21 A. When you say "changes or
02:10:22 22 modifications to files," do you mean a portion
02:10:24 23 of the file; is that what you mean?

02:10:26 24 Q. When a user edits and modifies a
02:10:30 25 word in the file, for example, would that word

02:10:33 1 be a content? You're relying on your
02:10:44 2 declaration of Sigurdsson as a primary
02:10:46 3 reference, and a fundamental feature of the
02:10:49 4 invention is the difference between changes to
02:10:55 5 files versus for file. So please answer.

02:10:58 6 A. Sure. I'm just making sure I
02:10:58 7 understand the scope of your question.

02:11:00 8 I don't think Sigurdsson is
02:11:01 9 limiting it to the entirety of a file or a
02:11:06 10 portion of the file. I think the content plays
02:11:10 11 essentially any kind of content. And I think
02:11:12 12 the answer I gave to your earlier question
02:11:18 13 where I gave examples of extraction where it
02:11:21 14 extracts parts of the text or the images are
02:11:24 15 pieces of the file or portions of the file.

02:11:30 16 So I don't think Sigurdsson limits
02:11:32 17 it to only the entirety of files. It's a could
02:11:34 18 be a portion of the file, and if the portion of
02:11:37 19 the file is a particular change or a set of
02:11:39 20 changes, I don't see why that would not be
02:11:44 21 included within Sigurdsson.

02:11:46 22 Q. Okay. Now, please refer to
02:11:50 23 Paragraph 421 of your declaration.

02:11:55 24 A. Sure. Let me get there. Give me
02:12:06 25 a moment to reacquaint myself with this. Okay.

02:12:34 1 I've reread Paragraph 421 of my declaration.

02:12:38 2 Q. Okay. So you state that "An
02:12:41 3 exemplary 'first electronic file' disclosed by
02:12:44 4 Sigurdsson as residing on Client A is a 'very
02:12:49 5 large' 'maintenance manual.'"

02:12:58 6 A. That's correct. I'm referring to
02:12:59 7 Paragraph 58 of Sigurdsson. Right, it would be
02:13:02 8 essentially a direct aspect from Sigurdsson.

02:13:07 9 Q. So what is large and what is very
02:13:14 10 large, according to your understanding?

02:13:16 11 A. Well, here I'm just quoting
02:13:21 12 Sigurdsson as saying a very large document,
02:13:24 13 example, maintenance manual. It's just a
02:13:26 14 quotation from Sigurdsson. It's a direct quote
02:13:34 15 from my point of view. It's fairly open ended
02:13:38 16 as to what large is, and very large would be,
02:13:40 17 what's in the substantial document, a
02:13:42 18 maintenance manual, one would typically expect
02:13:44 19 it to be multiple pages, I would assume.

02:13:47 20 But my Paragraph 421 is simply
02:13:52 21 quoting Sigurdsson's example.

02:13:57 22 Q. You wrote your declaration relying
02:14:00 23 on Sigurdsson. So you have to have an
02:14:02 24 understanding of what Sigurdsson is. It cannot
02:14:04 25 be counted just for its text.

02:14:09 1 So what is the example or what do
02:14:12 2 you mean by a large file? Would you consider
02:14:14 3 one gig to be large and file gigs to be very
02:14:17 4 large?

02:14:17 5 A. I'm not sure I've considered
02:14:25 6 putting a bound on large and very large. I
02:14:28 7 think it's a relative term. 75 gigs would be
02:14:32 8 larger than a one gig file, and much larger
02:14:35 9 than a one kilobyte file. These are relative
02:14:42 10 terms, and large and small --

02:14:45 11 Q. So you would consider a file gig
02:14:48 12 file to be a very large file?

02:14:49 13 A. I would say it could be a very
02:14:51 14 large file, and certainly larger than a one gig
02:14:55 15 file.

02:14:56 16 And I think Sigurdsson, if I look
02:14:57 17 at Paragraph 58, as an example, which is the
02:15:01 18 part I'm quoting from in Paragraph 421 of my
02:15:06 19 declaration. If you're looking at Paragraph 58
02:15:10 20 of Sigurdsson, it says "a user can store a very
02:15:14 21 large document ... on Client A ... and at a
02:15:16 22 short time later, the same user empties a
02:15:16 23 digital camera on Client B. The same day, the
02:15:21 24 user may go ... update a small office memo on
02:15:24 25 Client C."

02:15:25 1 So it's giving some relative
02:15:27 2 examples of either one very large file,
02:15:30 3 additional camera on Client B would be
02:15:32 4 presumably many -- my understanding would be
02:15:35 5 many, many photo files, and then there's a
02:15:38 6 small memo, so it's contemplating content of
02:15:44 7 different orders of magnitude -- maybe not
02:15:46 8 orders of magnitude, but content of different
02:15:49 9 sizes and different quantity. Later on it also
02:15:52 10 talks about priorities based on size, Type A,
02:15:57 11 et cetera.

02:15:58 12 So I think these are relative
02:16:00 13 terms. I don't want to sit here and say five
02:16:02 14 gig is large. That's not -- that is not the
02:16:05 15 way the word "large" or "small" is used in
02:16:13 16 Sigurdsson as absolute terms. It's a relative
02:16:16 17 term.

02:16:17 18 Q. I'm just asking for your opinion.
02:16:18 19 You said a file with lots of pictures, would
02:16:21 20 that constitute a large, very large file, and
02:16:26 21 like, for example, a five gig file?

02:16:33 22 A. It could be. Now, if this
02:16:37 23 particular system as happens to deal with
02:16:41 24 terabyte files, then I would say the five gig
02:16:46 25 file is small relative to a terabyte file.

02:16:50 1 Again, this is a relative term. I
02:16:53 2 don't want to take it in isolation. Sigurdsson
02:16:57 3 talks about it in relative terms and doesn't
02:16:59 4 put a gigabyte size in these things.

02:17:04 5 Q. Using your own logic, it doesn't
02:17:06 6 limit it to, say, five gig, it could be five
02:17:09 7 gig or much larger than five gig?

02:17:11 8 A. Yes, depending on the context.

02:17:14 9 Q. Okay. Please refer to Paragraph
02:17:26 10 423.

02:17:26 11 A. Of my declaration?

02:17:27 12 Q. Yes.

02:18:33 13 A. Okay. I've read Paragraph 423 of
02:18:39 14 my declaration.

02:18:39 15 Q. There again, you're using a
02:18:41 16 maintenance file -- a maintenance manual, and
02:18:43 17 the only place where in Sigurdsson it talks
02:18:45 18 about maintenance manual is with reference to a
02:18:47 19 very large file. So it's the same maintenance
02:18:50 20 manual you're talking about in 423, right, I
02:18:52 21 mean in Paragraph 423, right?

02:18:54 22 A. As an example, yes.

02:19:01 23 Q. So according to your example,
02:19:03 24 content is transferred from Client A to the
02:19:06 25 server, and content has an open definition to

02:19:12 1 include a file which also includes a very large
02:19:17 2 file; am I correct?

02:19:27 3 A. I'm sorry, you're cutting in and
02:19:29 4 out. I didn't get that last bit.

02:19:32 5 Q. What I'm saying is, you referred
02:19:34 6 to content being something that is transferred
02:19:36 7 from the client to the server, and you also
02:19:41 8 testified that content could be a file, and a
02:19:46 9 file could be a large, very large file, as you
02:19:49 10 just testified, including something which would
02:19:52 11 be order of a few gigabytes; am I correct?

02:19:55 12 A. I would say that the content of
02:19:59 13 Sigurdsson could include a file, it could
02:20:03 14 include a large file, but it is not limited to
02:20:06 15 a file or a large file. It also describes
02:20:12 16 extracting portions of the files.

02:20:15 17 So I would not limit it to large
02:20:16 18 or very large files, but certainly could
02:20:19 19 include a large file or very large file.

02:20:21 20 Q. Okay. So now going back to the
02:20:27 21 Figures 3 and 7.

02:20:31 22 A. Okay. One second. Give me one
02:20:38 23 second. I'm going to close that, because I've
02:20:40 24 got too many things open here. I'm back to
02:20:48 25 Sigurdsson, and you're looking at Figure 7?

02:20:51 1 Q. So the content that you were just
02:20:53 2 describing would be anything to extract a file
02:20:58 3 or a portion of a file or a file which could be
02:21:00 4 a very large file is the same content that is
02:21:04 5 shown in Figures 3 and 7, right?

02:21:09 6 A. Do you mean that's what I'm
02:21:11 7 talking about? Yeah, sure.

02:21:12 8 Q. Okay. So it's your testimony that
02:21:16 9 a file, a large file, is stored in a column in
02:21:22 10 a database?

02:21:25 11 MR. WHITT: Objection to form.

02:21:27 12 A. I would say that the file could be
02:21:31 13 stored in the storage. In the database, it may
02:21:37 14 not be the entirety of a file. It may be
02:21:39 15 appointed to that file. I don't think it
02:21:43 16 limits it, the actual database table contains
02:21:49 17 the entirety of the file necessarily.

02:21:51 18 I think one of skill in the art
02:21:53 19 reading this would interpret it as it could be
02:21:56 20 the entirety of the file or it could be
02:21:58 21 appointed to that file. I wouldn't limit it to
02:22:03 22 being the entirety of the file.

02:22:05 23 Q. So that's your opinion, there's
02:22:08 24 nothing explicit in Sigurdsson that says
02:22:09 25 anything like that?

02:22:11 1 MR. WHITT: Objection to form.

02:22:12 2 Q. It's just your opinion; is that
02:22:13 3 right? Is there anything explicit in
02:22:18 4 Sigurdsson that says that the content could be
02:22:19 5 a link to a file?

02:22:21 6 A. Well, there's nothing in
02:22:23 7 Sigurdsson that says the content cannot be a
02:22:25 8 link to a file either.

02:22:26 9 Q. So you would say that anything
02:22:29 10 that does not say you would assume to be true?

02:22:31 11 MR. WHITT: Objection. Form.

02:22:33 12 A. Not necessarily. Depends on the
02:22:35 13 context. One reading -- one of skill in the
02:22:38 14 art reading something about databases would
02:22:40 15 understand what databases usually would store
02:22:43 16 or may or may not store.

02:22:45 17 The notion of storing pointers to
02:22:47 18 a file versus the file itself in the database
02:22:50 19 would be well understood to one of skill in the
02:22:53 20 art. It's the person of skill in the art who's
02:22:56 21 reading this patent, not reading the patent in
02:22:59 22 isolation.

02:22:59 23 Q. So just from Figures 3 and 7,
02:23:06 24 there's nothing in Figures 3 and 7 that
02:23:08 25 explicitly says that the content could be

02:23:10 1 anything other than a file?

02:23:12 2 A. Well, Figures 3 and 7 just says
02:23:19 3 content A, and we've already gone through what
02:23:21 4 that could mean based on the descriptions in
02:23:27 5 the patent. I think we've already talked about
02:23:28 6 it could be an entire file, it could be
02:23:29 7 portions of a file, it could be a big file,
02:23:32 8 small file. I would interpret this as also
02:23:35 9 potentially pointed to the file.

