

1 UNITED STATES PATENT AND TRADEMARK OFFICE

2 -----

3 BEFORE THE PATENT TRIAL AND APPEAL BOARD

4 -----

5 BOX, INC., and DROPBOX, INC.,

6 Petitioners

7 v.

8 TOPIA TECHNOLOGY, INC.,

9 Patent Owner

10 -----

11 Case No. IPR2023-00433

12 U.S. Patent No. 10,067,942

13
14
15 DEPOSITION of PRASHANT SHENOY, taken
16 remotely, by Petitioners, on February 8, 2024,
17 commencing at 9:54 a.m., before Jeffrey Benz, a
18 Certified Realtime Reporter, Registered Merit
19 Reporter and Notary Public within and for the
20 State of New York.

21
22
23
24 Job No. 25952
25

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

2
3 COOLEY LLP

4 Attorneys for Petitioners

5 1299 Pennsylvania Avenue, N.W.

6 Washington, D.C. 20004

7 BY: SAM WHITT, ESQ.

8
9 SUGHRUE MION PLLC

10 Attorneys for Patent Owner

11 2000 Pennsylvania Avenue, N.W.

12 Washington, D.C. 20006

13 BY: RAJA N. SALIBA, ESQ.

14 CHIDAMBARAM S. IYER, ESQ.

15 J. WARREN LYTLE, JR. ESQ.

16
17 ALSO PRESENT:

18 LEM LATTIMER, Technician

19 RAVIN BALAKRISHNAN

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1 PRASHANT SHENOY,

2 called as a witness, having been first
3 duly sworn by Jeffrey Benz, a Notary
4 Public within and for the State of New
5 York, was examined and testified as
6 follows:

7 EXAMINATION BY MR. WHITT:

8 Q. Good morning, Dr. Shenoy.

9 A. Good morning.

10 MR. WHITT: Do we need to make
11 appearances on the record?

12 THE COURT REPORTER: No need to.

13 MR. WHITT: Okay.

14 Q. Dr. Shenoy, could you please state and
15 spell your name for the record.

16 A. Sure.

17 My name is Prashant Shenoy. I'm going
18 to spell that out. First name Prashant,
19 P-R-A-S-H-A-N-T.

20 Last name Shenoy, S-H-E-N-O-Y.

21 Q. Where are you located right now?

22 A. I'm located at my house, which is in
23 Amherst, Massachusetts.

24 Q. Is there anyone in the room with you?

25 A. No. There is no one in the room.

1 Q. Will anyone else be in the room with
2 you during your deposition?

3 A. No. I'm in my home office, there is
4 nobody here.

5 Q. Do you have a phone with you?

6 A. I do have a phone, yes.

7 Q. Okay. Can you put it on mute or
8 vibrate during the deposition?

9 A. It's already muted.

10 Q. Okay. Thank you.

11 With the exception of potential
12 discussions related to privilege with your
13 attorney, you understand that you're not allowed
14 to discuss the substance of your deposition with
15 anyone from now until the end of the deposition?

16 Do you -- is that your understanding?

17 A. Yes, it is.

18 Q. Is there any reason why you cannot
19 give true and accurate testimony today?

20 A. No.

21 Q. Okay.

22 MR. SALIBA: Counsel, just for
23 clarification, when you say till the end of
24 the deposition, under the IPR rules, you're
25 talking about cross. Counsel is allowed to

1 discuss with the witness between cross and
2 redirect.

3 MR. WHITT: Yeah, yeah, I'm talking
4 about -- you know, until the end of the
5 cross, basically.

6 MR. SALIBA: Thank you.

7 Q. How many times have you had your
8 deposition taken, Dr. Shenoy?

9 A. It's been many times now. At least
10 two dozen times. I don't have an exact number
11 in my mind.

12 Q. Okay.

13 Do you have any documents with you?

14 A. Yes, actually. I have a clean printed
15 copy of my declaration in front of me.

16 Q. Okay. Anything else?

17 A. No.

18 I should also say, I have a PDF of the
19 same declaration, also, clean copy on my
20 desktop, but nothing else.

21 Q. Okay. There's -- is there anything
22 else on your computer screen?

23 A. No. Nothing, other than the Zoom.

24 Q. Yeah. If you could just -- you know,
25 refrain from, you know, reading emails or

1 getting notifications on your computer, that
2 would be -- that would be great.

3 A. Yes. Everything has been silenced, so
4 it should be all right.

5 Q. Okay. And you're here testifying in
6 your capacity as an expert for Topia Technology;
7 is that correct?

8 A. Yes. That is correct.

9 Q. And that's with respect to certain
10 inter partes review proceedings; is that
11 correct?

12 A. Yes, that is correct.

13 Q. So I'll refer -- I'll refer to those
14 as the IPRs today.

15 So, one of the patents that's involved
16 in those IPRs is U.S. Patent Number 9143561, and
17 I believe we referred to that in your
18 declaration -- in your declaration and other
19 filings as the '561 patent.

20 And then the other patent is U.S.
21 Patent Number 10067942, which we refer to as the
22 '942 patent.

23 Is that your understanding?

24 A. Yes, it is.

25 Q. Okay.

1 And did you file -- did you submit two
2 expert declarations in these IPRs?

3 A. So there was a -- a declaration I had
4 submitted when the -- the preliminary response
5 was filed by Topia.

6 And then there was another declaration
7 I filed that was after it was -- after the IPRs
8 were instituted.

9 Q. Okay. So let's ask the court reporter
10 to mark Exhibit-- this is going to be the PDF
11 titled "Exhibit 2013, Prashant Shenoy
12 Declaration."

13 If we could mark this as an exhibit.

14 (PDF titled "Exhibit 2013, Prashant
15 Shenoy Declaration," was marked Shenoy
16 Exhibit 1 for identification, as of this
17 date.)

18 Q. And just let me know, Dr. Shenoy, when
19 you got that.

20 THE ONLINE TECHNICIAN: Sir, is this
21 Exhibit 1?

22 MR. WHITT: Yes.

23 THE ONLINE TECHNICIAN: Thank you.

24 MR. WHITT: We'll just go in order,
25 yes.

1 A. Yes, I do see this declaration. It
2 was the first of the two declarations I had
3 filed.

4 Q. Okay.

5 And would you like to download the
6 exhibits as we go through them, or is it okay if
7 we just share them on the screen?

8 A. If it come back to this exhibit, then
9 I would like to download it, either now or at
10 that time.

11 Q. Okay.

12 So why don't you go ahead and just
13 download. I just need to verify that this is
14 one of the two declarations that you provided in
15 the IPRs. So I'm not sure how we can do that.
16 Just scrolling through, it seems like it would
17 take a long time; but, you know ...

18 A. Okay. Then I'm going to try to
19 download it.

20 Okay. I have an exhibit downloaded
21 here.

22 Q. Okay. And just -- if you could just
23 take a quick look and let me know if that looks
24 like the declaration that you submitted with
25 Topia's preliminary reply.

1 A. Yes. I think that is the exhibit I
2 submitted as part of the preliminary response.

3 Q. Okay.

4 And in paragraph 17, do you see listed
5 in that paragraph, that Claims 1, 3, 4, 8, 10
6 and 11 of the '561 patent, do you see the
7 reference to those claims?

8 A. So looking at paragraph 17 of my first
9 declaration --

10 Q. Yes.

11 A. -- I see a reference to Claims 1, 3,
12 4, 8, 10 and 11 of the '561 patent.

13 Q. Okay.

14 And then in paragraph 18, do you see
15 the reference to Claims 1, 3, 4, 10, 12, and 13
16 of the '942 patent?

17 A. Yes. So in paragraph 18 of the same
18 declaration, I have made a reference to Claim 1,
19 3, 4, 10, 12, and 13 of the '942 patent.

20 Q. Okay.

21 So when I refer to the challenged
22 claims through this deposition, I'm going to be
23 referring to these claims of the '561 and '942
24 patents referenced in these two paragraphs,
25 paragraph 17 and paragraph 18.

1 Is that understood?

2 A. Yes, that should be fine.

3 Q. Okay.

4 MR. WHITT: So could we mark as
5 Exhibit 2 the document that is titled
6 "Exhibit 2014," and this is going to be the
7 CV of Dr. Shenoy.

8 (CV of Dr. Prashant Shenoy was marked
9 Shenoy Exhibit 2 for identification, as of
10 this date.)

11 Q. If you can just please download this,
12 Dr. Shenoy. I'm going to have a look at PDF
13 page 29, in particular.

14 But first, could you just let me know
15 if this is a copy of your CV.

16 A. Let me download it.

17 Yes, this is a copy of the CV that was
18 filed along with my declaration.

19 Q. To your knowledge, is the information
20 in this CV true and accurate?

21 A. It is true and accurate as of the date
22 of the filing. Of course, that is a list of
23 publications in that CV, and I've had more
24 publications since the CV was filed.

25 Q. Are you a lawyer?

1 A. I'm not a lawyer, no.

2 Q. On page -- this is PDF page 29 of your
3 CV, there's a citation, C, as in cat, 207.

4 Could you just take a look at that,
5 and just let me know when you see that.

6 A. Yes, I see a citation to one of my
7 previous publications.

8 Q. And that is titled "Adaptive Push-Pull
9 of Dynamic Web Data: Better Resiliency,
10 Scalability and Coherency."

11 Do you see that?

12 A. Yes, that is the title of that paper.

13 Q. Okay. I'm going to mark what I think
14 is a copy of that. This is going to be the
15 exhibit with PDF named "Adaptive Push-Pull of
16 Dynamic Web Data," which we are going to mark as
17 Exhibit 3.

18 (PDF named "Adaptive Push-Pull of
19 Dynamic Web Data" was marked Shenoy
20 Exhibit 3 for identification, as of this
21 date.)

22 Q. I have highlighted a paragraph here on
23 the first page.

24 First, let me ask you: Does this
25 appear to be the paper that was referenced in

1 C207 of your CV?

2 A. Let me download it.

3 Yes, this is a paper that I published
4 with my students, this was many years ago, in
5 2010. Is what I recall from my CV.

6 Q. Okay.

7 And then, again, I highlighted a
8 paragraph here on the first page, so I'm just
9 going to read that into the record.

10 It says: In the rest of this section,
11 we, A, describe the problem of temporal
12 coherency maintenance in detail; B, show the
13 need to go beyond the canonical push- and
14 pull-based data dissemination; and, C, outline
15 the key contributions of this paper, namely, the
16 development and evaluation of adaptive protocols
17 for disseminating dynamic, i.e., time-varying
18 data.

19 Do you see that paragraph?

20 A. Yes, I do.

21 Q. And according to your CV, this article
22 was published in 20 -- 2001; is that right?

23 A. Let me look at the CV again.

24 Q. Let me -- sorry. Let me clear up that
25 question.

1 According to your CV, this article was
2 published in 2001; is that correct?

3 A. Yes, this was an article that was
4 published in May of 2001.

5 Q. Okay. And, so, what is a -- what is
6 the canonical push- and pull-based data
7 dissemination model that's discussed here in
8 this paragraph? Could you summarize that?

9 MR. SALIBA: Objection to form.

10 A. Sure.

11 So this publication was a research
12 paper that was trying to develop techniques for
13 ensuring that data that is cached at a machine
14 is up to date with regards to the original data.
15 And the article broadly looks at two different
16 techniques to ensure the coherency of that data,
17 which is a push-based and a pull-based
18 technique.

19 Q. Okay.

20 When you refer to the Canonical push-
21 and pull-based data dissemination, what do you
22 mean by the word "canonical"?

23 A. So in this paper, there are two
24 techniques that I looked at. One is push-based
25 and one is a pull-based, and the word

1 "canonical" simply, in this case of the paper,
2 means, how that technique was understood, but --
3 as a term in the art. Push-based was a server
4 push protocol and pull-based was a client pull
5 protocol.

6 Q. Okay.

7 So you're saying a person of ordinary
8 skill in the art would have understood this
9 canonical push-pull-based data dissemination to
10 refer to server push and client pull; is that
11 correct?

12 A. So as it is used in this paper, the
13 push is happening from the server's perspective
14 and the pull is happening from the client's
15 perspective.

16 So, from the perspective of this
17 paper, I think the canonical push and pull would
18 mean server push and client pull.

19 Of course, there are other ways to
20 perform push and pull from perspectives of
21 clients and servers. From the perspective of
22 this paper, it was referring to a server-push
23 and client-pull protocol.

24 Q. So when you say "server push," you're
25 talking about the server pushing data from the

1 server to a client; is that correct?

2 A. So again, in the context of this
3 paper, you're talking about server push, server
4 could -- because this paper is referring to
5 cache consistency as a problem to be
6 addressed -- the server could either push data
7 or could push a notification about that data to
8 the client. Both of those -- those would fall
9 into the server-push model.