02:23:40 10 So I would not limit just the
02:23:45 11 discussion of content to just what's shown in
02:23:48 12 the figure.

02:23:48 13 Q. Sigurdsson does not explicitly
02:23:53 14 state anywhere that it could be a link to a
02:23:55 15 file. If you can find and show me, take your
02:23:59 16 time. But anything in Sigurdsson that
02:24:01 17 indicates that the content could be a link to a
02:24:04 18 large file, please do so?

02:24:07 19 A. Okay. Give me a few minutes,
02:24:09 20 please. Thank you.

02:29:06 21 So I would say from my rereview of
02:29:09 22 this, the word pointing to the file does not
02:29:12 23 appear in Sigurdsson. But as we've already
02:29:14 24 discussed, the content is not limited to a
02:29:16 25 large file or a small file. It could include

02:29:20 1 portions of a file, et cetera. So I don't see
02:29:23 2 why it would not include potentially or pointed
02:29:29 3 to a file. That's just another form of
02:29:32 4 content.

02:29:32 5 Q. So in this context and in earlier
02:29:36 6 contexts, you have said the same thing. You
02:29:39 7 take absence of disclosure to be the same as
02:29:44 8 support for a teaching; am I right?

02:29:45 9 MR. WHITT: Objection. Form.

02:29:47 10 A. I disagree with that
02:29:48 11 characterization.

02:29:49 12 Q. That's the position you're taking?

02:29:54 13 MR. WHITT: Objection.

02:29:55 14 A. I disagree with your
02:29:56 15 characterization.

02:29:56 16 Q. All right. Can you give me an
02:30:04 17 example of any database where you can store one
02:30:09 18 gig file in a cell in a database?

02:30:15 19 A. I have to consider that. I
02:30:22 20 haven't studied that particular question. I
02:30:24 21 don't see why not, because ultimately a cell in
02:30:27 22 a database is a piece of memory, and I haven't
02:30:32 23 looked to the limitations today of what the
02:30:36 24 size of the cell may be. I don't see why not.

02:30:41 25 And similarly, I don't see why it

02:30:44 1 couldn't be appointed to one gigabyte somewhere
02:30:47 2 else on a storage system.

02:30:48 3 Q. I was asking for an example.

02:30:54 4 Sitting here, do you have -- are you aware of
02:30:58 5 any example where a cell in a database could
02:31:15 6 store a one-gig file, data could store a one-
02:31:27 7 gig file?

02:31:34 8 A. I can't give you an example off
02:31:37 9 the top of my head, but I don't see -- as a
02:31:38 10 computer scientist, I don't see why it
02:31:39 11 couldn't. It's just a piece of memory. A
02:31:41 12 database is simply a memory.

02:31:43 13 Q. But sitting here, you cannot think
02:31:45 14 of an example, a real life example, of a
02:31:48 15 database where a cell could hold a one-gig
02:31:51 16 file?

02:32:17 17 A. Can I answer that question now?

02:32:24 18 Q. Yeah.

02:32:25 19 A. Actually, I'm thinking back, yeah.
02:32:27 20 Actually some of the systems I worked on way
02:32:33 21 back, including the system at Arcestra where we
02:32:36 22 stored interior database layouts, some of those
02:32:39 23 layouts was several gigabytes, and they were
02:32:42 24 stored in cells in a table.

02:32:45 25 So I think the answer is yes. By

02:32:48 1 my own experience I've seen it.

02:33:04 2 Q. Can you look at Subsection (f) on

02:33:27 3 your declaration Page 316. It's just before

02:33:33 4 Paragraph 432.

02:33:43 5 A. So you're talking about the --

02:33:45 6 Q. The declaration.

02:33:46 7 A. But you're talking about the

02:33:48 8 excerpt of the claim element, right?

02:33:53 9 Q. Right.

02:33:54 10 A. Okay. I'm there.

02:33:54 11 Q. Please refer to Paragraph 436 now.

02:33:59 12 A. Just give me one second. I want

02:34:01 13 to refresh myself with what 1(d) says. Okay.

02:34:21 14 You want me to read 436?

02:34:23 15 Q. Yes.

02:34:24 16 A. Let me look at 436 again.

02:35:05 17 Q. So in Paragraph 436, you know that

02:35:10 18 the server, the content received at the server,

02:35:15 19 could be transferred by the server to Client B

02:35:18 20 or any other client, referring to Sigurdsson

02:35:22 21 Paragraph 68, right?

02:35:24 22 A. That is correct.

02:35:25 23 Q. And then you say that "The server

02:35:30 24 106 can then transmit the content of the

02:35:32 25 remaining client peers, such as Clients B and

02:35:40 1 C," right?

02:35:40 2 A. Transmit the content to the
02:35:47 3 remaining client peers, Clients B and C,
02:35:49 4 correct.

02:35:49 5 Q. Then you give, referring to Figure
02:35:52 6 6, the next few lines describe the procedure of
02:35:56 7 how the content is transferred, right?

02:36:01 8 A. As an example, yes.

02:36:03 9 Q. So in this, referring to step 612,
02:36:15 10 the client requests missing content from the
02:36:17 11 server; am I right?

02:36:21 12 MR. WHITT: Objection. Form.

02:36:24 13 A. Step 612, that step says request a
02:36:32 14 list of missing content.

02:36:33 15 Q. So Figure 6 that you're
02:36:37 16 describing, according to that figure, the
02:36:38 17 server sends the content based on a request
02:36:40 18 from Clients B and C; am I right?

02:36:45 19 A. In one example, yes. In another
02:36:49 20 example, it is not necessarily in response to
02:36:54 21 the request.

02:36:55 22 Q. Can you show me the example where
02:37:00 23 it's done without a request?

02:37:01 24 A. So if I look at 626, it says
02:37:07 25 "provide missing content to Client C if A and B

02:37:10 1 are offline." So that's an example where it
02:37:15 2 doesn't necessarily require the request.

02:37:20 3 Q. So let's stay with that. So the
02:37:25 4 content is sent when Clients B and C are
02:37:28 5 offline?

02:37:29 6 A. Contents -- sorry, A and B.

02:37:36 7 Q. No. From the server C, the
02:37:40 8 content is stored by the server when Clients B
02:37:46 9 and C are offline, correct? That's what that
02:37:48 10 paragraph you said refers to?

02:37:51 11 A. I think you got -- you were saying
02:37:54 12 B and C offline. I think what I'm trying to
02:37:57 13 point out is block 626 of Figure 6 says Clients
02:38:03 14 A and B are offline, not B and C. I want to
02:38:12 15 make sure we don't get A, B and C mixed up
02:38:15 16 here.

02:38:16 17 Block 626, Figure 6, says,
02:38:19 18 "Provide missing content to Client C if clients
02:38:22 19 A and B are offline," and I believe I heard you
02:38:25 20 say if Clients B and C are offline, which is
02:38:31 21 slightly different.

02:38:32 22 Q. But do you see the back and forth
02:38:38 23 in the paragraph which goes to request missing
02:38:41 24 content? That's also a response to missing
02:38:44 25 content. How do you read it otherwise?

02:38:46 1 A. I don't disagree it can be in
02:38:54 2 response to missing content, but it doesn't
02:38:56 3 have to, and that's my point.
02:38:58 4 Q. Where does it say that it doesn't
02:39:00 5 have to? Where does it say that?
02:39:02 6 A. Where does it say that it has to?
02:39:05 7 Q. So again, you go back to the
02:39:07 8 absence of disclosure, you're construing it to
02:39:11 9 mean support for a proposition; that's the only
02:39:15 10 way you can get it?
02:39:16 11 MR. WHITT: Objection. Form.
02:39:17 12 A. I disagree with that
02:39:18 13 characterization.
02:39:18 14 Q. So you have not shown explicitly
02:39:22 15 the contents being sent from a server without a
02:39:26 16 request, you have not shown anywhere?
02:39:28 17 MR. WHITT: Objection. Form.
02:39:31 18 Q. You have shown absence of some
02:39:33 19 disclosure to mean that way?
02:39:35 20 MR. WHITT: Objection. Form.
02:39:36 21 A. Hang on one second. My PDF reader
02:39:39 22 has crashed. Can you give me one second,
02:39:41 23 please? I need to reload the PDF reader. Give
02:39:48 24 me one second. So I'm looking at Figure 6.
02:42:11 25 I disagree that there's an

02:42:13 1 absence. If I look at Paragraph 68 of
02:42:19 2 Sigurdsson, it says, "An alternative embodiment
02:42:23 3 of step 606 bypasses the second client," sends
02:42:25 4 the data directly to the server, and then -- it
02:42:48 5 says -- Paragraph 68 of Sigurdsson, it says,
02:42:48 6 "The server can then transmit the content to
02:42:50 7 the remaining client peers, such as the Client
02:42:53 8 B and C," after bypassing the second client.

02:42:56 9 So I think it very clearly says it
02:43:00 10 can go ahead and transmit. It doesn't say it
02:43:04 11 requires a request. And I think the PTAB --
02:43:07 12 sorry, go ahead.

02:43:08 13 Q. It doesn't say how it is done. It
02:43:11 14 just says it can. "Can" means it's a goal.
02:43:16 15 How it's done is not explicitly disclosed.

02:43:19 16 MR. WHITT: Objection to form.

02:43:21 17 A. What do you mean by "how it's
02:43:24 18 done"? It's disclosing it can be done.

02:43:26 19 Q. It can be done. But there's no
02:43:28 20 explicit teaching that there is like a lack of
02:43:33 21 request and sends out automatically.

02:43:36 22 MR. WHITT: Same objection.

02:43:37 23 A. Well, I think by saying, it is
02:43:40 24 transmitting. It is saying nothing about a
02:43:42 25 request. So why would you import the

02:43:47 1 requirement for a request? It doesn't say
02:43:49 2 anything about a request. You're the one
02:43:51 3 importing the request into the language when
02:43:53 4 such request is --

02:43:55 5 Q. So again, absence of disclosure,
02:43:58 6 you're saying there is support. There's no
02:44:02 7 support for automatic transmission. That's
02:44:04 8 what I'm trying to say.

02:44:06 9 A. I completely disagree with that
02:44:08 10 characterization. You're characterizing in the
02:44:11 11 absence of disclosure. What I'm saying is it's
02:44:14 12 disclosing that it can do it automatically, and
02:44:16 13 you are putting the requirement that it has to
02:44:18 14 explicitly say it does not require the request,
02:44:24 15 and that's something you are importing into
02:44:26 16 this when it's not there.

02:44:28 17 What you want is not there. It's
02:44:30 18 different from what is there.

02:44:31 19 Q. The claim requires automatic
02:44:35 20 transmission and that is absent, that's all I'm
02:44:39 21 trying to say.

02:44:42 22 A. I completely disagree with that
02:44:44 23 characterization.

02:44:45 24 Q. All right. If you look at
02:45:04 25 Paragraph 65 --

02:45:07 1 A. Of Sigurdsson, I'm assuming?
02:45:09 2 Q. Yes.
02:45:10 3 A. Okay.
02:45:11 4 Q. That is talking about content
02:45:13 5 originating on the first client to a second
02:45:19 6 client to a peer-to-peer process. It's not
02:45:22 7 talking about the server.
02:45:31 8 A. Give me one second and I'll go
02:45:40 9 down to the figure. It says peer to peer, but
02:46:01 10 when I look at the figure, when I look at the
02:46:03 11 Figure 606, it's posting content, and goes to
02:46:08 12 Client B, and it goes to the server. So it's
02:46:11 13 going to the different client and it's going to
02:46:13 14 the server as well. So it is disclosing,
02:46:18 15 including the server.
02:46:19 16 The server also now has that
02:46:21 17 content, and that server could in box 626
02:46:27 18 provide that content to other clients when some
02:46:29 19 of the other clients are offline.
02:46:32 20 So I think when I look at the
02:46:34 21 figure, it is posting directly to the other
02:46:36 22 clients. It's also posting it to the server,
02:46:38 23 and the server can, in turn, send things to the
02:46:42 24 remaining clients that need to be updated.
02:46:45 25 Q. But 626 requires a request. You

02:46:48 1 just referred to 626.

02:46:50 2 A. I did not say it requires a

02:46:53 3 request. It could be responsive to a request.

02:46:57 4 We already went through this. 626 could

02:47:00 5 provide the missing content and may be offline

02:47:03 6 without the request for missing content. We've

02:47:09 7 already discussed that in detail.

02:47:22 8 Q. Can you refer to Paragraph 79 of

02:47:46 9 Sigurdsson.

02:47:47 10 A. Okay. I'm there.

02:47:53 11 Q. Okay. The first sentence says,

02:47:58 12 "In another alternative embodiment of step 620,

02:48:02 13 both first and second clients can be offline at

02:48:05 14 the time of the third client's request for

02:48:08 15 missing content."

02:48:12 16 Do you see that?

02:48:13 17 A. Yes, I do.

02:48:14 18 Q. So is there, other than one

02:48:19 19 sentence you claim where nothing is said, is

02:48:21 20 there anything in Sigurdsson which says that

02:48:24 21 the server automatically sends the content to

02:48:32 22 the Client C?

02:48:43 23 A. You've got to give me a moment to

02:48:45 24 look for that. There's one example, and I'd

02:50:50 25 point you to Paragraph 31 of Sigurdsson, where

02:50:52 1 it says, "The server can facilitate
02:50:55 2 synchronization of content among the user's
02:50:59 3 computers. When the Client A connects to the
02:51:02 4 server, Client B content originating from the
02:51:07 5 Client B is automatically copied to the Client
02:51:11 6 A as indicated by arrow 116."

02:51:14 7 This is looking at Figure 1. So
02:51:21 8 it's clearly showing that an automatic transfer
02:51:25 9 can happen. It doesn't say anything about
02:51:28 10 requesting. It actually uses the word
02:51:34 11 "automatically copied." So that is one
02:51:36 12 example. Let me keep going here.

02:52:06 13 Q. Figure 1 does not have Client C at
02:52:09 14 all?

02:52:10 15 A. Figure 1 is talking about Client A
02:52:13 16 and B, and I think we know that these are just
02:52:15 17 A, B, and C all the way to N, and are exemplar
02:52:21 18 clients. They're not anything specific to any.
02:52:23 19 So A, B and C is just terminology for different
02:52:26 20 clients. So I don't think I should be putting
02:52:30 21 a special meaning to Client C. It's an
02:52:32 22 abstract concept for any one client. It could
02:52:39 23 be Client N.

02:52:42 24 Q. Earlier you disagreed that Client
02:52:44 25 B was the same as Client C, which is why I

02:52:46 1 pointed out. You spent a fair amount of time

02:52:50 2 trying to say that Client B is not Client C?

02:52:53 3 A. In a particular context, that is

02:52:56 4 true. I think it's important to make sure

02:53:08 5 you're not taking things out of context.

02:53:09 6 Q. So for this automatic, you say,

02:53:12 7 for that to work, the HTTP server has to have a

02:53:19 8 push capability?

02:53:23 9 MR. WHITT: Objection. Form.

02:53:24 10 Q. Right? Because it has to send it

02:53:28 11 without a request?

02:53:29 12 MR. WHITT: Objection. Form.

02:53:30 13 A. It could have a push capability.

02:53:37 14 And if, as I testified earlier, if there are

02:53:42 15 already links set up between the different

02:53:45 16 clients and the server, that pipe is already

02:53:47 17 open, then the server can send things without a

02:53:50 18 request, which I think you called it the push

02:53:55 19 capability, which is fine. I'm okay with that

02:53:57 20 term.

02:53:57 21 Q. Right. So this is possible only

02:53:59 22 if an HTTP protocol provides for a push

02:54:04 23 capability, like you're saying?

02:54:07 24 MR. WHITT: Objection. Form.

02:54:08 25 A. If it is implemented only limited

02:54:10 1 to HTTP. I don't think Sigurdsson limits it to

02:54:14 2 HTTP. This is an example.

02:54:26 3 Do you want me to continue with

02:54:28 4 this automatic question that you have?

02:54:29 5 Q. No. That's fine.

02:55:02 6 MR. IYER: We've gone for a while.

02:55:04 7 Do you want to take a break?

02:55:06 8 THE WITNESS: That's a good idea.

02:55:10 9 It's time to take a break.

02:55:11 10 THE VIDEOGRAPHER: Are we taking a

02:55:12 11 break?

02:55:14 12 MR. IYER: Yes.

02:55:15 13 THE VIDEOGRAPHER: We are going

02:55:16 14 off the record. The time is 2:55 p.m.

02:56:05 15 (Recess taken at 2:55 p.m. and

02:56:09 16 reconvening at 3:17 p.m.)

03:17:14 17 THE VIDEOGRAPHER: We are back on

03:17:15 18 the record. The time is 3:17 p.m.

03:17:19 19 MR. IYER: How are we doing on

03:17:20 20 time overall?

03:17:29 21 THE VIDEOGRAPHER: We have been on

03:17:30 22 the record three hours and 26 minutes.

03:17:34 23 BY MR. IYER:

03:17:34 24 Q. Dr. Balakrishnan, can you please

03:17:38 25 refer to Paragraph 84 of Sigurdsson.

03:17:54 1 A. Give me a moment to refresh my
03:17:56 2 recollection. Okay.

03:18:16 3 Q. In Paragraph 84, you are referring
03:18:26 4 -- I mean, Sigurdsson is referring to an open
03:18:28 5 connection from Client A to the server; am I
03:18:35 6 correct?

03:18:37 7 A. As an example, it says, "For
03:18:42 8 example, a client can maintain an open
03:18:45 9 connection," yes.

03:18:45 10 Q. And in Paragraph 438, last
03:18:52 11 sentence --

03:18:53 12 A. Sorry, we're back to my
03:18:55 13 declaration now?

03:18:56 14 Q. Sorry. Yeah, please refer to
03:18:58 15 Paragraph 438.

03:19:00 16 A. Just give me one second to get
03:19:02 17 there. Okay. Give me a moment to read
03:19:20 18 Paragraph 438, please.

03:19:51 19 Yes, I've read Paragraph 438.

03:19:53 20 Q. So the last sentence you say that
03:19:57 21 because there is an open connection from A to
03:20:02 22 the server, it would be obvious that there will
03:20:06 23 be another open connection from the server to
03:20:08 24 Client B; that's what you're saying?

03:20:19 25 A. That is what I'm saying based on

03:20:31 1 the disclosure in Paragraph 84, which also 84
03:20:35 2 of Sigurdsson, it explicitly says the clients
03:20:38 3 can push new data to other clients, et cetera,
03:20:42 4 et cetera. So it's based on -- I'm sorry.

03:20:47 5 Q. Sorry, I'm not able to figure out
03:20:51 6 when you're stopping a sentence. Sorry about
03:20:53 7 that.

03:20:54 8 84, show it where it states that
03:20:57 9 there's an open connection between the server
03:20:59 10 and the Client B?

03:21:01 11 A. Well, it says, "For example, the
03:21:18 12 client," a client. It doesn't say whether it's
03:21:20 13 Client A or B or C or whatever. "A client can
03:21:23 14 maintain an open connection with a server and
03:21:26 15 post as soon as an event is generated. In this
03:21:31 16 connection-oriented architecture (regardless of
03:21:34 17 whether the connection is peer-to-peer or
03:21:36 18 client-to-server), each of the clients can push
03:21:38 19 new data to other clients instead of waiting
03:21:41 20 until the other client send a request for
03:21:44 21 missing information."

03:21:45 22 This is very clear that either
03:21:48 23 whether it's peer to peer or client to server,
03:21:51 24 it can maintain open connections between
03:21:53 25 clients and the server. It doesn't limit it to

03:21:57 1 any one client or set of clients.

03:22:00 2 So I think it's a very clear

03:22:03 3 disclosure that there can be open connections

03:22:04 4 between any one client to a server or multiple

03:22:07 5 clients to a server.

03:22:08 6 Q. It clearly talks about from Client

03:22:13 7 A to the server and Client A to another client.

03:22:17 8 It does not talk about establishing an open

03:22:19 9 client -- open connection from the server to a

03:22:23 10 second client?

03:22:27 11 MR. WHITT: Object to form.

03:22:28 12 A. I disagree with that

03:22:30 13 characterization. I don't think that's how --

03:22:32 14 what this entirety of this second half of this

03:22:35 15 Paragraph 84 says.

03:22:37 16 How can it push new data to other

03:22:40 17 clients if it wasn't an open connection?

03:22:43 18 Q. To other clients, not to the

03:22:45 19 server.