10 Q. Okay.

11 And that's part of the
12 canonical-push-based functionality that you were
13 referring to here in this paragraph?

14 A. So here, again, I'm referring to
15 push-based-data dissemination, or canonical
16 push-data dissemination, so what I explained
17 earlier is in that context.

18 Q. Okay.

19 And did you analyze the patents that
20 have been challenged in the IPRs from the
21 perspective of a person of ordinary skill in the
22 art?

23 MR. SALIBA: Objection to form.

24 A. My declaration used a explanation of
25 what a person of ordinary skill in -- in the art

1 would be at that time.

2 And the opinions in my declaration are
3 based on how a POSA would have understood both
4 the patents and the references that we are -- we
5 have -- that I discussed in that declaration.

6 Q. And the person of ordinary skill in
7 the art would have understood how to push data
8 from a server to a client in 2001, right?

9 MR. SALIBA: Objection to form.

10 A. I'm not sure I can actually say that.
11 This was -- the paper we are talking about, was
12 a research paper. It was one of the early
13 papers at that time to talk about push
14 technology. Push technology was not common at
15 that time.

16 HTTP protocols had become prevalent at
17 that time; push was still fairly new. So I
18 would not assume that a POSA would actually know
19 whether it was common knowledge as to what a
20 push technology was and how to perform it. This
21 is why this was a research paper. It was not
22 something that was widely practiced at that
23 time.

24 Q. Okay. But you used the word
25 "canonical" here to describe a push-based model;

Box/Dropbox Exhibit 1045

1 is that correct?

2 MR. SALIBA: Objection to form.

3 A. So the description of that paragraph
4 we talked about, used the word "canonical," but
5 this is a research article, so that -- that term
6 is -- that the word "canonical" here is to be
7 understood from how researchers would have
8 understood push and pull, not a POSA -- how a
9 POSA would have understood push and pull.

10 Q. Just to clarify on the record, I think
11 you referred to the HTTP protocol earlier.

12 What is the HTTP protocol?

13 A. So, HTTP is an acronym which stands
14 for Hyper Text Transfer Protocol. It's the
15 protocol that is used by web browsers, web
16 clients and web application to exchange
17 information, and that is how a browser would
18 access a web page from a web server.

19 Q. Would a person of ordinary skill in
20 the art have been familiar with the HTTP
21 protocol in 2001?

22 A. A person of ordinary skill would have
23 known about the HTTP protocol because you had
24 web browsers and web servers and web sites that
25 you could access through the web browser, so

1 that was knowledge that a POSA would have
2 possessed.

3 Q. Is it a requirement to use the HTTP
4 protocol only with web browsers?

5 MR. SALIBA: Objection to form.

6 A. I -- I didn't understand the question.

7 Q. Sure.

8 Can you use the HTTP protocol to
9 implement anything other than a web browser, or
10 can it only be used to implement a web browser?

11 MR. SALIBA: Objection to form.

12 A. So, broadly speaking, the HTTP
13 protocol is a protocol that allows a client to
14 access information from a server, and this is
15 hypertext information.

16 One of the ways you can implement the
17 HTTP protocol is in a web browser and a web
18 server, but you could have other web
19 applications that could implement the HTTP
20 protocol as well.

21 Q. Okay. I'm going to go ahead and mark
22 your second declaration submitted in these IPRs.
23 This is going to be Exhibit 2025. If you could
24 please mark that as Exhibit 4.

25 (Prashant Shenoy second declaration

Box/Dropbox Exhibit 1045

1 was marked Shenoy Exhibit 4 for
2 identification, as of this date.)

3 Q. And, Dr. Shenoy, if you could please
4 download this, just let me know when you've got
5 that downloaded.

6 A. Okay. I have a copy of it downloaded
7 now.

8 Q. Great.

9 Is this the second declaration that
10 you submitted in these IPRs?

11 A. Yes, it's a copy of the second
12 declaration I submitted in this -- IPRs.

13 Q. Great. If we could go down to
14 paragraph 15, the first sentence here.

15 So you provided an opinion here
16 regarding the level of skill and knowledge of a
17 person of ordinary skill in the art; is that
18 correct?

19 A. Yes. So this is a paragraph that
20 describes my understanding of what a person of
21 ordinary skill in the art would be at that time.
22 And I also mention that I use the same
23 definition of a POSA that petitioner used.

24 Q. Okay.

25 MR. WHITT: And if we could please

Box/Dropbox Exhibit 1045

1 mark the PDF that's EX1028. This is
2 Balakrishnan DECL revised. I'm going to
3 mark this as Exhibit 5.

4 (Balakrishnan declaration revised was
5 marked Shenoy Exhibit 5 for identification,
6 as of this date.)

7 Q. Just let me know when you've got that
8 downloaded, please, Dr. Shenoy.

9 A. Okay. I have a copy of the exhibit.

10 Q. Okay.

11 And if you could please go down to
12 page 67. And we're going to take a look at the
13 paragraph 65 that's just under the heading with
14 Roman numeral V.

15 Just let me know when you're there.

16 A. Okay.

17 Q. Do you recall reviewing
18 Dr. Balakrishnan's opinions regarding the
19 provisional application in this section of his
20 report?

21 A. I have reviewed it at the time when I
22 prepared my declarations. That was a while
23 back.

24 Q. Okay.

25 And you have provided no opinions,

Box/Dropbox Exhibit 1045

1 regarding the provisional application that the
2 '561 and '942 patents claim priority to; is that
3 correct?

4 MR. SALIBA: Objection to form.

5 A. I didn't understand the question.

6 Q. Sure.

7 I'm just wondering, you know, I did
8 not see a response to any of Dr. Balakrishnan's
9 opinions in this section of his declaration in
10 either -- in either of your declarations that
11 you submitted in these IPRs. So I'm just
12 wondering, are you providing any opinion with
13 respect to the provisional application
14 referenced on the face of the '561 or '942
15 patents?

16 MR. SALIBA: Objection to form.

17 A. So my declaration provides an opinion
18 about the '561 and '942 patent. I don't recall
19 being asked to provide an opinion specifically
20 about any provisional applications.

21 Q. Okay.

22 So, if we could please go back to
23 Exhibit 4, which is your declaration,
24 Exhibit 2025.

25 In that first sentence in paragraph 15

Box/Dropbox Exhibit 1045

1 we were looking at earlier, you refer to a
2 person of ordinary skill in the art. That's
3 P-O-S-A, right?

4 A. I have used that acronym, P-O-S-A, to
5 mean the person of ordinary skill in the art,
6 yes.

7 Q. And then you refer to November 2007,
8 right, in that sentence?

9 A. That sentence does refer to a POSA as
10 of November 2007.

11 Q. Were you asked by counsel to provide
12 an opinion regarding the level of ordinary skill
13 of a POSA in November 2007?

14 MR. SALIBA: I'll just caution
15 Dr. Shenoy not to reveal any work product
16 privilege communications.

17 But outside of that caution, you can
18 answer the question.

19 A. Yes, when I prepared the declaration,
20 we discussed what a POSA -- what knowledge a
21 POSA would possess, and I came up with this
22 paragraph, which, as I note, was also similar to
23 what the petitioner had proposed as of that
24 date.

25 Q. Well, yeah. So let's just go back to

1 Dr. Balakrishnan's report here, which is
2 Exhibit 5.

3 So, let's take a look in particular
4 at -- this is going to be page 15.

5 He provides his opinion here regarding
6 the -- the level of ordinary skill in the art.

7 And he says in that first sentence in
8 paragraph 15, I understand that an assessment of
9 claims of the challenged patents should be
10 undertaken from the perspective of a person of
11 ordinary skill in the art as of the earliest
12 claimed priority date which I understand is
13 November 10, 2008.

14 Do you see that?

15 A. Yes, I do.

16 Q. So, I'm just wondering, why did you
17 provide an opinion with respect to November 2007
18 instead of November 2008?

19 A. So I don't recall all of the
20 discussion that occurred many month ago, but my
21 recollection is that I assumed that the earliest
22 priority date would be November 9, 2007, and I
23 provided the definition of a POSA from that
24 perspective.

25 Q. Okay. So have you provided any

Box/Dropbox Exhibit 1045

1 opinions from the perspective of a person of
2 ordinary skill in the art from the November 2008
3 timeframe?

4 A. So although my declaration used a
5 definition of a POSA from the perspective of the
6 November 2007 timeframe, by and large, most of
7 my opinions are going to be valid. Not much had
8 changed in terms of a web technologies in that
9 one-year timeframe, but, as stated in the
10 declaration, I have used the definition of a
11 POSA from the 2007 timeframe.

12 Q. Okay. You don't disagree with
13 Dr. Balakrishnan's articulation of the level of
14 ordinary skill in the art as of November 2008,
15 right?

16 A. I have no disagreement with
17 Dr. Balakrishnan on that particular issue.

18 Q. You understand that the '561 patent
19 and '942 patent share a common specification; is
20 that correct?

21 A. Yes. That is correct.

22 Q. I would like to take a look at --
23 let's go back to your declaration, Exhibit 2025.
24 So I think this -- I think we marked this as
25 Exhibit 4.

1 A. Okay.

2 Q. And if you could please turn to
3 paragraph 21.

4 So in this paragraph, you said, The
5 '942 patent discloses a system to perform full
6 file synchronization across multiple local
7 devices associated with a user through a server,
8 e.g., a user-centric architecture.

9 Do you see that?

10 A. Yes, that is what I said in paragraph
11 21 of my declaration.

12 Q. What do you mean by "user-centric"?

13 A. So, the '942 patent and -- and the
14 '561, as well, talk about a user wishing to
15 synchronize their files across multiple devices
16 that they own or they're associated with, and
17 the patent uses a server to perform such a
18 synchronization.

19 So from a user's perspective, their
20 files are synchronized on multiple local
21 devices. So that is what I mean when I say "a
22 user-centric architecture."

23 Q. And you understand that the challenged
24 claims require certain of the electronic devices
25 referenced in the challenged claims to be

1 associated with user, right?

2 MR. SALIBA: Objection to form.

3 A. So there are several claims both in
4 the '561 patent and the '94 patent, that use the
5 words associated with a user. So from that
6 perspective, many of these claims are talking
7 about synchronization from the perspective of
8 devices being associated with a user.

9 Q. When you refer to the systems and
10 methods of the challenged claims as being
11 user-centric, does that also mean that they are
12 written from the perspective of, you know, the
13 interactions that the user would perceive?

14 MR. SALIBA: Objection to form.

15 A. So broadly, as far as the patent is
16 concerned, not necessarily a specific claim of
17 that patent, again, the goal is to perform full
18 file synchronization across these multiple
19 devices that are associated with the user. And
20 as I have said earlier, that is the context in
21 which I used that phrase, "a user-centric
22 architecture."

23 The claims also have the phrase
24 associated with the user that is used in the
25 context of what the claim is trying to say, so

1 in both cases there is a notion of a user either
2 trying to perform full file synchronization or
3 devices being associated with the user.

4 So very broadly, that's all part of
5 this notion of user-centric architecture.

6 Q. Right.

7 And the challenged patents discuss the
8 prior art, and according to the challenged
9 patents, the alleged improvement in the
10 challenged patents over the prior art is sort of
11 the automatic full file synchronization from the
12 user's perspective, right?

13 MR. SALIBA: Objection to form.

14 A. So again, at a high level, what this
15 patents are teaching is systems and methods to
16 perform these full file synchronization that try
17 to address some of the issues that users faced
18 at that time when they were accessing their
19 files across multiple devices.

20 And they teach a particular type of a
21 full file synchronization that involves a server
22 and has some automatic steps that need to be
23 performed, and that allows for this full file
24 synchronization to provide files to a user and
25 whatever devices they are trying to use them on.

1 Q. So you referenced earlier that the
2 challenged claims recite associated with a user,
3 right?

4 A. Yes, some of the challenged claims use
5 that phrase.

6 Q. A device could be associated with a
7 user even if the user does not own the device,
8 right?

9 MR. SALIBA: Objection to form.

10 A. I haven't given a very specific
11 opinion on what exactly associated with a user
12 constitutes and what the scope of that term
13 means.

14 Certainly, if the user owns the device
15 and is using the device that is associated with
16 the user, but perhaps there were scenarios where
17 you have work computers that belongs to an
18 employer, but the user has an account on that --
19 on that machine and is using that machine.

20 Even in that scenario, the device
21 would be associated with that user.

22 Q. Let's take a look at paragraph 22 of
23 your declaration. So I believe you -- your --
24 yeah. You refer to the '942 patent, and you,
25 again, say it's user-centric.

1 And then you refer to a server
2 automatically receiving a modified file from one
3 device.

4 Do you see that?

5 A. Yes, I do.

6 Q. So the challenged claims -- we can
7 pull them up on the screen if you want to take a
8 look -- but they don't actually use the word
9 "server," right?