03:22:46 20 A. It says before that, "regardless

03:22:48 21 of whether the connection is peer-to-peer or

03:22:50 22 client-to-server," and it's talking about a

03:22:53 23 connection-oriented architecture, agnostic to

03:22:57 24 whether it's peer to peer or client to server

03:22:57 25 --

03:23:06 1 Q. That's not --
03:23:06 2 MR. WHITT: Just let him answer
03:23:07 3 the question. Okay.
03:23:09 4 A. It says, "In this connection-
03:23:13 5 oriented architecture (regardless of whether
03:23:13 6 the connection is peer-to-peer or
03:23:18 7 client-to-server)," so it's basically saying it
03:23:20 8 doesn't matter what the architecture is, as
03:23:22 9 long as it's connection oriented, each of the
03:23:24 10 clients can push new data to the other clients
03:23:27 11 instead of waiting for a request.
03:23:29 12 So that could be through the
03:23:31 13 peer to peer or through the client to server to
03:23:34 14 client. So I think it's contemplating
03:23:36 15 essentially all scenarios here. And it's to me
03:23:40 16 a very, very clear disclosure of an open
03:23:44 17 connection between potentially client to client
03:23:46 18 and client to server.
03:23:47 19 Q. So take it step by step. Show me
03:23:52 20 where that is -- it says Client A to the
03:23:56 21 server. It says Client A to another client.
03:23:58 22 Show me where it says from the server it can
03:24:02 23 push to the second client? Show me that.
03:24:06 24 You have shown me from the client
03:24:08 25 pushing to the server. You showed me from a

03:24:11 1 client pushing to another client. Show me
03:24:14 2 where it shows pushing from a server to a
03:24:17 3 client?
03:24:18 4 A. I read it to you. Let me read it
03:24:21 5 again. "For example," and reading from
03:24:23 6 Paragraph 84, "a client can maintain an open
03:24:27 7 connection with a server." It doesn't limit it
03:24:29 8 to which client. It says "a client." "And
03:24:34 9 post as soon as an event is generated. In this
03:24:37 10 connection-oriented architecture (regardless of
03:24:40 11 whether the connection is peer-to-peer or
03:24:43 12 client-to-server), each of the clients can push
03:24:48 13 new data to the other clients instead of
03:24:51 14 waiting until the other clients send a request
03:24:56 15 for missing information."
03:24:57 16 Read that as a whole, and it says
03:24:59 17 regardless of peer to peer or regardless of
03:25:01 18 client to server, the client can push to
03:25:04 19 client.
03:25:04 20 So if it is client to server, it
03:25:07 21 would have to go from client to server to
03:25:09 22 client. That's the only way you can push from
03:25:13 23 client to another client.
03:25:15 24 So that is a very clear disclosure
03:25:18 25 of client to client directly or client to

03:25:22 1 server to client in that one sentence, because
03:25:24 2 it contemplates both scenarios.

03:25:26 3 Q. Okay. Let's take your open
03:25:34 4 connection point. What is an open connection?

03:25:38 5 Now, we have examples of a client,
03:25:41 6 a server, and then multiple clients. What's an
03:25:45 7 open connection? That means it's open to all
03:25:48 8 clients that is attached to the server? Is
03:25:51 9 that what you -- if that same paragraph can be
03:25:57 10 extended to mean when you say Client A could be
03:26:01 11 any client, that means all the clients attached
03:26:02 12 to the server have an open collection, if I go
03:26:05 13 by what you say?

03:26:05 14 MR. WHITT: Objection. Form.

03:26:05 15 A. I think you're putting words in my
03:26:07 16 mouth. You need to read what I said carefully
03:26:10 17 and what this paragraph is saying that I read.
03:26:14 18 It says "a client can maintain an open
03:26:17 19 connection. It doesn't say limited to any one
03:26:21 20 client." It also doesn't say all clients. But
03:26:25 21 it doesn't prevent all clients from maintaining
03:26:27 22 an open connection.

03:26:28 23 So it allows for a single client
03:26:30 24 to maintain an open connection. It
03:26:32 25 contemplates multiple clients maintaining an

03:26:34 1 open connection.

03:26:35 2 This is not limiting. But it also
03:26:38 3 doesn't require that every client has an open
03:26:41 4 connection.

03:26:42 5 So I'd please ask that you don't
03:26:45 6 put words in my mouth, because it's not what
03:26:47 7 I'm telling you or the way you're
03:26:49 8 characterizing it doesn't seem correct.

03:26:51 9 Q. You're characterizing doesn't seem
03:26:53 10 correct either, because you're jumping on the
03:26:55 11 same principle of absence of disclosure is the
03:27:01 12 same as support, which is what you say.

03:27:04 13 Now, having said that, let's take
03:27:05 14 a multiple connection to the server. Let's
03:27:07 15 take that example. Okay?

03:27:09 16 Client A and then the other side
03:27:11 17 you have Client B, C, D, E. You said that open
03:27:16 18 connection to all of those clients are
03:27:18 19 possible; am I right?

03:27:19 20 A. I say, this contemplates that's
03:27:22 21 possible.

03:27:22 22 Q. Under that possibility. Okay.
03:27:36 23 Now, in your declaration, you have talked about
03:27:40 24 a term associated to the user.

03:27:42 25 A. Could you point me to the place

03:27:43 1 you're looking at, please?

03:28:20 2 Q. Let me get back to the reference

03:28:22 3 of the '942 or '561 patent. If you look at

03:28:25 4 Paragraph 63 --

03:28:29 5 A. Of my declaration?

03:28:30 6 Q. Of your declaration. You have the

03:28:31 7 term "associated with a user." Okay?

03:28:36 8 A. Sorry, just give me one second to

03:28:39 9 get there. Paragraph 63 of my declaration is

03:28:53 10 talking about the claim, right?

03:28:55 11 Q. Claim 1 of the '942 patent.

03:29:02 12 A. Okay.

03:29:02 13 Q. So there's a term associated with

03:29:04 14 the user?

03:29:04 15 A. Yes.

03:29:04 16 Q. And I represent to you that you

03:29:06 17 have taken a position that associated with the

03:29:08 18 user means that user has an account, he has an

03:29:14 19 ID, some way he's associated with the device.

03:29:17 20 That's the position you have taken?

03:29:18 21 MR. WHITT: Objection. Form.

03:29:22 22 A. Can you please point me to where

03:29:24 23 I've taken that position? I want to make sure

03:29:28 24 I'm reading the same thing you're reading.

03:29:30 25 Q. Just one second. I'll get the

03:29:35 1 exact location where you define.

03:31:41 2 Let me go about it another way.

03:31:43 3 Do you see the term "associated with a user"

03:31:44 4 with respect to the Claim 1?

03:31:48 5 A. I do.

03:31:49 6 Q. What's your interpretation of

03:31:51 7 that?

03:31:51 8 A. Well, I would say -- give me one

03:31:55 9 second. I'm just looking for my section in the

03:32:10 10 report which talks about that. I'm focused on

03:32:18 11 these particular patents and not the other ones

03:32:20 12 in the report.

03:32:22 13 Q. That term is used in all the

03:32:24 14 patents.

03:32:25 15 A. I know. That's why I want to make

03:32:28 16 sure I'm in the right sections in case there

03:32:31 17 are any subtle differences.

03:32:34 18 All right. Okay. I'm at the

03:33:09 19 right spot here. Give me a second.

03:33:25 20 I would say that "associated with

03:33:37 21 a user" is an example means that the server

03:33:43 22 needs to be somehow connected to the user or

03:33:49 23 identified with the user in a way that the --

03:33:59 24 so it doesn't have to be a server. You're

03:34:02 25 talking about the claim language as just an

03:34:04 1 electronic device associated with the user, but
03:34:07 2 there needs to be some connection. That
03:34:09 3 connection could be through a log in or some
03:34:12 4 kind of authentication or some kind of user ID
03:34:15 5 from the patent.

03:34:16 6 Q. If you look at Paragraph 587, you
03:34:23 7 are alluding to that, just so that, you know, I
03:34:27 8 point out with some section, but it doesn't
03:34:31 9 make anything you said inconsistent.

03:34:33 10 A. Sorry, one moment, sir. You said
03:34:37 11 —

03:34:37 12 Q. 587.

03:34:39 13 A. Let me just get to that. Sure, I
03:34:51 14 think what I just said is not inconsistent with
03:34:53 15 this particular discussion of Brown.

03:35:04 16 Q. Right. Claim 1 of 492 and '561
03:35:07 17 requires all the three devices, first device,
03:35:10 18 second device, and third device, to be
03:35:14 19 associated with a user, correct?

03:35:16 20 A. Is that a question? Yes, I agree
03:35:18 21 with that.

03:35:19 22 Q. Now, with that in mind, when you
03:35:26 23 say "open connection," and you said that the
03:35:31 24 devices could be any number of devices, B, C,
03:35:34 25 D, E, and here all the way up to, so in an open

03:35:37 1 connection, you have multiple devices with an
03:35:41 2 open connection with the server, right, as per
03:35:47 3 — it's possible, a subset, one or all, which
03:35:49 4 is what you said?

03:35:53 5 A. Yes, with the open connection,
03:35:55 6 with a particular authentication, if
03:35:57 7 authentication is required.

03:35:59 8 Q. So how would the server know to
03:36:05 9 push the file to a second device associated
03:36:11 10 with a user, with the same user, when you have
03:36:15 11 several open connections?

03:36:18 12 A. Well, it would only push to the
03:36:20 13 open connections that are associated with the
03:36:22 14 same user or which have the same permissions.
03:36:27 15 So if Client A is associated with user 1, and
03:36:32 16 has an open connection to the server, and if
03:36:34 17 Client B is also associated with the user 1,
03:36:39 18 and also has an open connection with the
03:36:41 19 server, then the server could push from A —
03:36:44 20 take from A and push whatever A sent it to B.

03:36:49 21 However, if that open connection
03:36:50 22 to Client B was authenticated by another user
03:36:56 23 that did not have permission, then to C user
03:37:04 24 1's content, then it clearly would not push.
03:37:07 25 This is pretty basic computer science.

03:37:09 1 Q. Please show me in Sigurdsson with
03:37:13 2 respect to open connection where what you just
03:37:15 3 said is closed?

03:37:18 4 A. Sigurdsson tells me -- I'm reading
03:37:20 5 this as a computer scientist, reading this. So
03:37:23 6 if you want every word for word to be
03:37:26 7 disclosed, I don't think that's the
03:37:28 8 requirement.

03:37:28 9 Q. So here you're going back to
03:37:30 10 absence of disclosure is the same as supposed?

03:37:33 11 MR. WHITT: Objection.
03:37:36 12 Argumentative. Form.

03:37:39 13 A. I disagree with that
03:37:40 14 characterization. I said, I'm reading this as
03:37:41 15 a computer scientist as a person skilled in the
03:37:44 16 art. I'm not looking for absence of
03:37:47 17 disclosure. I'm reading a sentence or set of
03:37:48 18 sentences. And that what we're referring to
03:37:52 19 now I believe is Paragraph 84 of Sigurdsson,
03:37:55 20 and when you're talking about an open
03:37:57 21 connection, and when we talk about connection
03:38:02 22 with a user, I think a computer scientist
03:38:04 23 understands what that means.

03:38:06 24 A person of skill in the art is
03:38:08 25 not reading these sentences in a vacuum. We're

03:38:11 1 reading it from the perspective of one skilled
03:38:13 2 in the art. That's what I'm reading it as. I
03:38:16 3 don't expect every single word to be spelled
03:38:19 4 out.

03:38:20 5 I also disagree with your
03:38:22 6 characterization that it's a lack of disclosure
03:38:27 7 that I'm relying on. That's not what I'm
03:38:29 8 relying on.

03:38:29 9 Q. You said that reading this
03:38:31 10 paragraph, in combination with "associated with
03:38:34 11 a user," but "associated with a user" came from
03:38:37 12 the claim. So you're using the claim language
03:38:40 13 to read the specification to arrive at a
03:38:44 14 certain meaning?

03:38:44 15 MR. WHITT: Objection.
03:38:46 16 Argumentative. Form.

03:38:49 17 A. I'm not I completely understand
03:38:50 18 that. When I read the claim language, I see
03:38:55 19 the disclosure in Exhibit 4 to Sigurdsson does
03:38:59 20 that map on, and it's saying, yes, it does map
03:39:01 21 on, because an open connection, when you have
03:39:03 22 users, would require some kind of mechanism to
03:39:10 23 authenticate. That's how someone of skill in
03:39:12 24 the art would read the Sigurdsson reference,
03:39:14 25 not in a vacuum, not in isolation.

03:39:17 1 Q. What's your rationale for reading
03:39:34 2 "associated with a user" to limit an open
03:39:37 3 connection with multiple devices to be sent
03:39:40 4 only to one device or a few devices that are
03:39:45 5 associated with a user?

03:39:47 6 MR. WHITT: Objection. Form.

03:39:48 7 A. I think that would be a common
03:39:52 8 sense thing to talk about. So Sigurdsson is
03:39:59 9 talking about synchronizing content among
03:40:02 10 users' computers. It is not just saying
03:40:05 11 everything is open to everything. It is
03:40:09 12 talking in the examples, and look at Paragraph
03:40:12 13 31 of Sigurdsson, for example. It says, "The
03:40:15 14 server can facilitate synchronization of
03:40:18 15 content among the user's computers."

03:40:21 16 So it is contemplating the notion
03:40:23 17 of users, that users have particular clients,
03:40:26 18 and so forth. It is not saying that this is
03:40:30 19 open season for everything to be open to
03:40:32 20 everybody. It's clearly in the context of
03:40:37 21 particular users wanting to synchronize their
03:40:39 22 content with multiple clients, and scenarios
03:40:44 23 given as work computer versus home computer,
03:40:47 24 for example, and the user wanting to be both in
03:40:53 25 synch.

03:40:53 1 So reading that as a whole, is
03:40:56 2 where I, as one of skill in the art, I read
03:41:01 3 what's in Paragraph 84 in that context to say
03:41:05 4 that an open connection could include
03:41:11 5 authentication as needed, because that would be
03:41:13 6 obviously the common sense thing to do, and not
03:41:17 7 just a completely open pipe for anybody and
03:41:20 8 read anybody's data.

03:41:21 9 Q. You just said in Paragraph 84 the
03:41:23 10 connections are to every device, which is what
03:41:27 11 you said when you described Paragraph 84,
03:41:29 12 because Client A can, therefore, all clients,
03:41:36 13 can have an open connection with the server,
03:41:39 14 and it can be open from server to every client,
03:41:42 15 which is what you said?

03:41:43 16 MR. WHITT: Objection. Form.

03:41:44 17 A. I said it can maintain an open
03:41:46 18 connection, multiple clients can open multiple
03:41:49 19 open connections with the server. I did say
03:41:51 20 that.

03:41:51 21 I did not exclude the notion there
03:41:55 22 doesn't have to be authentication for those
03:41:57 23 open connections. I think you're over-reading
03:41:59 24 the word "open" to mean completely open when it
03:42:03 25 doesn't have to be. It could be an open

03:42:07 1 connection, but restricted to particular
03:42:09 2 clients.

03:42:09 3 The open connection simply means
03:42:12 4 there's a pipe. It doesn't mean the pipe
03:42:14 5 doesn't have authentication or data doesn't
03:42:17 6 have to meet certain criteria to flow through
03:42:22 7 that pipe.

03:42:30 8 Q. Have you identified any reference
03:42:32 9 in your declaration that talks about
03:42:33 10 authentication in combination with this kind of
03:42:36 11 open connection?

03:42:37 12 A. I'll have to go through the
03:42:42 13 declaration to look for that. If you want me
03:42:43 14 to do that, I'm happy to do that.

03:42:45 15 Q. Yeah, please.

03:42:47 16 A. It's a very lengthy...

03:42:50 17 Q. It's your declaration.

03:42:51 18 A. Sure. So give me a few moments to
03:42:53 19 try to find at least a few spots where we
03:42:56 20 discuss this.

03:44:56 21 In Paragraph 422 of my declaration

03:45:00 22 --

03:45:00 23 Q. Which paragraph?

03:45:01 24 A. 422. I think that's where I start
03:45:05 25 my discussion of the Sigurdsson relative to the

03:45:12 1 '942 patent, and the open connection
03:45:14 2 discussion.
03:45:14 3 And when you look at this
03:45:18 4 paragraph, and it's talking about a user that
03:45:22 5 declined editing or saving a document. So
03:45:26 6 there's clearly a disclosure here that a
03:45:29 7 particular user, where it says not just random
03:45:32 8 Client A with a completely open connection. It
03:45:35 9 says the client may maintain an open connection
03:45:37 10 and post as soon as an event is generated.
03:45:39 11 So I think that contemplates that
03:45:41 12 it's posting on behalf of that user at Client
03:45:46 13 A, which I think is, I think, a quote to a
03:45:48 14 section of Sigurdsson, and I think it's
03:45:51 15 Paragraph 68 of Sigurdsson. And then
03:45:55 16 Sigurdsson talks about user modifying a file
03:46:00 17 and sending the modification.
03:46:02 18 It's all linked to the user. So
03:46:05 19 there is clearly a connection between the user
03:46:08 20 and the client, and there's a limitation there,
03:46:11 21 in my view, as one of skill in the art reading
03:46:15 22 this, that it is not just open connection open
03:46:19 23 to the world. It's an open connection in the
03:46:21 24 sense of a pipe between the client and the
03:46:24 25 server for that user's data.

03:46:27 1 So I think reading the whole thing
03:46:30 2 in context, that's the way I presented my
03:46:33 3 discussion here in Paragraphs 422 onwards, and
03:46:39 4 then similar discussion, I believe, in the
03:46:41 5 discussion for the -- similar element for the
03:46:47 6 '561 patent, when talking about the same or
03:46:50 7 similar things.

03:46:57 8 MR. IYER: Can we upload Exhibit
03:46:59 9 5, please, the Shappell reference.

03:47:05 10 (Document marked as Exhibit 5
03:47:27 11 for identification)

03:47:27 12 A. Is that coming through? Did we
03:47:29 13 already have that?

03:47:30 14 Q. Exhibit 5, Shappell.

03:47:31 15 A. I don't have that.

03:49:12 16 MR. IYER: Can we put up Exhibit
03:49:14 17 7? I don't see it here. Sorry, Exhibit
03:49:25 18 5, Shappell. Exhibit 5.

03:49:37 19 MR. WHITT: Is someone getting
03:49:39 20 Exhibit 5?

03:49:58 21 Q. Can you please review that fact of
03:50:04 22 Shappell?

03:50:05 23 A. Sorry, I don't see it in the chat.
03:50:07 24 Am I supposed to download this?

03:50:10 25 Q. It's on the screen.

03:50:15 1 A. If you put it in the chat, that
03:50:17 2 way I have a local copy.
03:50:19 3 THE VIDEOGRAPHER: One moment.
03:50:48 4 A. I see it. Give me one second to
03:50:51 5 download it. I have it on my screen. What did
03:50:54 6 you want me to read?
03:50:55 7 Q. The abstract.
03:50:56 8 A. Give me a moment, please. Okay,
03:51:18 9 I've read the abstract.
03:51:21 10 Q. Okay. Do you see the second
03:51:29 11 sentence? It says, "Server-less" -- "shared
03:51:37 12 files in a server-less shared space."
03:51:44 13 Do you see that?
03:51:46 14 A. I see that in the first sentence.
03:51:49 15 Q. Sorry. What do you mean by that?
03:51:51 16 What's your understanding of that?
03:51:55 17 A. I think what Shappell means by
03:51:59 18 that is, the system enables you to share files
03:52:02 19 in a system that doesn't necessarily have a
03:52:05 20 server. So it's a shared space.
03:52:07 21 Q. It's a shared space without a
03:52:10 22 server, that's what Shappell's disclosure is,
03:52:14 23 right?
03:52:15 24 MR. WHITT: Objection to form.
03:52:16 25 A. I think that sentence says that,

03:52:23 1 yes.

03:52:24 2 Q. What do you mean by "shared
03:52:28 3 space"?

03:52:29 4 A. What do I mean or what does
03:52:36 5 Shappell mean? Shappell says it's a shared
03:52:39 6 memory space. So it's a space, a piece of
03:52:42 7 data, a piece of memory, space of memory, where
03:52:47 8 group members can share the shared files in
03:52:50 9 that memory space, the shared memory space.

03:52:53 10 Q. Does the shared memory space,
03:52:55 11 would it have processing capabilities?

03:53:02 12 MR. WHITT: Objection to form.

03:53:04 13 A. Are you talking -- are you saying
03:53:07 14 does the memory itself have a processing
03:53:10 15 capability?

03:53:11 16 Q. The shared space, would it have
03:53:13 17 any processing capability?

03:53:16 18 MR. WHITT: Same objection.

03:53:17 19 A. Well, there would be processing
03:53:19 20 capability around that shared space to control
03:53:23 21 that memory, but the shared space itself would
03:53:27 22 be a memory space. It would be just memory.
03:53:30 23 But in order to facilitate that sharing, there
03:53:33 24 would have to be processing capabilities to
03:53:37 25 allow sharing of files in that shared memory

03:53:39 1 space.

03:53:39 2 Q. And this sentence talks about a
03:53:43 3 server-less shared space. In a server-less
03:53:48 4 shared space, would you have any capability to
03:53:52 5 process, for example, to push data?

03:53:56 6 MR. WHITT: Objection to form.

03:53:58 7 A. Push data from where?

03:54:09 8 Q. From shared space to a client, to
03:54:12 9 a connected computer.

03:54:15 10 MR. WHITT: Same objection.

03:54:16 11 A. I don't see why not. Shappell
03:54:57 12 also talks about infrastructure based on user's
03:55:01 13 settings, handling how files can be moved
03:55:02 14 between the local computer and the source, and
03:55:06 15 so forth.

03:55:07 16 So, sure, it can move around.

03:55:10 17 Q. Okay. So how would a shared space
03:55:13 18 without a server be different from a server?

03:55:18 19 A. Well, it would be different from a
03:55:23 20 server, client/server mechanism, which is much
03:55:27 21 more of a peer-to-peer sharing with a common
03:55:32 22 memory space.

03:55:34 23 I think we've already talked
03:55:36 24 earlier on, I think my testimony was even a
03:55:39 25 peer-to-peer system, each peer reacts as a

03:55:44 1 server and a client.

03:55:45 2 Q. How would members access shared

03:55:54 3 space?

03:55:58 4 A. They would read and write to that

03:56:00 5 space. When I say "read and write," I meant

03:56:08 6 putting and getting information, many different

03:56:14 7 ways.