10 A. The challenged claims use terms like
11 "electronic devices." They don't explicitly use
12 the word "server" in them, but the specification
13 as servers and many of the embodiments that are
14 described in the patent.

15 Q. So an electronic device could be a
16 server, a laptop, a desktop computer, or a
17 mobile device, right?

18 MR. SALIBA: Objection to form.

19 A. So, broadly speaking, there are
20 different types of electronic devices that are
21 being discussed in this patent. Client devices,
22 which could be laptops, personal computers,
23 handheld devices and so on, and there are server
24 devices, which are server computers. The patent
25 uses both of those types of devices when it

1 describes its embodiments.

2 Q. And in paragraphs 23 through 26 of
3 your report here, so you discuss various
4 problems in connection with the computerized
5 file management systems in the prior art.

6 Do you recall -- do you recall that
7 testimony?

8 A. Yes. Starting at paragraph 23, I have
9 described the background in these patents, '942
10 and '561, which discuss some of the issues that
11 a user faced at that time.

12 Q. Right.

13 And one of those, if you take a look
14 at paragraph 25 in particular. In paragraph 25
15 you refer to files being stored in a single
16 central location, such as a server, rather
17 locally -- rather than locally on mobile
18 devices, and I think this was with respect to
19 remote desktop software, distributed file
20 systems and the FTP protocol.

21 Do you view the requirement that files
22 be stored in a single central location as a --
23 as a defect in the prior art that is addressed
24 by the challenged claim?

25 MR. SALIBA: Objection to form.

1 A. So what this paragraph is saying in
2 that specific sentence that you were describing,
3 was that there were many types of technologies
4 that were used at that time to access files.
5 Remote desktop software is one. The distributed
6 file systems were another. File transfer
7 protocols, or FTP, were yet another technology.
8 In all of these cases, there was a server that
9 stored files that users created.

10 Now, if you're trying to access this
11 files from other devices, we needed to make --
12 you needed to ensure that those devices had a
13 network connection to the server, but if the
14 network was a problem or if the network was not
15 accessible, then you could not access files on
16 those servers.

17 So, the patents are describing ways by
18 which you could actually have copies of those
19 files also stored on local devices, so that you
20 could continue to access them even if the
21 network became a problem.

22 Q. Then in paragraph 27, you have a
23 statement here that says, There were many
24 technologies for a client and a server to
25 communicate with one another.

1 You're referring to the prior art
2 in -- in that statement, right?

3 A. Yes. So this paragraph is still
4 describing the background on the prior art at
5 that time and is describing some other
6 technologies that were available at that time.

7 Q. And one of those was a TCPIP; is that
8 correct?

9 A. Yes. So the TCPIP protocol is a
10 widely used Internet protocol that is the
11 protocol that clients and servers used to
12 communicate with one another. Other protocols
13 like HTTP and FTP run on top of the TCPIP
14 protocol.

15 Q. Right.

16 When you say they "run on top,"
17 essentially, there can -- there can be multiple
18 layers in a communications setup, right? So, at
19 a lower layer, you can have the TCPIP protocol,
20 and then at a higher layer, you can have the
21 HTTP protocol sending messages back and forth at
22 a higher layer but still using the TCPIP
23 protocol; is that correct?

24 A. So yes. What you described at a very
25 high level is how a network protocol stack

1 operates, so the TCPIP protocol essentially
2 provide what is called a transport and network
3 layers of the protocol stack, and the HTTP
4 protocol provides what is called the application
5 layer of the protocol stack. And they are
6 stacked one on top of the other, so HTTP would
7 be using TCPIP to send its messages back and
8 forth.

9 Q. Did you implement a push-based model
10 of data transfer using TCPIP?

11 MR. SALIBA: Objection to form.

12 A. So, broadly speaking, a push-based
13 protocol simply means that -- a
14 server-pushed-based protocol simply means that
15 the server is pushing data to clients.

16 That protocol could be implemented for
17 any network protocol stack, and a TCPIP protocol
18 stack would be one example that could be used to
19 implement a push-based protocol.

20 Q. And later in this paragraph, there's a
21 sentence that says, In this manner, client and
22 server can use HTTP to exchange files with one
23 another.

24 Do you see that?

25 I think it might be on the next page.

1 Actually, no. Sorry. Yeah, yeah.
2 It's right there at the end. Yeah, the last
3 sentence in paragraph 27.

4 So can you describe at a high level
5 how a client and server can use HTTP to exchange
6 files with one another?

7 A. So at high level, HTTP is a protocol
8 that, as I've said earlier, allows information
9 to be exchanged between the client and the
10 server.

11 So one example that -- where we --
12 this could be done is a web browser sends an
13 HTTP request to the web server, and the web
14 server sends back an HTML file back to the web
15 browser. So now, HTTP has been used to exchange
16 an HTML file between the web server and the web
17 client. That's one example by which you can use
18 HTTP to exchange files.

19 MR. WHITT: And if we can please mark
20 exhibit -- I guess this is going to be
21 Exhibit 6. This is going to be the
22 document -- the PDF labeled "Exhibit 2022,
23 computer networks."

24 (PDF labeled "Exhibit 2022, computer
25 networks," was marked Shenoy Exhibit 6 for

Box/Dropbox Exhibit 1045

1 identification, as of this date.)

2 Q. If we could please turn to page 653.

3 MR. SALIBA: Just, Counsel, is this an
4 exhibit from the IPR, or is it separate?
5 Is this one of the 20s -- 2,000s or 1,000s.

6 MR. WHITT: Yeah, this is an exhibit
7 that Dr. Shenoy relies upon in his
8 declaration.

9 MR. SALIBA: I see now at the bottom
10 of the screen. Okay. Thank you.

11 Q. So, yeah --

12 MR. SALIBA: Sorry.

13 THE ONLINE TECHNICIAN: Sorry, it has
14 27 pages.

15 MR. WHITT: Yeah. So -- if -- I think
16 if you look -- let me just see if I can
17 find it -- I think there should be, like,
18 internal page numbers at some point.

19 Let's see.

20 Yeah. So if you go, like, almost all
21 the way to the bottom, there's some
22 internal page numbers. So those are going
23 to be PDF 23, actually, the 23rd page of
24 the PDF.

25 A. Okay.

1 Q. So, let me see here. At the bottom
2 there, there's a section that starts, "Request
3 messages."

4 And then in the second sentence under
5 there, there's a sentence that says, Although
6 HTTP --

7 Well, first of all, let me ask: So
8 you -- you rely upon this document in your
9 declaration; is that correct, Dr. Shenoy?

10 MR. SALIBA: Objection to form.

11 A. So this is a -- a well-known computer
12 networking textbook that is used to teach the
13 subject matter for many universities, and I have
14 used this textbook and the -- the specific
15 pages, and the chapter of the textbook to -- as
16 additional reference for opinions specifically
17 regarding HTTP.

18 Q. And a person of ordinary skill in the
19 art would have been familiar with the concepts
20 discussed in this textbook, right?

21 MR. SALIBA: Objection to form.

22 A. So, the -- the definition of POSA that
23 I used would assume some knowledge of computer
24 networking. And from that perspective, you
25 would know how HTTP worked at a high level.

1 Q. Okay. And going back to this
2 particular sentence we were looking at in this
3 exhibit, it says, Although HTTP defines a wide
4 assortment of possible request operations,
5 including right operations that allow a web page
6 to be posted on a server, the two most common
7 operations are get and head.

8 Do you see that sentence?

9 A. Yes, I do.

10 Q. Do you agree that HTTP includes write
11 operations?

12 MR. SALIBA: Objection to form.

13 A. So that's a pretty standard type of an
14 HTTP request. There are two that are very
15 common. There's one called "get" -- actually,
16 there are three that I recall -- and there's
17 get, which allows a client to fetch a file from
18 the server. And then there's another one called
19 "put" or a "post," that allows a client to send
20 information to the server.

21 So the write operation that is being
22 referenced here, is talking about either a put
23 operation or a post operation.

24 So a client can either send a file to
25 the server, or a client can fetch a file from

1 the server using HTTP.

2 Q. Okay.

3 And if we could go back to your
4 declaration, Exhibit 4. Paragraph 28 in
5 particular, you've got a hyperlink here at the
6 end of this paragraph that I -- that I believe
7 refers to ietf.org, a web page -- or some
8 content from that website.

9 Do you know what "IETF" is?

10 A. Yes, I think this is a document that
11 is called an RFC. "RFC" stands for request for
12 comment.

13 IETF is the organization that is
14 responsible for the developing Internet
15 standards. And this document being cited here
16 is basically the description of the HTTP
17 protocol as it was standardized by the IETF at
18 that time.

19 There have been many versions of it.
20 This is one version that was -- or this was the
21 version that was prevalent at the time.

22 Q. Okay.

23 MR. WHITT: And I would like to mark
24 as an exhibit, a PDF printout of this
25 hyperlink citation here. So this is going

1 to be the Wayback Machine-IETF, that
2 document, please.

3 I think this is Exhibit 7; is that
4 correct? Correct me if I'm wrong, but I think
5 that's Exhibit 7.

6 Q. So --

7 (PDF printout of the citation of
8 Wayback Machine-IETF was marked Shenoy
9 Exhibit 7 for identification, as of this
10 date.)

11 Q. So in this document, if we could go
12 down to Section 4 -- 1.4, which is going to
13 be -- it's going to be on page -- so this is
14 going to start on PDF page 11 at the bottom.

15 So, the first sentence here says, The
16 HTTP protocol is a request/response protocol.
17 Right?

18 A. So we are now looking at Section 1.4
19 of this RFC2616, which is describing the HTTP
20 protocol. And yes, that section starts with a
21 statement saying, HTTP protocol is a request
22 response protocol.

23 Q. Right. So one of those requests, I
24 think that you referenced earlier, is a put
25 request; is that correct?

1 A. So there are many types of HTTP
2 requests, and a put request is one such type of
3 an HTTP request.

4 Q. And a post request is another example;
5 is that correct?

6 A. A post request is another example of
7 an HTTP request.

8 Q. Could you describe the difference
9 between post and put?

10 A. So there are, as I said, different
11 types of requests that allow a client to
12 exchange information from a server.

13 A get request allows the server -- the
14 client to fetch information from the server.
15 And post and put requests allow the client to
16 send information to the server. They're similar
17 in nature.

18 A put allows the client to send a file
19 to the server. A post allows other types of
20 information to be sent from the client to the
21 server, such as submitting a web form that has
22 information that the user has filled out. But
23 both of these types of requests allow the client
24 to send information to the server.

25 Q. Right.

1 And then in going back to your
2 declaration in paragraph 29, paragraph 29 of
3 Exhibit 4, you say, An HTTP server plays the
4 role of a server in a client-server model by
5 implementing the server part of the HTTP
6 protocol, and then the server waits for incoming
7 client requests, and for each request it
8 responds by providing the requested information
9 or performing a requested task.

10 So one of those requested tasks could
11 be receiving information that is provided in a
12 put or post message; is that correct?

13 A. So again, broadly speaking, HTTP
14 protocol supports many types of requests: Get,
15 put, post, and there are others as well.

16 As I said in that sentence, the HTTP
17 server could respond to get requests, in which
18 case it will send information back to the
19 client, or it can respond to posts or put
20 request, in which case the client is sending
21 information to the server.

22 MR. WHITT: And the next exhibit I
23 would like to mark is -- let me see if I
24 could find it here -- so it's going to be
25 the one that's Hepworth-WO.

1 Q. See that one?

2 MR. WHITT: So I guess this will be
3 Exhibit 8.

4 (International patent application was
5 marked Shenoy Exhibit 8 for identification,
6 as of this date.)

7 Q. So if we could take a look at -- this
8 is going to be PDF page 28.

9 MR. SALIBA: Again, Counsel, just so I
10 can -- for my reference, is this from the
11 exhibits in the IPRs, or is that -- does
12 have exhibit -- an IPR exhibit number?

13 MR. WHITT: This is not an -- this is
14 not an IPR exhibit.

15 MR. SALIBA: Can I -- just give a
16 second. Can I get the full WO number from
17 the top?

18 MR. WHITT: Sure.

19 Yes. So it's -- just for the record,
20 this is WO, and then the number is
21 02/065359.

22 MR. SALIBA: Can the share screen put
23 the -- the front page on so I could just
24 see that, if that's all right?

25 Thank you.

1 MR. WHITT: Are you able to download
2 these, Raja?

3 MR. SALIBA: I -- I am, but then it
4 takes some time, so if you give me a
5 second, I can download each one; but ...

6 MR. WHITT: Okay.

7 MR. SALIBA: That was -- so, yes.

8 Q. Okay.

9 So let's look at -- let's see -- line
10 13.

11 The sentence that starts, However, the
12 implementation described herein uses HTTP to
13 provide push-type functionality based on a pull
14 protocol.

15 Do you see that sentence?

16 A. Actually, I'm trying to look for --
17 where is it now?

18 Q. PDF page 28. So this is going to be
19 internal page 26 under the heading, "Pushed
20 events."

21 A. Okay.

22 Q. And do you see the sentence I just
23 read there, the -- on line 13, it says, The
24 implementation described herein uses HTTP to
25 provide push-type functionality based on a pull

1 protocol?

2 A. Okay.

3 Q. So were you -- were you aware that
4 this is something you could have done back in
5 2002 when this publication was published?

6 MR. SALIBA: Objection to the form.
7 Foundation. Scope.

8 A. So I have not reviewed this document
9 before.

10 Just looking at this one sentence,
11 that's simply saying HTTP can be used to provide
12 push functionality based on the full protocol.

13 I don't know what that actually means.
14 It seems to mean that you're still using pull
15 and trying to emulate push rather than doing an
16 actual push. That's what it seems to indicate
17 to me.

18 Q. Sure.

19 Let's go back, yeah, before 2008.

20 Do you recall -- well, let me ask you
21 this way: Have you ever used a BlackBerry?

22 A. I have not used a BlackBerry, no.

23 Q. Okay.

24 Were you familiar back in the, you
25 know, early to mid-2000s, that BlackBerry had

1 implemented push notifications on their devices?

2 MR. SALIBA: Objection to form.

3 Foundation. Scope.

4 A. So I'm barely familiar with what a
5 BlackBerry did. It was an email device that you
6 could use to read emails on a phone-like device.

7 I don't know much with how it actually
8 performed with any of its operations.

9 Q. Okay.

10 What about AOL Instant Messenger, have
11 you ever used that?

12 A. I have not used AOL Instant Messenger
13 either.

14 Q. Okay.

15 You're an expert in networking
16 protocols, including push-based protocols; is
17 that correct?

18 A. So I've written papers on push-based
19 protocols; we talked about one of these papers
20 earlier in the deposition.

21 Q. So were you --

22 MR. SALIBA: Objection to form.

23 Sorry. I didn't get my objection in.

24 It was spoken over. But objection to form
25 to the previous question.

1 Q. Yeah. If you could just give your
2 counsel just a minute to object, that would be
3 great.

4 The -- so were you aware of the state
5 of the art with respect to push-based networking
6 before 2008?

7 MR. SALIBA: Objection to form.

8 A. There were many protocols that were
9 used in that timeframe and even earlier that
10 were used to do push.

11 An example was video streaming, which
12 I had worked on in the 1990s. Video streaming
13 used push-based protocols as one example. There
14 were other ways, other techniques, that were
15 also used to implement push at that time.

16 Q. Yeah. So let's take a look at --
17 again, on this page, starting here at the top.
18 It says, In this scenario, events or updates are
19 pushed to a user calendar. The concept of
20 pushed events may generally be based on push
21 protocols.

22 This means that in contrast to the
23 worldwide web, which is pull protocol in which
24 the user browser must request a web page before
25 it is sent. Push protocols send the

1 informational content to the user computer
2 automatically, typically based on information
3 prespecified by the user.

4 Is this sort of functionality
5 something that a person of ordinary skill in the
6 art would have been aware of before 2008?

7 MR. SALIBA: Objection to form.

8 Foundation. Scope.

9 A. So, again, I have not reviewed this
10 document before.

11 I'm just looking at what you have read
12 out, is this paragraph, and it's talking about
13 the worldwide web, which, as I've already
14 mentioned, is based on HTTP, which is a
15 pull-based protocol. And there were some
16 push-based protocols that were prevalent at that
17 time, and I give video streaming as one example
18 of a push-based protocol. There may have been
19 others, but I have not really thought about
20 all -- that are all the ones that a POA would
21 have been familiar with at that time.

22 Q. Let's take a look at the next --
23 actually, it would be two pages down, please.

24 Yeah. So, here at the top, it
25 provides an example of an implementation in this

1 particular document.

2 It says, One example of this would be
3 a subscription to weather forecasts. Having
4 done so, a user may thereby obtain a constantly
5 updating, i.e., ever up-to-date forecast for a
6 selected area. In order to enable forecast
7 updating, the server site 3 receives at
8 intervals during the day a feed of weather from
9 a third party, e.g., five-day forecast for a
10 number of global locations.

11 Based on the user's selected location,
12 the server then regularly pushes this forecast
13 as five different events, one event for each day
14 of the forecast period to the user. The server
15 also effects a push delete to remove old
16 forecasts.

17 So is this functionality something a
18 person of ordinary skill in the art could have
19 implemented prior to 2008?

20 MR. SALIBA: Objection to form.

21 Foundation. Scope.

22 A. Again, I have not read this document
23 before. And I don't know the full context of
24 what we are reading out here. This paragraph
25 seems to be talking about subscribing to weather

1 forecasts. Certainly there were
2 weather-forecast applications at that time.
3 It's talking about push.

4 It doesn't say anything about HTTP in
5 this paragraph.

6 So the question is: Are you using
7 HTTP to do push? That's a different question --
8 problem or issue altogether. There have been
9 other types of push protocols that perhaps could
10 have been used, but I really need to look at the
11 document to offer an opinion on what exactly is
12 happening in the context of this type of
13 weather-forecast application.

14 Q. Okay.

15 MR. WHITT: I'm going to mark the next
16 exhibit. This is going to be --

17 MR. SALIBA: I know we've been on the
18 record for about an hour, is this a good
19 time for a break, or do you want to go
20 through some questioning on the next
21 exhibit?

22 MR. WHITT: Yeah, we can take a break.
23 Yeah, if you want to do breaks every hour.

24 THE WITNESS: Yeah, this would be a
25 good time, actually. It's been an hour.

1 MR. WHITT: How long? Ten minutes?

2 Q. How long would you like to take a
3 break, Dr. Shenoy?

4 A. Let's say five minutes.

5 MR. SALIBA: Should we just say, 11:10
6 meet back?

7 MR. WHITT: Sounds good.

8 (A recess was taken from 11:03 to
9 11:12.)

10 MR. WHITT: So, Counsel, I think you
11 had mentioned when we started, that -- it
12 was your understanding that you could
13 actually confer with the witness about
14 redirect testimony that would be given
15 later.

16 Is that your understanding?

17 MR. SALIBA: The board has held that
18 the attorney can confer with the witness
19 between cross and redirect.

20 MR. WHITT: Okay. About the substance
21 of the testimony to be given during
22 redirect? Is that what you're saying?

23 MR. SALIBA: There's no restriction,
24 as I understand it.

25 MR. WHITT: Okay. Because I'm just

Box/Dropbox Exhibit 1045

1 looking at the P Tab Practice Guide,
2 because I'd never had this come up before.

3 So the P Tab Practice Guide says, Once
4 cross-examination of a witness has
5 commenced, and until cross-examination of
6 the witness has concluded, counsel offering
7 the witness on direct examination shall not
8 consult or confer with the witness
9 regarding the substance of the witness's
10 testimony already given or anticipated to
11 be given, except for the purpose of
12 conferring on whether to assert a privilege
13 against testifying or on how to comply with
14 the board order, or suggest to the witness
15 the manner in which any questions should be
16 answered.

17 So my interpretation of that is that,
18 you know, I may have cross-examination
19 after the redirect, and so, my
20 understanding is that, you know, the
21 witness should not be coached or otherwise,
22 you know, met with regarding the substance
23 of the witness's testimony till the
24 termination of all examination, both
25 cross-examination and redirect.

1 So I just wanted to state that on the
2 record, and that I object to you meeting
3 and conferring with the witness prior to
4 his redirect. Obviously, I can't stop you
5 from doing that, but I just wanted to state
6 that on the record.

7 MR. SALIBA: Sure.

8 So I'll -- there's a decision by the
9 board on this issue, and I'm happy to
10 locate it and share it with you. Maybe at
11 lunch.

12 MR. WHITT: That would be great.

13 MR. SALIBA: But it's pretty explicit
14 that once cross stops and before redirect,
15 because this issue had come up earlier on
16 in the IPRs, that the counsel is permitted
17 to confer with the witness.

18 MR. WHITT: Interesting. Okay.

19 Q. All right. Welcome back, Dr. Shenoy.

20 MR. WHITT: Let me see where we left
21 off here.

22 So, I think I was about to mark a new
23 exhibit, which I will do now. This is going to
24 be the exhibit that's US-10067942.

25 I forget -- I forget which exhibit

1 number we're on.

2 THE ONLINE TECHNICIAN: Exhibit 9.

3 MR. WHITT: Thank you.

4 (Document numbered US-10067942 was
5 marked Shenoy Exhibit 9 for identification,
6 as of this date.)

7 Q. Just let me know when you've got this
8 downloaded, Dr. Shenoy.

9 A. Okay. I have it.

10 Q. Great.

11 Is this the '942 patent that we've
12 been referring to?

13 A. Yes, this is a copy of the '942
14 patent.

15 Q. Great.

16 Could you please turn to Column 10,
17 please.

18 And we're going to start at line 48.

19 A. Okay.

20 Q. So, this particular paragraph starts,
21 While a preferred embodiment of the invention
22 has been illustrated and described, as noted
23 above, many changes can be made without
24 departing from the spirit and scope of the
25 invention.

1 For example, as an alternative to the
2 approach described with reference to Figure 3,
3 wherein the transfer clients 310, 320 function
4 to push modified or created files to the sync
5 application 380, the sync application 380 may
6 instead function to periodically pull or
7 otherwise actively retrieve such files from the
8 clients -- the transfer clients.

9 Do you see that?

10 A. Yes, I do.

11 Q. Okay.

12 And so, the challenged claims do not
13 use the word "push" or "pull," right?

14 A. The words "push" or "pull" do not
15 appear explicitly in the claims. In the -- in
16 those terms, the words "push" or "pull" are not
17 there in the claims.

18 Q. Right.

19 And they do appear in the
20 specification of the challenged patents; is that
21 right? In this section I just read?

22 A. My recollection is the word "push" and
23 "pull" appear in this paragraph. I don't
24 remember similar language being elsewhere in
25 this spec, but it is there in this paragraph

1 that you just read out.

2 Q. Right. And it's basically saying, you
3 know, the push-based model is interchangeable
4 with the pull-based model in this particular
5 context of transfer clients 310 and 320 and sync
6 application 380; is that correct?

7 MR. SALIBA: Objection to form.

8 A. I have looked at this paragraph and
9 thought about it carefully, and my opinion is
10 that this paragraph is describing additional
11 embodiments.

12 It says, While -- it starts with,
13 while a preferred embodiment of the invention,
14 and goes on.

15 So the preferred embodiment is what
16 I've been referring to as the push embodiment.
17 This is describing additional embodiments
18 saying, yes, you could do some of these steps
19 using a pull-based approach as well.

20 But as far as the claims are
21 concerned, I think they're still talking about
22 push.

23 Q. Okay.

24 And then after this particular
25 section, basically the specification ends, and

1 it provides no additional detail about how you
2 could periodically pull or otherwise actively
3 retrieve such files from the transfer clients.
4 Right?

5 MR. SALIBA: Objection to form.

6 A. So in this '942 patent, there is one
7 paragraph at the end of the specification that
8 talks about push or pull, and then the paragraph
9 does end there.

10 Q. Right.

11 And so, a person of ordinary skill in
12 the art wouldn't understand what is referred to
13 as "pushing" and "pulling" in this paragraph,
14 right? Because there's no additional detail
15 provided in the paragraph to describe how this
16 would actually be implemented, right?

17 MR. SALIBA: Objection to form.

18 Foundation.

19 A. I didn't understand the question.

20 Q. Sure.

21 So, I believe you said that the pull
22 embodiment here is an alternative embodiment; is
23 that correct?

24 A. That's right. That's my opinion as
25 far as this paragraph is concerned.

1 Q. Right.

2 And the inventors, when they reference
3 that alternative embodiment, they simply refer
4 to it in this one single sentence and provide no
5 further details about it, right?

6 A. That is -- indeed the case. It
7 mentions this periodic pull. There are no
8 additional details.

9 Q. And does the -- do the -- do the
10 challenged patents enable and describe their
11 claimed inventions?

12 MR. SALIBA: Objection to form.

13 Foundation. Scope.

14 A. I don't actually understand what you
15 were asking.

16 Q. Sure.

17 Is there anything that's described in
18 the specification of the '942 patent that you
19 believe a person of ordinary skill in the art
20 would not know how to implement without undue
21 experimentation?

22 MR. SALIBA: Same objections.

23 A. That's a broad question. I don't know
24 what aspect of the specification you are
25 referring to. There's a lot of embodiments.

1 Some of them have details; some of them, like
2 the pull sentence, don't have details.

3 I would have to think about what a
4 person of ordinary skill in the art would
5 understand or would not understand from an
6 implementation perspective.