03:56:14 8 Q. Other than reading and writing

03:56:16 9 data to a shared space, is there any way users

03:56:25 10 applying devices do processing on the shared

03:56:29 11 space?

03:56:30 12 A. Clients do processing on the

03:56:36 13 shared space? Did I hear that correctly?

03:56:38 14 Q. Yes. Do anything other than

03:56:39 15 reading and writing data?

03:56:54 16 A. Are you talking generally or in

03:56:57 17 Shappell?

03:56:57 18 Q. Well, you have made a declaration,

03:56:59 19 and in your declaration you have expressed your

03:57:01 20 opinions on Shappell.

03:57:02 21 A. Okay. So you're talking about

03:57:03 22 Shappell, in Shappell. Okay. I just want to

03:57:07 23 make sure, are you asking the question

03:57:10 24 generally or are you asking it in the context

03:57:13 25 of Shappell?

03:57:14 1 Q. If you could speak generally, and
03:57:16 2 also if you think that Shappell is different
03:57:18 3 from a general understanding of a shared space,
03:57:21 4 please do both.

03:57:22 5 A. Okay. So I think as a general
03:57:27 6 matter, if you have a shared space, there could
03:57:34 7 be a system or a code or some kind of
03:57:39 8 infrastructure around that shared space that
03:57:45 9 can controlled who can access what in the
03:57:49 10 shared space.

03:57:50 11 Just because it's a shared space
03:57:52 12 doesn't mean it's a free for all. But it would
03:57:54 13 typically have file controls and access
03:57:57 14 controls, and allow for people, other peers,
03:58:04 15 and Shappell is talking about peer to peer, the
03:58:07 16 different peers with the appropriate access
03:58:11 17 credentials, to receive information from the
03:58:14 18 shared space to write information to that
03:58:16 19 shared space.

03:58:21 20 And I'll just, as an example, I
03:58:25 21 would take you to Paragraph 9 of Shappell that
03:58:28 22 says at the end of it, it says -- and talking
03:58:30 23 about authentication, it says, "The process is
03:58:33 24 secure in that only a valid member of the group
03:58:37 25 may copy the shared file to its space."

03:58:40 1 So it's clearly talking about the
03:58:42 2 shared space having some kind of authentication
03:58:44 3 mechanism.

03:58:44 4 Q. So sticking with the same
03:58:48 5 paragraph, you're talking about a group, as in
03:58:54 6 a group of members; that's what Shappell is
03:58:56 7 talking about, right?

03:58:57 8 A. In this example, sure.

03:58:59 9 Q. Is there anything else in any
03:59:03 10 other portion that makes you believe otherwise
03:59:06 11 that Shappell is talking about a group of
03:59:09 12 members sharing a space?

03:59:11 13 A. I want to make sure I'm
03:59:17 14 understanding the question. Are you saying
03:59:19 15 it's using the word "group" in a different way;
03:59:21 16 is that what you're asking?

03:59:21 17 Q. A group of members using a shared
03:59:23 18 space. That's what Shappell is about. You
03:59:29 19 think that that's just this paragraph.

03:59:30 20 Is there anything else anywhere
03:59:31 21 else that makes you think otherwise?

03:59:33 22 A. That a non-group of people may
03:59:36 23 have accessed the shared space; is that what
03:59:39 24 he's asking? No. The whole point is that
03:59:42 25 there's some mechanism to validate people are

03:59:44 1 members of his group in order to use the shared
03:59:47 2 space.

03:59:47 3 Q. Yeah, okay. Please review
03:59:54 4 Paragraph 81 of Shappell.

03:59:57 5 A. 81. Okay. Give me a second.

04:00:05 6 MR. WHITT: I think you said
04:00:09 7 Paragraph 81; is that right?

04:00:12 8 MR. IYER: Yes.

04:00:13 9 A. Yes, that's what I heard and
04:00:14 10 that's what I'm reading right now. Okay.

04:00:40 11 Q. Can you read the first sentence?

04:00:47 12 A. Yes. It says, "When a
04:00:51 13 modification of a file contained in a shared
04:00:55 14 space occurs, a notification to other members
04:00:59 15 in the group occurs." And it has the steps,
04:01:04 16 which I'm not sure you want me to read that.

04:01:06 17 Q. That's fine. So essentially this
04:01:13 18 part, at least, and I represent to you that all
04:01:15 19 of the disclosure of Shappell is the same way,
04:01:17 20 it's about one member making a change, and the
04:01:20 21 change is notified to other members in the
04:01:22 22 group. Am I right?

04:01:25 23 MR. WHITT: Objection. Form.

04:01:31 24 Q. What's that?

04:01:32 25 A. Counsel had something to say.

04:01:33 1 MR. WHITT: I said objection to

04:01:35 2 form.

04:01:35 3 A. Okay. The answer to your question

04:01:36 4 is, in this section, it says if one member --

04:01:41 5 one file is modified in the shared space, the

04:01:45 6 other members of the group are provided a

04:01:48 7 notification of that change, of that

04:01:50 8 modification.

04:01:50 9 Q. Okay. Is there any other part of

04:01:54 10 Shappell which talks about modifying file, you

04:02:02 11 know, other than this?

04:02:23 12 A. Well, this is the disclosure and

04:02:25 13 the specification in the claims talk about it.

04:02:33 14 Claims also discuss this, I believe, as does

04:02:38 15 the specification, the mention of the word

04:02:44 16 modifying file.

04:02:44 17 Q. So essentially one member of the

04:02:47 18 group modifies, and the other members are

04:02:51 19 notified, right?

04:02:51 20 A. This is saying when a file is

04:02:57 21 modified by somebody, the other members of that

04:02:59 22 group --

04:02:59 23 Q. Are notified?

04:03:01 24 A. -- are notified, yes.

04:03:03 25 Q. Yeah. So meaning all the members

04:03:05 1 of the group, other than the person who made
04:03:07 2 the change get notified, right?

04:03:12 3 A. I'm not sure I would use the word
04:03:15 4 "person" necessarily, but certainly members of
04:03:19 5 the group, person or machine or an abstract
04:03:22 6 concept, other members of the group, yes.

04:03:27 7 Q. When reading Shappell in
04:03:30 8 combination with Sigurdsson, can I assume that
04:03:33 9 Client A is the first member and all other
04:03:37 10 clients are other members?

04:03:39 11 A. I would say in Sigurdsson, I would
04:03:54 12 also include the server as possibly another
04:03:57 13 member.

04:03:57 14 Q. So the other members are not the
04:04:01 15 same as Client A; am I right?

04:04:08 16 A. They don't have to be. They would
04:04:09 17 have to have access to the information. They
04:04:15 18 would only get notification if it's relevant to
04:04:17 19 them.

04:04:17 20 Q. So essentially Shappell in this
04:04:19 21 paragraph discloses one member notifying,
04:04:26 22 making a change, and that change is notified to
04:04:29 23 other members?

04:04:32 24 A. Other members of the group. They
04:04:36 25 have to have appropriate authenticated access.

04:04:39 1 It's not just everybody who potentially has
04:04:42 2 access to that shared space.

04:04:44 3 Q. Right. And in other words, one
04:04:46 4 user is actually modifying and sending to other
04:04:50 5 users the modified file; am I right, if you go
04:04:56 6 by this logic?

04:04:57 7 A. It doesn't need to be another
04:05:01 8 user. Another member. I could have Member A
04:05:04 9 and Member B may actually be the same person on
04:05:07 10 two different machines, and that would still --
04:05:11 11 it's the same user in that situation on two
04:05:15 12 different machines sharing the shared space.

04:05:18 13 And now you've got the
04:05:20 14 synchronization of that same user's data across
04:05:24 15 multiple machines where the machine is the
04:05:27 16 member of the group, not just the human user.

04:05:29 17 Q. Okay. So if you look at the
04:05:31 18 background of Shappell, it talks about members
04:05:35 19 as being a group of people who are trying to
04:05:39 20 cooperate with each other.

04:05:40 21 A. Sure.

04:05:41 22 Q. So the background of the Shappell
04:06:19 23 reference talks about the whole disclosure is
04:06:23 24 about how people can share files with each
04:06:27 25 other. It's not talking about how one person

04:06:32 1 changes files for himself. It's talking about
04:06:34 2 users, as in a group of users.

04:06:37 3 So if I go by what you say, if
04:06:40 4 it's for cooperating between users, are you
04:06:43 5 saying that you're trying to cooperate with
04:06:45 6 yourself?

04:06:49 7 A. Both interpretations would be
04:06:53 8 consistent with Shappell. And I wouldn't use
04:06:55 9 the word cooperating with myself. I would say
04:06:58 10 synchronizing my data across multiple of my own
04:07:01 11 devices.

04:07:02 12 Q. Where does Shappell talk about
04:07:05 13 synchronization of data?

04:07:06 14 A. Sorry, give me one second. I've
04:07:13 15 lost my spot in Shappell. I think Shappell is
04:07:28 16 all about synchronizing data. It's about
04:07:31 17 sharing data between members of groups, and I
04:07:37 18 don't see why a member cannot be the same human
04:07:40 19 person with multiple different computational
04:07:44 20 infrastructures.

04:07:45 21 Q. Where does it say that? In the
04:07:47 22 background they're talking about a bunch of
04:07:49 23 individuals cooperating.

04:07:51 24 A. It doesn't say that those
04:07:53 25 individuals couldn't be Person A and Person B.

04:07:56 1 We all know that a particular individual can
04:07:58 2 set up different accounts on different
04:07:59 3 computers. So I don't see it limiting it to
04:08:04 4 different humans, which is just different
04:08:08 5 users, is conceptual to users, different group
04:08:14 6 members. I don't think it limits it to
04:08:16 7 different human beings. It could be different
04:08:20 8 human beings, absolutely. It doesn't have to
04:08:23 9 be.

04:08:23 10 Q. Yeah, that, again, is example of
04:08:27 11 absence of disclosure being used as the same as
04:08:36 12 support.

04:08:36 13 A. I disagree with that
04:08:38 14 characterization.

04:08:57 15 MR. IYER: Let's take a short
04:08:59 16 break and we'll regroup.

04:09:02 17 THE VIDEOGRAPHER: We are going
04:09:03 18 off the record. The time is 4:09 p.m.

04:09:06 19 (Recess taken at 4:09 p.m. and
04:09:08 20 reconvening at 4:27 p.m.)

04:27:10 21 THE VIDEOGRAPHER: The time is
04:27:12 22 4:27 p.m. We're back on the record.

04:27:16 23 MR. IYER: I don't have questions
04:27:20 24 on this subject matter. I would like to
04:27:24 25 request Mr. Whitt to send us references

04:27:28 1 C11, C80, C84 and C95 of all the
04:27:38 2 references that Dr. Balakrishnan
04:27:40 3 mentioned and also -- C111, not C11,
04:27:50 4 C111, and the course material that Dr.
04:27:53 5 Balakrishnan referred to supporting his
04:27:54 6 qualification, the teaching assistant
04:28:00 7 position after his undergrad.