7 Q. Okay.

8 So you see in this paragraph that we
9 just read, there's a reference to Figure 3; is
10 that correct?

11 A. Yes. There is a reference to Figure
12 3.

13 Q. And then there's a reference to
14 clients 310 and 320 and sync application 380; is
15 that correct?

16 A. There's a reference to clients 310,
17 320, and the sync application, 380.

18 And it's talking about, specifically,
19 data going from the client to the server, and
20 saying that you could push data from the client
21 to the server, or the server could pull data
22 from the clients, from the transfer clients.
23 That's what that sentence is referring to.

24 Q. You did consider this embodiment when
25 you were preparing your declaration, right?

1 A. I read that entire specification. I
2 looked at that embodiment. That embodiment of
3 pull is, from my opinion, not what the
4 challenged claims are talking about.

5 Q. Right.

6 But you provided no opinion as to
7 whether that particular embodiment is enabled or
8 adequately described in specification, right?

9 MR. SALIBA: Objection to form.

10 A. So I have not provided any specific
11 opinion about that sentence at all in my
12 declaration.

13 Q. Okay.

14 So the inventors clearly knew the
15 difference between a push and a pull, right,
16 based on this paragraph?

17 MR. SALIBA: Objection to form.

18 Foundation.

19 A. The inventors certainly talk about
20 using push to send data from a client device to
21 a server, or having the server pull files from
22 the client. So that they knew, and it's
23 actually mentioned in the sentence.

24 Q. And, in fact, it's such a basic
25 concept that they didn't even provide any

1 additional detail of the specification about
2 these concepts, right?

3 MR. SALIBA: Objection to form.
4 Foundation.

5 A. So I don't know what the inventors
6 were thinking or not thinking in this case.

7 It's entirely possible that they
8 mentioned this but decided not to have any
9 claims regarding pull, so they didn't provide in
10 the details. So I don't know why they didn't
11 provide any details. I cannot provide an
12 opinion on that.

13 MR. WHITT: If we could mark
14 Exhibit 10. This is going to be
15 Moromisato, M-O-R-O-M-I-S-A-T-O.

16 (U.S. Patent Number 7,734,690, by
17 Moromisato, was marked Shenoy Exhibit 10
18 for identification, as of this date.)

19 Q. And if you could please go down to
20 Column 1 after the figures.

21 First of all, do you recall reading
22 Dr. Balakrishnan's discussion of the Moromisato
23 reference in his declaration, generally?

24 A. I'm still trying to download it. Just
25 a --

1 Q. Okay. Sure. Yeah.

2 A. It's not yet showing up on my --

3 Q. Okay.

4 MR. SALIBA: You may need to refresh.

5 THE WITNESS: Yes.

6 A. Okay. I have the document now.

7 Q. Great.

8 Could you please turn to Column 1.

9 A. Okay.

10 Q. It's going to be the last line of that
11 column, actually. So there's a sentence there
12 that says, In order to change -- to change the
13 data, either a push or a pull model may be
14 employed. In a push model a collaborator
15 generates a data-change request that is
16 forwarded to each other collaborator. The
17 incoming data-change requests are then used by
18 each collaborator to modify its local data copy.

19 And in a pull model, one collaborator
20 modifies local data and offers up changes upon
21 asynchronous request. The other collaborators
22 issue requests, fetch and gather changes and
23 subsequently modify their local data copies to
24 reflect such changes.

25 Do you see that paragraph?

1 A. Actually, I -- I'm not able to locate
2 what you're reading out.

3 Is this Column 1 somewhere?

4 Q. Yeah, I thought it was Column 1. Let
5 me -- let me just make sure.

6 Yeah. So it's the -- that's
7 actually -- yeah. So it's just -- it's just
8 those last three words, actually, on the last
9 line of Column 1, and then it carries over to
10 Column 2, through line 9.

11 If you could read that to yourself.

12 A. Okay.

13 Q. Yeah. So -- again, this is -- this is
14 another example of a prior art reference
15 discussing the interchangeability between push-
16 and pull-data models.

17 And in the push, the collaborator
18 device generates a data change request that is
19 forwarded to other collaborators. So that --
20 that request could be, for example, HTTP put or
21 push, right?

22 MR. SALIBA: Objection to form.

23 Foundation. Scope.

24 A. So, this sentence that you were just
25 reading, which I've now located, talks about a

1 push or pull model, but there's nothing here
2 that talks about HTTP. And, as I've already
3 said, HTTP is a pull-based protocol. Right?

4 Even that reference that you showed a
5 little while earlier that was talking about some
6 weather application, that protocol, even if
7 it -- first of all, it didn't say it uses HTTP,
8 even if it uses HTTP, it has to use a pull
9 protocol. It's not a push protocol. The HTTP
10 does not have push functionality.

11 At best, you could use a pull-based
12 protocol to make it look like it was pushed, but
13 that's not a true push model at all.

14 So you -- I would disagree with the
15 statement that you can use HTTP to implement
16 this type of push functionality. That could be
17 other protocols, perhaps, which are not really
18 read yet, but I would not agree with the
19 statement that it's HTTP that's being used here.

20 Q. And you agree that the challenged
21 claims don't use the word "HTTP" anywhere in the
22 challenged claims themselves, right?

23 A. The challenged claims don't use the
24 word "HTTP," but the references that
25 Dr. Balakrishnan provided, they use "HTTP." The

1 real question is: Could you have used HTTP to
2 implement push because that's what the -- the --
3 the references teach? Not whether you could use
4 some arbitrary push protocol that's not HTTP,
5 and there's no suggestion on teaching that you
6 could even have done that.

7 Q. Right.

8 So the -- the language that -- let's
9 go back to the exhibit, the IETF exhibit. I'm
10 sorry. I forgot the exhibit number.

11 But let me just see if I can see what
12 the exhibit number is here.

13 THE ONLINE TECHNICIAN: I believe it's

14 7.

15 Q. Yeah. Yeah. If you can take a look
16 at this exhibit here. Let's go back down to
17 Section 1.4.

18 So -- yeah, this is going to be again,
19 PDF page 11.

20 A. Okay.

21 Q. So again, we have -- there's a
22 sentence here, The HTTP protocol is a
23 request-response protocol. I think we discussed
24 this earlier.

25 So, is it your opinion that a

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1 request-response protocol is necessarily a
2 pull-based protocol?

3 MR. SALIBA: Objection to form.

4 A. So, the reason it says here that the
5 HTTP is request-response protocol is that the
6 client has to send a request, and the server
7 provides a response. So from that perspective,
8 the client is pulling information from the
9 server. HTTP does not allow a server to send
10 information directly to clients without an
11 initial request from the client.

12 So in that sense, it's a pull-based
13 protocol.

14 Q. Right.

15 A. We do not use push in this
16 request-response protocol from the server's
17 perspective.

18 Q. Okay.

19 But if the client -- if client device
20 had an HTTP server in the client device, then
21 the client device could receive a -- a put or
22 post HTTP message that sends data in the put or
23 push message. Right?

24 MR. SALIBA: Objection to form.

25 A. Now you have a hypothetical which

1 says, let's assume that the client device is
2 actually running a server, it's an HTTP server,
3 and the server is now going to -- send
4 information to the client that to ...

5 Now, if you put a server process, an
6 HTTP server process, in the client, for this
7 message exchange is actually the server and the
8 other device becomes that client. So you can
9 transfer word processors, whatever you want, but
10 as far as HTTP is concerned in this hypothetical
11 example, it's still a request-response protocol.

12 Information is flowing from wherever
13 the client part of the HTTP protocol is running
14 to the server part of where the HTTP protocol is
15 running.

16 MR. WHITT: So let's take a look at --
17 I want to mark Exhibit-- the
18 Exhibit US-9,143,561, please.

19 And if you go all the way to the end,
20 and this is actually going to be
21 second-to-last page -- no, actually, the --
22 yeah, very last page.

23 MR. SALIBA: Give us a moment to
24 download. Is this a new exhibit? This is
25 Exhibit 11?

1 THE ONLINE TECHNICIAN: That is
2 correct, yes.

3 (U.S. Patent Number 9,143,561, by
4 Manzano, was marked Shenoy Exhibit 11 for
5 identification, as of this date.)

6 MR. SALIBA: It hasn't downloaded yet.

7 A. So I have the exhibit now.

8 Q. Okay.

9 And I would like to take a look at
10 Claim 4 on the last page.

11 So this claim refers to the situation
12 in which the first electronic device and the
13 third electronic device are not in
14 communication.

15 Do you see that in Claim 4?

16 A. Claim 4 has a phrase in it that
17 describes a scenario where the third electronic
18 device is not in communication with the first
19 electronic device.

20 Q. And the challenged patents discuss
21 embodiments in which you can temporarily store a
22 file in a server, and then when a client comes
23 back online, send that file from the server to
24 the client in order to complete a
25 synchronization process between two different

1 clients. Is that correct?

2 A. At a high level, there are embodiments
3 in the '561 and '942 patent that enable the
4 server to store files when it's not in
5 communication with a client device, and then
6 send those users' file to that device and that
7 device comes back online.

8 Q. So, I just want to talk about a very
9 simple hypothetical example. Let's say I have a
10 laptop, and I'm traveling, and I'm in Washington
11 Dulles Airport, and, you know, I want to use the
12 invention of challenged patents to synchronize
13 my laptop with a server.

14 And so, let's say that there's a file
15 on another computer that's associated with me
16 that has been updated that has been transferred
17 to the server.

18 So let's say I turn my computer on, my
19 laptop in the airport on, and I connect to the
20 airport WiFi, how does the server know how to,
21 you know, directly push that file to my computer
22 without my computer first sending any request to
23 the server?

24 MR. SALIBA: Objection to form.

25 A. So this is an hypothetical scenario

1 where you are describing yourself, or maybe some
2 other user, at an airport that is -- that's --
3 turning on a laptop, and then the laptop switch
4 was offline, has come back online.

5 Now, there are many ways for a server
6 to know when a client actually -- if it's online
7 or not. You -- you could use what are called
8 heart rate messages between a client and server
9 to know whether the server is -- sorry, the
10 client is online or offline. These are done
11 independently of any HTTP protocol, and they can
12 be done outside of any synchronization process
13 at all. There's a very standard way by which
14 you know when a machine is online or offline.

15 So there is one example. You don't
16 have to send a request. There are heart rate
17 messages that are exchanged between the client
18 and server that indicate whether the device is
19 up or not.

20 Q. Have you ever heard of DHCP?

21 A. Yes. DHCP is a very well-known
22 protocol. It's called Dynamic Host
23 Configuration Protocol that a client uses to
24 obtain an IP address.

25 Q. Right.

1 So if I were at the airport, and my
2 laptops used DHCP to obtain an IP address, it
3 would essentially be assigned an IP address for
4 a temporary amount of time that I'm in the
5 airport, and that IP address would likely be
6 different from any IP address that I would have,
7 for example, my home, right?

8 A. So again, in this hypothetical
9 example, you are describing a -- a laptop device
10 that is connecting to a new WiFi network and
11 using DHCP to obtain an IP address, and that IP
12 address will be, in this case, different from
13 any other IP address you may have had.

14 If you're using private IP addresses,
15 they could even be the same IP address actually.
16 Because you can reuse private IP address across
17 local area networks. If you are using a
18 public -- if you have a public IP, it will be
19 different. So it depend on the context whether
20 it will be different or similar.

21 Q. Okay. And a person of ordinary skill
22 in the art would have been familiar with what
23 DHCP is, right, before 2008?

24 MR. SALIBA: Objection to form.

25 A. So DHCP is a network protocol that

1 anyone with knowledge of computer networking
2 would have known about.

3 Q. Right.

4 MR. WHITT: I want to mark Exhibit 12.
5 Is going to be Aziz, A-Z-I-Z. And if we
6 can go down to Column 10.

7 Q. Just let me know when you've got this
8 file, Dr. Shenoy.

9 A. Yeah, I'm still trying to download it.
10 It hasn't shown up yet.

11 (U.S. Patent Number 5,416,842, by
12 Aziz, was marked Shenoy Exhibit 12 for
13 identification, as of this date.)

14 A. Okay. I have it now.

15 Q. Great.

16 So in Column 10, this is going to be
17 PDF page 15, starting on line 57, there's a
18 sentence that says, However, if the user is
19 carrying a portable computer and connects to a
20 public network facility where the computer is
21 dynamically assigned an IP address using a
22 protocol such as the Dynamic Post Configuration
23 Protocol (DHCP), the user's IP address is not
24 known.

25 Do you see that?

1 A. Yes, I see that sentence in this
2 reference that you just read out.

3 Q. So basically, a server would not know
4 what the user's IP address is and would not be
5 able to send a user information in the typical
6 case in which a laptop computer connects to a
7 public network using DHCP. Right?

8 MR. SALIBA: Objection to form.
9 Foundation. Scope.

10 A. So this sentence here simply says that
11 you can use DHCP to get a new IP address. The
12 IP address has changed.

13 There -- as I already mentioned, you
14 can use techniques like heartbeat messages for a
15 client and a server -- that there are exchange
16 between the client and the server for the server
17 to know when the client is online or not online.

18 And if you know that the client is
19 online, then you can push information to the
20 server based on whatever new IP address it has
21 actually obtained. You don't need to have an
22 HTTP request from the client to go to the server
23 for that process to begin, necessarily.

24 Q. Okay.

25 But the -- the client would have to

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1 first reestablish communication with the server
2 if it's using DHCP, right?

3 A. Again, broadly speaking -- I have not
4 reviewed this document in its entirety, but
5 broadly speaking, if you have a new IP address,
6 you would have to reestablish communication, and
7 then the server could push information to the
8 client.

9 That reestablishing communication is
10 not client pull. It's simply a matter of
11 establishing a TCP/IP connection. I would not
12 refer to that as a client pull or anything like
13 that.

14 Q. Okay.

15 So let's go to paragraph -- let's go
16 back to Exhibit 4, which is your declaration,
17 Exhibit 2025.

18 And if we could go, please, to
19 paragraph 39. And just let me know when
20 you're -- there we go.

21 So you have a statement here that says
22 that, The challenged claims require the server
23 to automatically transfer a modified file
24 without a request from the client for the
25 modified file.

1 Is that your testimony?

2 A. You're talking about paragraph 39 now?

3 MR. SALIBA: Objection to form.

4 Q. Yes. Specifically -- so it says in
5 parentheses, Without a request from -- yeah, let
6 me just read the prior part too.

7 So it says, starting there on the
8 fourth line of paragraph 39, Where a server
9 automatically receives a modified file from one
10 device associated with a user when the user
11 modifies the file and the server automatically
12 transfers the modified file (i.e., without a
13 request from the client for the modified file).

14 Do you see that?

15 A. Yes, I do.

16 Q. My question is, where in the
17 challenged claims is the limitation: Without a
18 request from the client for the modified file?

19 We can look at the patents, if you
20 want.

21 A. Sure.

22 So as I've explained here, and there
23 is a lot of explanation about this particular
24 issue, the challenged claims are talking about
25 the server automatically transferring the

1 modified file.

2 And so this goes down to -- to the
3 issue of what a server automatically
4 transferring the modified file means.

5 And my opinion is, if it's automatic
6 transfer from the perspective of the server, the
7 server has to initiate that action, and that is
8 what "automatic" means in that context.

9 Q. Okay. Let's just take a look at an
10 example. Let's go back to the '942 patent,
11 which, I believe, is the -- Exhibit-- Exhibit 9?

12 A. Okay.

13 Q. So let's go all the way to the bottom,
14 please, and -- actually, if you could go to the
15 second-to-last page -- sorry, one more page up.
16 So this is where Claim 1 starts, yeah, there at
17 the bottom.

18 So, do you see Claim 1 starts, "A
19 system comprising"?

20 A. Yes, I do.

21 Q. Do you know what the word "comprising"
22 means in the context of patent claims?

23 A. I don't know if you're asking a legal
24 question; I don't know the legal interpretation
25 of it. I'm just looking at it as a technical

1 person, and just saying a system comprising as
2 if it has those aspects that are in the claim.

3 Q. So you've never -- like, have you
4 ever -- did -- you're not familiar with the
5 concept of what the word "comprising" means in a
6 patent claim?

7 MR. SALIBA: Objection to form.

8 A. You're asking, again, a legal
9 question. I don't know if there's any legal
10 aspect to what you're asking. I just read it as
11 a system comprising means it has all of those
12 things that follow it.

13 Q. Okay.

14 So you provided no opinion in these
15 IPRs regarding what the word "comprising" means,
16 right?

17 MR. SALIBA: Objection to form.

18 A. I have not provided any specific
19 testimony in my declaration about the word
20 "comprising."

21 Q. And you have received -- you have
22 received no instruction from counsel about what
23 that word "comprising" means, right?

24 A. I was not asked to opine on that
25 matter.

1 Q. Okay.

2 So is that a yes to my question, that
3 you have received no instruction from counsel as
4 to what that word means?

5 MR. SALIBA: Objection to form.

6 A. I don't recall discussing any aspect
7 of comprising. I just read the claim as I
8 understood it as a technical person.

9 Q. Okay.

10 Let's take a look in this same
11 document, at Column 7, starting at line 28.

12 So, the -- the '942 patent says,
13 System 200 includes electronic user devices 210
14 and 280, such as personal computers or
15 workstations, that are linked via a
16 communication medium, such as a network, e.g.,
17 the Internet, to an electronic device or system
18 such as a server.

19 So, in at least this embodiment of the
20 patent, it's talking about a connection over the
21 Internet to a server, right, between -- between
22 the server and the client devices?

23 A. The sentence that you just read out is
24 talking about an embodiment where the two client
25 devices of the user devices are connected to the

1 server or a networks such as the Internet.

2 Q. Right.

3 And when two devices connect over the
4 Internet, there is a handshake process that must
5 occur, at least at the TCPIP level; is that
6 correct?

7 A. So in a -- two devices were to
8 communicate over the Internet, they would first
9 establish a TCPIP connection.

10 Q. Right.

11 So the -- the -- the client would
12 necessarily need to request that connection
13 first to the server because of what we discussed
14 earlier about DHCP and the fact that the server
15 is not going to know, in the common -- the most
16 common embodiment, where the client is located.
17 Right?

18 A. So I wouldn't say the client is making
19 a request to the server. Establishing a TCPIP
20 connection is not the same as making a request.
21 It's just establishing a connection that could
22 be established from the client, or in some other
23 cases, it could be established from the server,
24 and it is very different from the client
25 actually making a request to the server.

1 Q. So, you -- when you refer to a request
2 to the server, are you referring to a request
3 for a specific file? Is that what you're
4 referring to?

5 A. So, when I'm talking about making a
6 request to the server, I'm broadly referring to
7 the client actually asking the server for
8 information. I'm not referring to, well, the
9 client has already established a TCP/IP
10 connection.

11 That's a very foundational thing that
12 always has to happen for any Internet
13 communication to take place. So the request
14 actually is comes after the connection has been
15 established.

16 Q. Let's take a look at Figure 3, please,
17 of this document. So I think these would be --
18 if you scroll up to PDF page --

19 MR. SALIBA: Are we talking about the
20 document on the screen, Counsel, or --

21 MR. WHITT: Yeah, the document on the
22 screen. This is PDF page 6.

23 Q. So, in connection with this Figure 3
24 here, so this is showing bidirectional
25 communication between two user devices and a

1 server; is that correct?

2 A. So this figure shows two user devices,
3 210 and 280, that are communicating with the
4 server. There are arrows going back and forth
5 from the device to the server and the server to
6 the device, which indicates some form of
7 bidirectional communication.

8 Q. Right.

9 So information could go from the
10 server component 370 to the client component
11 370, and then information could go from the
12 client component 315 to the server component
13 315. Is that correct?

14 A. So again, you are -- you pointed to
15 two arrows in this figure. The first arrow
16 shows information going from Box 370 at the user
17 device to Box 370 at the server device, and then
18 there is another arrow going from the other user
19 device to the server. Those boxes are 315, and
20 that's arrow going from the client device to the
21 server.

22 Q. And then, similarly, there's an arrow
23 going from Box 370 in the other clients to Box
24 370 in the -- to a different 370 in the server,
25 and then there is a different -- actually, no,

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1 sorry, the same component, 315, and the server
2 going to a different component in the other user
3 device, which is not labeled on the left here;
4 is that correct?

5 A. Yes. Again, you are describing
6 various arrows that are showing information
7 going between clients servers and back to
8 clients. There is an arrow going from Box 315
9 at the server to an unlabeled box on User Device
10 210, and then there is another arrow going from
11 370 at the server to Box 370 at User Device 280.

12 Q. So the some of bidirectional
13 communication between a client and server was
14 not something that was novel or -- or -- unknown
15 at the time of the alleged invention of the
16 challenged patents, right?

17 MR. SALIBA: Objection to form.

18 A. So, there are various ways
19 communication can occur over the Internet. If
20 you're establishing a TCPIP communication, or
21 connection, that's bidirectional, that's
22 well-known. But if you're using plain TCPIP to
23 communicate, you can have information go in
24 either direction.

25 And then if you're using plain HTTP

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1 over TCPIP, even though the TCPIP connection is
2 bidirectional, HTTP, as I said, is a
3 request-response protocol, so it requires the
4 client to first make a request to the server in
5 order to retrieve information.

6 So, although the notion of
7 bidirectional communication was well known, I do
8 want to distinguish between bidirectional
9 communication, or TCPIP, and how communication
10 actually occurs when HTTP protocol is being used
11 over TCPIP. The two are different.

12 Q. Okay. Let's go to -- the next exhibit
13 is going to be Sigurdsson.

14 MR. WHITT: I think this is
15 Exhibit 13.

16 THE ONLINE TECHNICIAN: 13.

17 MR. WHITT: Is it 12 or 13? Sorry.

18 THE ONLINE TECHNICIAN: 13.

19 MR. WHITT: Great.

20 (U.S. Patent Publication Application
21 2007/0174246, by Sigurdsson, was marked
22 Shenoy Exhibit 13 for identification, as of
23 this date.)

24 Q. Just let me know when you've got
25 Exhibit 13, Dr. Shenoy.

1 A. I'm still waiting for it to show up.
2 Give me a moment.

3 I have it now.

4 Q. Great.

5 Could you please look at Figure 3 on
6 PDF page 4 of this exhibit.

7 And do you recognize this as one of
8 the prior art references that Dr. Balakrishnan
9 relies upon in his declaration?

10 A. Yes, I do. And I have Figure 3 in
11 front of me.

12 Q. Great.

13 And I would like to look specifically
14 at Client B here on the right.

15 Do you see Item 356 in Client B, the
16 HTTPS client/server?

17 Do you see that?

18 A. That's a box labeled "356." That is
19 labeled "HTTPS client/server" there.

20 Q. Yes.

21 So that refers to both an HTTP client
22 and an HTTP server being in this Client B,
23 correct?

24 MR. SALIBA: Objection to form.

25 A. I actually don't know what it is

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1 referring to, whether it is HTTPS or Client B,
2 just "client/server."

3 I'll have to look at any description
4 of this figure before I can opine on whether
5 there's a server running in the client.

6 Q. Sure.

7 Let's take a look at paragraph 47 in
8 this Sigurdsson reference.

9 And, specifically, let's take a look
10 at -- this is going to be towards the bottom, I
11 think it's the second-to-last sentence here. It
12 says, The client -- the HTTPS client/server 326
13 can be used as a client that tracks web access
14 and can contain a timestamp 328, which
15 associates viewed web pages with a time that
16 they were accessed by the user. The HTTPS
17 client server can also be used as a server to
18 provide content to peer clients, which is
19 described in more detail below.

20 Do you see that?

21 A. Yes, I do.

22 Q. Okay. So, based on this description,
23 the HTTPS client/server refers to something that
24 can be used as both an HTTPS client and an HTTP
25 server. Is that correct?

1 A. So -- so -- this particular sentence
2 that you just described is talking about the
3 device communicating with other peer client
4 devices.

5 So if you have peer-to-peer
6 communication, you have to have -- and you're
7 using HTTP for the two peers to communicate with
8 each other, then you need both an HTTP client
9 and an HTTP server to run on those peer-client
10 devices.

11 I will say that Sigurdsson has
12 different embodiments, it has a client/server
13 embodiment, and it has a peer-to-peer
14 embodiment. If you are now saying because the
15 client is running client process and a server
16 process, it can implement some sort of a push,
17 that would require the server component of
18 Sigurdsson to also run a client process, and I
19 don't see any such disclosure.

20 So this is really talking about
21 peer-to-peer embodiments, in which case, you, of
22 course, need this functionality.

23 Q. Okay. But my specific question is,
24 this particular HTTPS client's server that is
25 referenced with respect to this particular

1 client device, can function as either an HTTP
2 client or an HTTP server. Is that correct?

3 MR. SALIBA: Objection to form.

4 A. So, as far as the sentence is
5 concerned, it says it can function as an HTTP
6 client or an HTTP server to provide content to
7 other peer clients. It doesn't say anything
8 about using that functionality for providing
9 content to servers.

10 Q. Right.

11 I'm not asking about how it functions.
12 I'm just saying, as a general matter, this is
13 referring to a client device that has an HTTPS
14 client/server that can be used as either an
15 HTTPS client or an HTTPS server. Is that
16 correct?