04:28:02 8 So I request you to produce it to
04:28:05 9 us by Monday. Let us know if you're
04:28:07 10 going to produce it or not.

04:28:11 11 MR. WHITT: Okay. I will take
04:28:12 12 that request back to my team and let you
04:28:14 13 know. I had a few follow-up questions
04:28:16 14 on redirect.

04:28:21 15 EXAMINATION BY

04:28:22 16 MR. WHITT:

04:28:22 17 Q. Dr. Balakrishnan, do you remember
04:28:27 18 speaking today about your background and the
04:28:35 19 references that counsel just listed off, C111,
04:28:38 20 C80, C84 and C95; do you recall that?

04:28:43 21 A. I do.

04:28:45 22 Q. Are there any additional
04:28:45 23 references that you think relate to the subject
04:28:47 24 matter of these proceedings that you -- I
04:28:52 25 believe you may have gotten cut off, and I'm

04:28:54 1 not sure if you listed all of them or if those
04:28:57 2 are just examples. Could you clarify that?

04:28:59 3 A. Those were just examples. I don't
04:29:02 4 believe I was cut off, but I asked counsel if I
04:29:05 5 should continue, if I recall correctly, and I
04:29:07 6 think he said something along the lines of,
04:29:10 7 that's fine, and we stopped there. But I could
04:29:14 8 continue from where we left off.

04:29:17 9 If you wanted me to do that, there
04:29:19 10 are many other references in there that I had
04:29:21 11 not gotten to that was relevant to that issue
04:29:24 12 of what experience I have in this regard.

04:29:30 13 Q. So is it true that there may be
04:29:32 14 other references and other items in your CV
04:29:35 15 that may be relevant to the subject matter of
04:29:37 16 these proceedings?

04:29:38 17 A. Yes, not just maybe, but they are
04:29:40 18 relevant.

04:29:44 19 Q. If we could go back to, I believe
04:29:48 20 it's Exhibit 4, which is Sigurdsson. I'd like
04:29:51 21 to ask you about Paragraph 47 in Sigurdsson.
04:29:57 22 If you could pull that up. Just let me know
04:29:59 23 when you're there.

04:30:00 24 A. I am there.

04:30:01 25 Q. Okay. Do you see in the second

04:30:06 1 sentence where it says, "The applications
04:30:08 2 include an Event Listener, a File to Text/HTML
04:30:13 3 Converter, and a hypertext transfer protocol
04:30:17 4 security (HTTPS) Client/server 326"?

04:30:26 5 A. Yes, I see that.

04:30:27 6 Q. And what is your understanding of
04:30:28 7 what item 326, the client/server is, the HTTPS?

04:30:35 8 A. I understand that to be both --
04:30:39 9 covering both the client and the server, could
04:30:41 10 be one or the other or both.

04:30:41 11 Q. And is it your opinion -- sorry,
04:30:41 12 what was that?

04:30:55 13 A. Sorry, I just meant to say or I
04:30:56 14 meant to continue or I'll finish off by saying
04:30:59 15 that it doesn't just say -- it's not intended
04:31:02 16 to just mean the whole architecture or
04:31:06 17 something that requires a request every time.
04:31:08 18 It could also handle pushing of data. I think
04:31:12 19 we spent a lot of time talking about that
04:31:14 20 today.

04:31:14 21 Q. And I'd like you to turn, please,
04:31:15 22 to Page 314 of your expert declaration. This
04:31:20 23 is Paragraph 431 of the bottom of that page.

04:31:35 24 A. Page 314 of Paragraph 431, right?

04:31:40 25 Q. Yes.

04:31:40 1 A. I'm there.

04:31:41 2 Q. The first sentence says,

04:31:43 3 "Sigurdsson's various 'clients' are fungible,"

04:31:52 4 that's f-u-n-g-i-b-l-e, "so it would have been

04:31:53 5 obvious to apply the functionality in this

04:31:57 6 limitation to Clients A, B and C."

04:32:01 7 Is it still your opinion that

04:32:03 8 Sigurdsson's various clients are fungible?

04:32:05 9 A. Yes, it is.

04:32:06 10 Q. And that's based, in part, on the

04:32:09 11 citation that appears after that sentence,

04:32:10 12 which is the Sigurdsson Paragraph 51; is that

04:32:14 13 correct?

04:32:14 14 A. That is correct.

04:32:15 15 Q. And would a person of ordinary

04:32:28 16 skill in the art have been aware of what an

04:32:31 17 HTTP client/server was as background knowledge

04:32:35 18 of the person of ordinary skill in the art?

04:32:38 19 A. Absolutely.

04:32:38 20 Q. And then we talked briefly about

04:32:44 21 the grounds in the petition versus the grounds

04:32:48 22 in the declaration. Do you recall that

04:32:49 23 conversation?

04:32:50 24 A. Yes.

04:32:50 25 Q. Are there grounds in your

04:32:56 1 declaration that -- strike that.

04:33:01 2 Are there grounds in your

04:33:12 3 declaration that you believe -- strike that.

04:33:17 4 I think we talked about three

04:33:19 5 separate grounds for each of the '942 and the

04:33:23 6 '561. Do you recall that?

04:33:24 7 A. In my declaration; that's correct.

04:33:26 8 Q. And for each of those grounds, is

04:33:29 9 it true that you believe each one of those

04:33:32 10 grounds independently shows that the challenged

04:33:36 11 claims of the respective patent would have been

04:33:42 12 obvious to a person of ordinary skill in the

04:33:44 13 art?

04:33:44 14 A. Yes.

04:33:46 15 MR. IYER: Objection. Relevance.

04:33:53 16 Q. And do you remember the

04:33:56 17 conversation about the board's institution

04:34:01 18 decisions and the fact that you reviewed those

04:34:02 19 prior to your deposition?

04:34:04 20 A. Yes.

04:34:04 21 Q. So if possible, I'd like to drop

04:34:08 22 that as an exhibit into the chat, one of the

04:34:14 23 institution decisions. So I will try to do

04:34:17 24 that now.

04:34:33 25 Let me know if you can see that,

04:34:36 1 Dr. Balakrishnan?

04:34:39 2 A. I'm just downloading that now.

04:34:41 3 MR. WHITT: We can call this

04:34:43 4 Exhibit 11.

04:34:44 5 (Document marked as Exhibit 11

04:34:50 6 for identification)

04:34:50 7 A. Okay. I have it on my local

04:34:52 8 machine here.

04:34:52 9 Q. Great.

04:34:55 10 MR. IYER: Can you put it in the

04:35:02 11 shared screen so we know what we're

04:35:06 12 talking about?

04:35:07 13 MR. WHITT: Sure. Just for the

04:35:11 14 record, this is the public redacted

04:35:14 15 version of the board's institution

04:35:18 16 decision in IPR number 2023-00433

04:35:26 17 involving the '942 patent. I can share

04:35:29 18 my screen.

04:35:30 19 A. Before you share your screen,

04:35:32 20 Counsel, the version that I downloaded that you

04:35:34 21 put in the chat says "Non-Public Version."

04:35:38 22 Q. I know it says that at the top,

04:35:40 23 but if you actually scroll down, you can see

04:35:43 24 the redactions have been applied. So the label

04:35:44 25 at the top is incorrect.

04:35:46 1 A. Okay.

04:35:46 2 Q. So if you could please scroll to

04:35:48 3 page --

04:35:48 4 MR. IYER: I don't see it on the

04:35:50 5 screen.

04:35:51 6 MR. WHITT: I will put it on the

04:35:53 7 screen. Could you please allow me to

04:35:55 8 share the screen or someone else can.

04:36:01 9 THE VIDEOGRAPHER: Let me stop

04:36:02 10 sharing.

04:36:13 11 MR. WHITT: Can you see my screen,

04:36:14 12 Counsel?

04:36:15 13 MR. IYER: Yes.

04:36:15 14 A. Yes, I can see that, too.

04:36:17 15 Q. And actually, let's start at the

04:36:28 16 bottom of Page 36. This is the board decision.

04:36:31 17 "Sigurdsson, however, does not describe the

04:36:35 18 transfer of a modified file with the

04:36:37 19 alternative embodiment of step 606 as resulting

04:36:41 20 from any request from Client C."

04:36:43 21 Do you agree with that statement

04:36:46 22 of the board?

04:36:46 23 A. I do.

04:36:46 24 Q. And then it says, "Referring to

04:36:49 25 Figure 6 of Sigurdsson, Patent Over

04:36:52 1 nevertheless implicitly argues that in context,
04:36:54 2 the transfer described in the alternative
04:36:56 3 embodiment of step 606 is only the transfer
04:37:00 4 described in step 626. "

04:37:03 5 Do you see that sentence?

04:37:05 6 A. I do see that sentence.

04:37:06 7 Q. And then after that it says, "We
04:37:10 8 do not read Sigurdsson's disclosure so
04:37:16 9 narrowly. "

04:37:16 10 Do you agree with that statement?

04:37:17 11 A. I agree with that statement.

04:37:18 12 Q. Then it says, "Figure 6 is
04:37:20 13 described as a 'sequence diagram showing an
04:37:23 14 illustrative method for sharing and
04:37:25 15 synchronizing content ... when a client that is
04:37:29 16 offline comes online. ' "

04:37:30 17 Do you agree with that statement?

04:37:32 18 A. Yes.

04:37:32 19 Q. And "Sigurdsson does not preclude
04:37:34 20 step 620 and its associated steps 612 through
04:37:39 21 618 and 626 through 630 from performing the
04:37:43 22 transfer described in the alternative
04:37:46 23 embodiment of step 606 'when a client that is
04:37:51 24 offline comes online. ' "

04:37:54 25 Do you agree with that statement?

04:37:56 1 A. Yes, I agree with that statement.

04:37:58 2 Q. "But Sigurdsson does not limit the
04:38:00 3 transfer described for the alternative
04:38:02 4 embodiment of step 606 to step 620 and its
04:38:08 5 associated steps 612 to 618 and 626 to 630."

04:38:15 6 Do you agree with that statement?

04:38:16 7 A. I do.

04:38:17 8 Q. "For example, if Client C were on
04:38:19 9 line when the server sought to transfer the
04:38:21 10 modified file to Client C, there would be no
04:38:24 11 apparent reason to use steps 612 to 620 and 626
04:38:30 12 through 630 since the process of those steps
04:38:34 13 concern how to transfer files to Client C when
04:38:39 14 Client C is offline at the time of the desired
04:38:39 15 transfer and subsequently comes online."

04:38:43 16 Do you agree with that statement?

04:38:45 17 A. I do.

04:38:45 18 Q. And "On this record, therefore,
04:38:47 19 Sigurdsson's alternative embodiment for step
04:38:49 20 606 at least suggests the automatic transfer of
04:38:53 21 a modified file from the server to Client C."