17 MR. SALIBA: Objection to form.

18 A. So again, I would say that that client
19 device can function both as an HTTP client or an
20 HTTP server to provide content to other peer
21 clients, which is what that sentence states
22 there.

23 Q. Right. Okay.

24 So it does contain an HTTP -- an HTTPS
25 client and an HTTPS server. Right?

1 MR. SALIBA: Objection to form.

2 A. It does have an HTTP client and an
3 HTTP server, but, as I noted previously, this is
4 in the context of providing content to peer
5 clients.

6 Q. Right.

7 Yeah, I'm not asking about how it's
8 used. I'm just saying it does have an HTTP
9 client and an HTTP server. Right?

10 MR. SALIBA: Objection to form.

11 A. As I said, it has both of those
12 functionalities, but I -- I will clarify that,
13 as far as this embodiment is concerned, it's
14 saying that it's used for peer clients.

15 Q. Okay.

16 And do you recall testimony from
17 Dr. Balakrishnan that the clients in Sigurdsson
18 are fungible or, you know, they contain the same
19 components?

20 MR. SALIBA: Objection to form.

21 A. I don't remember that specific
22 testimony or the context. He may have said it,
23 but that was a long deposition or long
24 declaration.

25 Q. Sure.

1 Let's just go back to
2 Dr. Balakrishnan's exhibit, so this is the
3 Exhibit 1028. We can go to that. And then go
4 to paragraph 112.

5 A. Did you say Exhibit 8? Because that's
6 a different exhibit.

7 Q. No. It's -- I actually don't know
8 what the exhibit number is. This is just ...

9 MR. WHITT: Maybe you can help me out,
10 yeah --

11 THE ONLINE TECHNICIAN: Yeah. I
12 believe it's Exhibit 5. I'm just going to
13 bring it up now.

14 MR. WHITT: Okay. Thanks.

15 THE ONLINE TECHNICIAN: Is this the
16 correct one?

17 MR. WHITT: Yes. Yes.

18 THE ONLINE TECHNICIAN: Page number?

19 MR. WHITT: I think it's going to be
20 PDF page 99.

21 Q. So -- yeah. So this is going to be --
22 I think, actually -- yeah, sorry. It's going to
23 be paragraph 1 -- 122. Sorry about that.

24 So this is on PDF page 107.

25 So the last sentence here, four lines

Box/Dropbox Exhibit 1045

1 from the bottom of page 107, it says, Sigurdsson
2 explains that the client systems it describes
3 are fungible, and explains that for any
4 particular user, the synchronization steps
5 described in Sigurdsson may be used for any of
6 the user's clients.

7 Do you see that sentence?

8 A. Yes, I do.

9 Q. And you don't provide any rebuttal
10 testimony regarding this particular statement or
11 concept in Dr. Balakrishnan's declaration,
12 right?

13 MR. SALIBA: Objection to form.

14 A. So I don't recall saying anything
15 specific in my declaration about that specific
16 sentence, but in the broader context of what
17 Sigurdsson teaches, I do have provided -- I do
18 have opinions in my declaration.

19 Q. And if we could go back to the
20 Sigurdsson reference, Exhibit 13.

21 And please take a look at paragraph
22 54.

23 A. Okay.

24 Q. And so this paragraph explains here,
25 in the -- in the last sentence. It says, For

1 example, referring to Figure 4, the HTTPS
2 Client/Server 326 of the Client A, 102 can
3 transmit an HTTP post command containing the
4 Client X content to the Server 106.

5 Do you see that?

6 A. Yes, I do.

7 Q. So this would be an example of pushing
8 data from the client to the server. Is that
9 correct?

10 A. This is indeed an example of the
11 client pushing data to the server. That
12 functionality has always existed in HTTP, which
13 is very different from the server pushing
14 information from the client.

15 As we already spoke about earlier, you
16 have HTTP puts and HTTP post that allow clients
17 or browsers to send information to the server.

18 Q. And so let's take a look at a
19 Figure -- sorry, paragraph 51 of Sigurdsson. So
20 this --

21 MR. SALIBA: Are we looking at the
22 same --

23 MR. WHITT: Yeah, same exhibit. So
24 this is --

25 MR. SALIBA: Actually, can you send me

Box/Dropbox Exhibit 1045

1 a set of the reference?

2 MR. WHITT: Paragraphs 51 of
3 Sigurdsson, yeah. This is Exhibit 13.

4 Q. So there's a sentence in here that
5 says -- I'm trying to find it exactly. The
6 server can be used -- so, yeah, this is going to
7 be -- like, seven lines from the bottom -- or
8 eight lines, I guess.

9 It's the sentence toward the end
10 there. It says, The Dropbox or storage
11 capabilities of Server 106 can be used, for
12 example, if a particular client is offline when
13 the first attempt is made to deliver new content
14 to it.

15 And then, actually earlier, it says,
16 this is going to be -- yes, six lines from the
17 top. It says, The peer-to-peer aspect of System
18 400 is the addition of direct sharing content
19 among the clients 102, 104 and 10 -- and 406,
20 thus bypassing the server.

21 So, my question is, basically, the --
22 the server in this -- in this and other
23 embodiments in Sigurdsson, could communicate
24 with clients in the same way that the clients
25 communicate with each other in the peer-to-peer

1 embodiment; isn't that correct?

2 MR. SALIBA: Objection to form.

3 A. I don't see any disclosure here that
4 says that the server can push information to
5 clients.

6 If you implement a peer-to-peer
7 system, you have to ensure that peers can
8 communicate with each other, so they do have to
9 have from that specific embodiment, the ability
10 to both pull or push, but then you have a client
11 server architecture.

12 There's no disclosure here that says
13 the server had push capability, and all of the
14 disclosures are actually pull-based disclosures.

15 Q. So the first sentence of this
16 paragraph 51, it says, Figure 4 is a schematic
17 showing a System 400 for sharing and
18 synchronizing content using a mixed peer-to-peer
19 and client/server architecture.

20 Do you know what Sigurdsson is
21 referring here -- referring to here as a mixed
22 peer-to-peer and client server architecture?

23 A. Yes. I have actually explanation
24 about this embodiment in my declaration. So
25 it's describing a scenario where if the two

1 peers that want to communicate are both online,
2 they just use peer-to-peer direct transfer
3 that -- that bypasses the server altogether.
4 You don't need the server, and you can save some
5 network resources by removing that intermediary.

6 But on the other hand, if two peers
7 want to communicate but one of the peers is
8 offline, then the peer can send information to
9 that offline peer. So in that case, the peer
10 sends information to the server, and then the
11 server keeps it in what is referred to as a
12 "dropbox."

13 And then when the offline peer comes
14 online again, then it actually pulls or
15 downloads information from that server.

16 Q. Right.

17 And there's no disclosure at
18 Sigurdsson that distinguishes between the types
19 of HTTP communications that occur between an
20 HTTP client to the server in the dropbox context
21 or an -- a client to another client in the
22 peer-to-peer context. Right?

23 MR. SALIBA: Objection to form.

24 A. I didn't understand the question,
25 actually.

1 Q. Sure.

2 So, Sigurdsson does not distinguish
3 between the types of HTTP communications that
4 implement communications from a client to a
5 server in the dropbox implementation or from a
6 client to a client in the peer-to-peer
7 embodiment. Is that correct?

8 MR. SALIBA: Objection to form.

9 A. So Sigurdsson has some very clear
10 disclosures of how the clients actually
11 communicated the server. There are flow charts
12 in Figures 6, Figure 2 and so on, that show how
13 the client is communicating with the server over
14 HTTP.

15 There is less disclosure of how the
16 peer-to-peer communication occurs. There is a
17 little bit of that in Figure 6, but there's very
18 clear disclosure of how the client-to-server
19 communication works.

20 So, I would say that part is really
21 clear; it is pull based. So there's no -- no
22 confusion there. This client is requesting the
23 same content from the server and downloading it
24 from the server.

25 Q. Okay.

1 So I think you referenced Figure 2.
2 Let's take a look at Figure 2, please. PDF page
3 3.

4 Figure 2 does not actually use the
5 word "HTTP" anywhere, right?

6 A. Figure 2, it does not use the word
7 "HTTP." I'd have to look at the description of
8 Figure 2. It's a pull-based protocol. And you
9 have -- you talked about having HTTP
10 functionality at clients and servers before.

11 But the word "HTTP" doesn't appear in
12 the figure, if that's what you're asking.

13 Q. Right. So you said it was a
14 pull-based protocol.

15 What about the Step 206 here from
16 Client A or the left, where it says, "Post
17 content to the server"? That's not a pull-based
18 implementation, right?

19 A. Right. So there is a post step from
20 Client A to the server, and the post actually
21 uploads content that pushes content from the
22 client to the server, but that's client push.
23 Right?

24 We have to distinguish between whether
25 clients could push information to the server or

1 HTTP, and that functionality has always been
2 present from server push, which is, can the
3 server push information to the client.

4 So all I've said in my declaration is
5 HTTP, because it's a request-response protocol,
6 the server cannot push information to the
7 clients. Clients have always been able to push
8 information to the server or download
9 information to the server; that's been part of
10 HTTP since the very beginning.

11 So this step that you just pointed to,
12 is just a client pushing information to the
13 server; that's a client-push functionality.
14 That's not served. The server did not gain push
15 functionality because of that disclosure.

16 Q. Right.

17 So are you interpreting the -- the
18 words "client server" and "client" here at the
19 top of this figure to mean HTTP client and then
20 HTTP server and then HTTP Client B, I guess? So
21 there's two -- is that your understanding that
22 this is two HTTP clients and an HTTP server?

23 MR. SALIBA: Objection to form.

24 A. So as far as the Sigurdsson reference
25 is concerned, it talks about communication over

1 HTTP. So a reasonable interpretation of
2 Figure 2 is, Client A and Client B run an HTTP
3 client. Client machines A and B run HTTP client
4 process and the server machine and then HTTP
5 server process.

6 Q. Right. But let's go back down here to
7 Figure 3 on the next page.

8 You see over there on the right, that
9 Client B -- that's the same device. It's client
10 -- it's the same Client B that is referred to in
11 Figure 2. That includes an HTTPS client and an
12 HTTPS server. I think we've already established
13 that. Right?

14 MR. SALIBA: Objection to form.

15 A. So we had that discussion previously.
16 And as I also mentioned, because Sigurdsson has
17 both the peer-to-peer embodiment and a
18 client-server embodiment, but the peer-to-peer
19 embodiment it is required for clients to
20 actually have that server functionality.

21 But when the client is communicating
22 with the server, which is the one that -- the
23 box that is shown in the middle in Figure 3,
24 Client A and Client B just function as client.
25 The server part is not used as far as Figure 2

1 is concerned.

2 MR. SALIBA: Counsel, I know we've
3 been going a little over an hour.

4 MR. WHITT: Would you like a break?

5 MR. SALIBA: So, Dr. Shenoy, what time
6 would you like to take a lunch break?

7 THE WITNESS: We could do it now, and
8 then come back in a half hour or so.

9 MR. SALIBA: Is that okay with
10 everyone? Should we just take a 45-minute
11 lunch break?

12 MR. WHITT: Yeah. You want to come
13 back at 1:05?

14 MR. SALIBA: Yes. Sounds good. Thank
15 you.

16 Counsel, are we on the record, or are
17 we off the record?

18 MR. WHITT: That's up to you.

19 MR. SALIBA: I promised you I would
20 give you a reference to a -- a P Tab
21 decision. If you look at IRP 2014-00116,
22 paper 19, the board stated in explaining
23 its -- its guidelines, that the prohibition
24 of conferring with the witness ends once
25 cross-examination concludes, and if

1 relevant, begins again when recross
2 commences and continues until recross
3 concludes.

4 The prohibition does not exist,
5 however, during the timeframe between
6 conclusion of cross-examination and start
7 of recross.

8 And they also cite their colleague's
9 decision in Google IPR 2013-00191, paper
10 48, where it's counsel is permitted to
11 confer with the witness before redirect
12 examination begins.

13 MR. WHITT: Okay. Thank you for
14 sharing that.

15 MR. SALIBA: You might take a look at
16 that, and -- let me know if you still have
17 an objection after you've had a chance to
18 consider it.

19 MR. WHITT: Sure. I'll take a look at
20 that. Thanks.

21 MR. SALIBA: Thank you, we can go off
22 the record.

23 (Luncheon recess at 12:21)
24
25

A F T E R N O O N S E S S I O N

(1:05)

PRASHANT SHENOY

resumed, having been previously duly sworn by a Notary Public, was examined and testified further as follows:

CONTINUED EXAMINATION BY MR. WHITT:

Q. Welcome back, Dr. Shenoy.

A. Thank you.

Q. So I believe we were talking about the Sigurdsson reference. If we could go back to that for a bit.

MR. WHITT: Actually, before we do that, Counsel, I did take a look at that decision, so I will withdraw the objection. I do want to just state, for the record, though, that, you know, that decision doesn't say that attorney-expert communications are privileged, so -- and, you know, I assume that Dr. Shenoy is not here representing Topia Technology in any official capacity and that he is not your client. Is that correct?