04:38:58 22 Do you agree with that statement?

04:38:59 23 A. I agree with that statement. As I
04:39:01 24 testified earlier, I think it more than at
04:39:05 25 least suggests that it discloses.

04:39:07 1 Q. And it actually goes on,
04:39:10 2 "Sigurdsson describes automatic transfer of
04:39:12 3 files from other computers to clients, for
04:39:15 4 example, with client to client transfers."

04:39:17 5 Do you agree with that statement?

04:39:19 6 A. Yes.

04:39:19 7 Q. And then, "This description also
04:39:24 8 suggests making the transfer of files from
04:39:27 9 Server 106 to Client C automatic."

04:39:30 10 Do you agree with that statement?

04:39:31 11 A. Yes.

04:39:45 12 Q. Then I'd like to turn to Page 316
04:39:48 13 of your declaration.

04:39:55 14 A. Page 316? Yes, I'm there.

04:39:58 15 Q. Yeah, Page 316. So do you recall
04:39:58 16 we talked about this element 1(d) that's in
04:40:00 17 bold here?

04:40:01 18 A. I do.

04:40:02 19 Q. Does the word "automatically" mean
04:40:11 20 the same thing as "immediately," in your
04:40:13 21 opinion?

04:40:14 22 A. Do you mean temporal immediately?
04:40:19 23 No. It could be, but it doesn't have to be.

04:40:21 24 Q. So in other words, it wouldn't
04:40:23 25 require, for example, no intervening steps to

04:40:26 1 occur or there's no requirement of that sort in
04:40:29 2 this claim limitation?

04:40:30 3 A. I agree with that.

04:40:32 4 Q. And then on Page 321 of your
04:40:43 5 declaration, this is going to be Paragraph 438

04:40:52 6 --

04:40:52 7 A. Which starts on Page 320.

04:40:55 8 Q. Right. So I think there's a
04:40:57 9 sentence at the very end of that paragraph,
04:41:00 10 actually the last sentence. It says, "It would
04:41:03 11 have been obvious in view of these disclosures
04:41:05 12 to automatically transfer a modified file
04:41:09 13 received from Client A to Server 106, and then
04:41:11 14 automatically transfer the modified file, via
04:41:14 15 an 'open connection' to Client C as soon as the
04:41:17 16 file is received at the server."

04:41:18 17 Do you still agree with that or is
04:41:19 18 that still your opinion?

04:41:20 19 A. That is my opinion, and I think I
04:41:22 20 talked about this opinion in response to
04:41:25 21 counsel's questions as well.

04:41:26 22 Q. And then I'd like to go to quickly
04:41:30 23 just to Shappell, which I believe was Exhibit
04:41:35 24 5. So if you take a look at Paragraph 40 of
04:41:42 25 Shappell.

04:41:44 1 A. Hang on a second. Exhibit 5.

04:41:46 2 Okay. I've got Exhibit 5 now. Paragraph what?

04:41:50 3 Q. 40, four zero.

04:41:55 4 A. Yes, I'm there.

04:41:56 5 Q. So it says right there in the

04:42:00 6 third sentence, it says, "Each user device will

04:42:02 7 typically be used by or associated with a

04:42:05 8 different user."

04:42:07 9 Does that mean that it will always

04:42:10 10 be associated with a different user?

04:42:11 11 A. No. It says typically be used by

04:42:16 12 a different user, hence my interpretation in

04:42:19 13 answer to counsel's questions earlier that it

04:42:22 14 may be different users, may be the same user,

04:42:26 15 but different instantiations of the same user.

04:42:29 16 Q. And would it have been obvious to

04:42:30 17 treat different user devices as different

04:42:36 18 "group members" in the context of Shappell to a

04:42:38 19 person of skill in the art?

04:42:40 20 A. Oh, absolutely. That was my point

04:42:41 21 to counsel.

04:42:43 22 MR. WHITT: Okay. No further

04:42:44 23 questions.

04:42:47 24 MR. IYER: Let me have a couple of

04:42:51 25 redirect questions.

04:42:53 1 RE-EXAMINATION
04:42:54 2 BY MR. IYER:
04:42:54 3 Q. Okay. You mentioned in the latest
04:42:58 4 exchange, you referred to Paragraph 51 of
04:43:05 5 Sigurdsson to opine that A, B, C, all devices
04:43:12 6 are fungible. What in Paragraph 51 leads you
04:43:18 7 to that conclusion that all the devices are
04:43:21 8 fungible?
04:43:22 9 A. For example, the last part of
04:43:37 10 Paragraph 51 where it says, "Although Figure 4
04:43:40 11 does not show explicit errors between the
04:43:42 12 Client C and the Server, Client C can have
04:43:46 13 communicate with the server" -- I think there's
04:43:48 14 a typo there -- "in a manner similar to the
04:43:50 15 method used by Clients A or B."
04:43:53 16 So to me that, at least that, is
04:43:55 17 telling me that it's treating A, B and C as
04:43:59 18 fungible clients.
04:44:05 19 Q. So in Figure 4, where what you
04:44:21 20 referred to as -- one second. So in Figure 4,
04:44:54 21 Client C is shown to be a flip phone, and
04:45:02 22 Client A appears to be a desktop computer.
04:45:08 23 So you mean to say that a desktop
04:45:11 24 computer and a flip phone are fungible?
04:45:13 25 A. For all purposes of the notion of

04:45:18 1 connecting and pulling data and pushing data
04:45:20 2 back and forth, yes. That level of discussion,
04:45:24 3 yes.

04:45:24 4 Q. So Client C, which is a flip
04:45:28 5 phone, and as of application of this file,
04:45:32 6 which is 2006, is it your testimony that a flip
04:45:40 7 phone can receive a very large file like your
04:45:46 8 maintenance file that you described earlier?

04:45:50 9 A. Conceptually, yes. It would have
04:45:57 10 been the amount -- it would have been in the
04:45:58 11 amount of memory, amount of storage on the flip
04:46:00 12 phone.

04:46:01 13 I think my point here is the
04:46:04 14 fungibility is in the conceptual notion of data
04:46:08 15 going back and forth, and so forth. It's not
04:46:14 16 about the specifics of how much storage a
04:46:16 17 particular client may have. Obviously, even
04:46:21 18 for a desktop -- different desktops are going
04:46:23 19 to have different amounts of storage, which may
04:46:25 20 or may not allow some types of files to be
04:46:27 21 stored, but it doesn't change the concept that
04:46:30 22 we're discussing here.

04:46:31 23 Q. So you're talking about the
04:46:37 24 theoretical possibility in 2006 as opposed to a
04:46:39 25 specific disclosure in Sigurdsson as of 2006;

04:46:45 1 am I right?

04:46:46 2 A. I'm not talking about theoretical
04:46:51 3 possibilities. I'm talking about the concepts
04:46:53 4 of file transfers. It's not theoretical.

04:46:53 5 Q. Can you point out to anything in
04:46:55 6 2006 technology, can you give a practical
04:46:57 7 example of a flip phone having the ability to
04:47:00 8 receive large maintenance files?

04:47:03 9 A. I haven't looked into that.

04:48:18 10 MR. IYER: All right. One second,
04:48:31 11 and let me confer with my colleague.

04:49:18 12 All right. We don't have any
04:49:19 13 further questions. Thanks a lot, Dr.
04:49:21 14 Balakrishnan, for your time.

04:49:21 15 MR. WHITT: Just one more question
04:49:23 16 can.

04:49:23 17 RE-EXAMINATION

04:49:24 18 BY MR. WHITT:

04:49:24 19 Q. Dr. Balakrishnan, the large
04:49:26 20 maintenance manual, is that just an example of
04:49:29 21 a file that you pointed out in your declaration
04:49:31 22 or is that the only example that you're
04:49:33 23 referring to with respect to Client A?

04:49:35 24 A. It's just one example, and not the
04:49:37 25 only.

04:49:37 1 MR. WHITT: That's the final
04:49:39 2 question for me.
04:49:42 3 RE-EXAMINATION BY
04:49:43 4 MR. IYER:
04:49:43 5 Q. Can you please show me another
04:49:46 6 instance in your declaration where you have
04:49:47 7 some other file as an example of the content, a
04:49:53 8 file as an example of the content?
04:50:32 9 A. Well, instead of going to the
04:50:33 10 declaration, I'll just go straight to the
04:50:35 11 patent, the Sigurdsson patent application. I
04:50:38 12 think we already talked about this.
04:50:39 13 In Paragraph 58, it gives
04:50:42 14 examples. The user can install a very large
04:50:44 15 document or in digital cameras, talking about
04:50:48 16 photos, or update a small office memo.
04:50:50 17 So there's multiple different
04:50:52 18 examples given in the patent itself, which I
04:50:54 19 think we've already talked about.
04:50:59 20 MR. IYER: All right. I have no
04:51:00 21 further questions for me.
04:51:00 22 MR. WHITT: Okay. No further
04:51:01 23 questions for me.
04:51:04 24 MR. IYER: Thank you, Dr.
04:51:06 25 Balakrishnan.

04:51:06 1 THE VIDEOGRAPHER: We are going
04:51:07 2 off the record. The time is 4:51 p.m.
04:51:14 3 (Whereupon the deposition
04:51:17 4 concluded at 4:51 p.m.)

04:51:34 5 MR. IYER: Can we have a rough
04:51:35 6 transcript right away and then follow it
04:51:37 7 with an expedited corrected transcript
04:51:42 8 as soon as possible? We want the rough
04:51:45 9 transcript today. We have a short
04:51:47 10 deadline for filing a response.

04:51:52 11 MR. WHITT: So in terms of -- Dr.
04:51:58 12 Balakrishnan is going to review the
04:52:00 13 transcript, obviously the final
04:52:01 14 transcript. Did you have an idea on
04:52:06 15 timing for that, Counsel?

04:52:14 16 MR. IYER: Yesterday. We are
04:52:15 17 under the gun. We postponed the
04:52:17 18 deposition by a month and we ordered
04:52:19 19 three extensions, so we are compressed
04:52:21 20 already.

04:52:23 21 MR. WHITT: Okay. We appreciate
04:52:25 22 you accommodating. So we'll get that to
04:52:29 23 you as soon as we can.

04:52:31 24 And then I think for us, we'll
04:52:33 25 just get the final on the same

04:52:35

1 timeframe. No need for a rough for us.

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1 E R R A T A

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3 I, RAVIN BALAKRISHNAN, Ph.D., do hereby
4 certify that I have read the foregoing
5 transcript of my testimony, and further
6 certify that it is a true and accurate
7 record of my testimony (with the exception
8 of the corrections listed below):

9 Page Line Correction

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20 Signed under the pains and penalties of
21 perjury this _____ day of _____ ,
22 2023.

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25 _____
RAVIN BALAKRISHNAN, Ph.D.

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IN WITNESS WHEREOF, I have hereunto
set my hand and Notarial Seal this 27th day
of October 2023.

My Commission expires:
November 9, 2029