MR. SALIBA: So he's an expert for

Box/Dropbox Exhibit 1045

1 Topia. He is engaged in that purpose.
2 Communications with the expert to the
3 extent -- and he's also an expert in other
4 matters relating to these patents, as I'm
5 sure you're aware of. So communications
6 with this expert may pertain -- it may be
7 privileged, it may be work product.

8 MR. WHITT: Okay. Yeah, I mean, to
9 the extent that he relies on anything from
10 you for his opinions during redirect, I --
11 you know, I -- I think that those would be
12 fair game for me to ask him questions
13 about, so, you know, I'll withdraw the
14 objection subject to those comments.

15 Q. So let's take a look at Sigurdsson,
16 paragraph 68, please. This is going to be on
17 page -- PDF page 16.

18 A. Okay.

19 Q. So, this paragraph says, An
20 alternative embodiment --

21 Well, first of all, this is referring
22 to Figure 6, which I think you referenced,
23 earlier in your testimony; is that correct?

24 A. This paragraph is referring to Figure
25 6, yes.

1 Q. Okay.

2 And so -- actually, why don't we look
3 at Figure 6 just to get our bearings initially.
4 So this is going to be PDF page 7.

5 So, what we're discussing here, Step
6 606.

7 Do you see that on the left there?

8 A. Yes.

9 Q. And you stated earlier that -- that
10 Step 606, as it appears in the figure, is a push
11 of data from Client A to the server using the
12 dashed line there at the bottom; is that
13 correct?

14 A. So my earlier testimony was with
15 regards to the arrow that goes between Client A
16 and Client B, which was between Box 606 and 608,
17 and I said that post was actually being done as
18 a push from the client.

19 Now, you have pointed to a dotted line
20 that goes between Client A, Box 606, and the
21 server, Box 610, and that dotted line goes from
22 the client to the server, that also can be done
23 by a post -- posting content or using HTTP post,
24 that would also be another example of a client
25 push, in this case, to the server.

1 Q. Thank you.

2 And so if we could now go, please,
3 back down to paragraph 68.

4 This is PDF page 16.

5 And it says, An alternative embodiment
6 of Step 606 bypasses the second client and sends
7 the data directly to the server as shown by the
8 dashed line, pointing from Step 606 to Step 610.

9 And then it says, For example,
10 referring to Figure 4, the Client X content 410
11 can be sent directly to the Server 106, thus
12 bypassing Client B 104. The server can then
13 transmit the content to the remaining client
14 peers such as the Clients B and C.

15 Do you see that paragraph?

16 A. Yes, I do.

17 Q. My question is: The board, in their
18 institution decision, said that Sigurdsson does
19 not describe the transfer of a modified file
20 with the alternative embodiment of Step 606 as
21 resulting from any request from Client C.

22 So you're aware of that conclusion by
23 the board, right?

24 MR. SALIBA: Objection to form.

25 A. I have read that decision of the

1 conclusion from the board. I have provided
2 explanation in my declaration as to how to
3 interpret these sentences in the context of all
4 the steps that are being performed there.

5 Q. Okay. And you understand that what's
6 being described in paragraph 68 is an
7 alternative embodiment of Step 606, right?

8 A. It is describing an alternative
9 embodiment, and we already talked about the
10 dashed arrow. So it's actually shown in the
11 figure. The server or the client is sending
12 data directly to the server.

13 So this is still client pushing data
14 to the server. It's not talking about how the
15 server sends information to client subsequently.

16 Q. Okay.

17 But Figure 6 is not describing a
18 single sequence of events. It's describing
19 alternative embodiments, including at least this
20 alternative to Step 606, in addition to the
21 embodiment that's described in paragraph 65. Is
22 that correct?

23 MR. SALIBA: Objection to form.

24 A. So Figure 6 has at least two
25 embodiments described: One where the client

1 sends file to another client; another one where
2 the client sends file to the server bypassing
3 the client. So both of those are shown in the
4 figure.

5 Q. And if we go back up to Figure 6, so
6 the clients that are listed here are the same
7 Client A, Client B and Client C that are
8 discussed in other portions of the
9 specification; is that correct?

10 MR. SALIBA: Objection to form.

11 A. Specification talks about clients.
12 There are Clients A, B mentioned in certain
13 figures. There's another Client C in some
14 figures. Other figures are both A, B, C. To
15 the extent that those are describing similar
16 embodiments, they're talking about the same
17 client.

18 What I -- I can't say that every
19 single embodiment when it says, "Client A," it
20 means certain steps of Figure 6 or anything like
21 that.

22 Q. Okay.

23 And your understanding is that Client
24 C can communicate with the server in a manner
25 that's similar to the method used by Clients A

1 and B, right?

2 MR. SALIBA: Objection to form.

3 A. So, specifically, in Figure 6, it's
4 describing an embodiment where Client C is
5 offline, and it describes a sequence of steps
6 that are performed by C to get missing content.

7 There are other embodiments where
8 Client C may be online, in which case it could
9 communicate with other clients directly, as
10 peer-to-peer, or it could use the alternative
11 embodiment of using the server to send data.

12 Q. Okay.

13 And if we could just go down to
14 paragraph 51 -- yeah, I guess up to paragraph 51
15 of Sigurdsson, the last sentence here says,
16 Although Figure 4 does not show explicit arrows
17 between the Client C 406 and the Server 106, the
18 Client C 406 can have -- communicate with the
19 Server 106, in a manner similar to the method
20 used by the Clients A or B.

21 Do you see that?

22 A. Yes, I do.

23 Q. So you agree with that statement that
24 in Sigurdsson, Client C can communicate with the
25 server in a manner similar to Clients A and B,

1 right?

2 A. As far as this embodiment that we're
3 describing is concerned, that is what it says,
4 Client C can communicate similarly to A and B.

5 Q. Right.

6 This is referring to Figure 4; is that
7 correct?

8 A. Yes. In the context of Figure 4, this
9 statement says that Client C can communicate
10 with the server in a manner similar to the
11 methods used by A or B.

12 Q. Right.

13 And if you go down to paragraph 61, it
14 says, Figure 6 is another sequence diagram
15 showing an illustrative method for sharing and
16 synchronizing content using a mixed peer-to-peer
17 and server architecture of Figure 4 when a
18 client that is offline comes online.

19 Do you see that?

20 A. Yes, I do.

21 Q. So Figure 4 is a sequence diagram that
22 uses the architecture shown in Figure 4, right?

23 MR. SALIBA: Objection to form.

24 A. You said Figure 4 is diagram
25 showing --

1 Q. Sorry, yeah. I meant -- sorry.

2 Figure 6 is sequence diagram that uses
3 the architecture shown in Figure 4; is that
4 correct?

5 MR. SALIBA: Objection to form.

6 A. So the sentence, we talked about this,
7 simply says that Figure 6 is a sequence diagram.
8 That's one example of how sharing and
9 synchronization will work in the context of
10 Figure 4.

11 And it also says that it's a mixed
12 architecture, where there is peer-to-peer and
13 server architecture in that figure.

14 Q. Right.

15 So, I just want to clarify for the
16 record, if we could go back to Figure 3 of this
17 document, PDF page 4.

18 So, you see the -- that the server
19 label at the bottom of this figure in the
20 middle? Bottom?

21 A. Yes, there is a box in this figure
22 labeled "Server." It's in the middle --
23 somewhere in the middle.

24 Q. Right.

25 So it doesn't say HTTP server. It

1 says just "Server." Right?

2 A. Yeah, this case, it simply says
3 "Server." It does not use the word "HTTP" as
4 far as this figure is concerned.

5 Q. Right.

6 And a person of ordinary skill in the
7 art would understand that the word "server"
8 refers to something that is not necessarily an
9 HTTP server. Right?

10 MR. SALIBA: Objection to form.

11 A. So as far as this figure is concerned,
12 it's showing a server, which is a machine,
13 computer shows something that looks like a disk
14 with some storage on it.

15 It shows at least two applications
16 running on it, which is a synchronization
17 manager and authentication manager.

18 Those are simply, in this case,
19 showing a computer that is running some
20 applications and has some storage on it.

21 Q. Right.

22 So it's an actual machine, right?

23 MR. SALIBA: Objection to form.

24 A. So, again, as far as the figure is
25 concerned, this box has components that indicate

1 it's an actual machine.

2 There are, of course, other machines
3 shown there, as well, which are the client
4 machines.

5 Q. Let's go to paragraph 49 of this
6 document on PDF page 14.

7 So the synchronization manager that we
8 just referred to in Figure 3 is referenced here,
9 "Synchronization Manager 332."

10 So, let's see, the second sentence
11 here says, For example, synchronization manager
12 332 can transmit an error message to a client
13 that receives or transmits content or requests
14 for content that exceeds a specified maximum
15 throughput rate, e.g., 2 megabytes over eight
16 hours.

17 Do you see that?

18 A. Actually, I did not get which column
19 or which paragraph.

20 Q. This is paragraph 49 on PDF page 14 of
21 Sigurdsson.

22 A. 49. All right.

23 Q. The second sentence, if you can just
24 read that to yourself.

25 A. Okay. I see that.

1 Q. Yeah. So this -- this is talking
2 about a synchronization manager on a server in
3 Figure 3, right?

4 A. It is talking about a synchronization
5 manager on the machine. Yes.

6 Q. And that can transmit messages to the
7 client, right?

8 A. That can transmit messages to the
9 client, yes.

10 Q. Okay.

11 So the patent expressly contemplates
12 the synchronization manager communicating
13 information directly to the client without the
14 client requesting it. Right?

15 MR. SALIBA: Objection to form.

16 A. So in this case, this example that we
17 are discussing here is just talking about
18 sending an error message from the server to the
19 client. You could just do that over plain TCPIP
20 connections, which you already said are
21 bidirectional.

22 So I have not said anywhere that you
23 cannot have TCPIP connections where the server
24 can communicate with the client. The issue has
25 always been whether the server can push files to

1 the server -- or to the client, and whether HTTP
2 allows such functionality, which, as I said, is
3 not the case.

4 Q. Okay. Let's go back to Figure 3. On
5 PDF 4 of this document.

6 The server that we talked about, that
7 could include an HTTP server, right?

8 A. The server box that we talked about
9 does not have a box in it that says "HTTP," but
10 given all of the other disclosure, it's
11 reasonable to assume that there is an HTTP
12 server running on the server machine.

13 Q. Right. Okay.

14 And it could also include an HTTP
15 client, right?

16 A. So I don't see any reason for a server
17 to include an HTTP client because it's not part
18 of the peer-to-peer system.

19 As we had discussed earlier, Clients A
20 and B are both the client and the server HTTP
21 component because they had to communicate
22 over -- directly to one another or peer to peer
23 or using the peer-to-peer embodiment.

24 When you're in a client-server
25 scenario, unless there is a disclosure that says

1 you need to have a client -- HTTP client on the
2 server, a POSA would not assume automatically
3 that the server is running an HTTP client. It
4 would assume it's running an HTTP server, which
5 is typically the case.

6 Q. Right.

7 So just looking at Figure 3, though,
8 there's no connection between -- there's no
9 direct connection between Client A and Client B
10 depicted in this particular figure, correct?

11 A. There is no connection -- there is no
12 arrow shown in Figure 3 that goes directly from
13 A to B in this figure. There are similar arrows
14 going in other figures.

15 Q. Right.

16 But in this figure, the only way that
17 Client B can communicate with Client A would be
18 through the server; is that correct?

19 A. So as far as the embodiment described
20 in Figure 3 is concerned, if you're only talking
21 about the client-server embodiment, not the
22 peer-to-peer embodiment, then Client A would
23 need to use the server for it to communicate
24 with Client B.

25 Q. So, let's assume that Client B has an

1 HTTPS server on it, and the server has an HTTPS
2 client, just as a hypothetical. Could the
3 server send missing content for specified time
4 range, as shown there in Item 314, to Client B,
5 using an HTTP client to send a -- you know, for
6 example, a HTTP post message to the Client B?

7 MR. SALIBA: Objection to form.

8 A. First of all, that's a hypothetical
9 that's not described anywhere in the
10 specification.

11 A hypothetical case where a server is
12 running an HTTP client and the client is running
13 an HTTP server, it is possible for the server to
14 make a request to the client, which would mean
15 that you are actually post -- sending a post
16 request to the client, which means you might be
17 pushing information.

18 But I'll say that none of that is
19 discussed here. What is shown as Box 310, where
20 the client is actually making a request for
21 missing content, and then the server sends the
22 missing content.

23 There is no reason for a POSA to do it
24 any other way because, what is the problem?
25 This seems to work just fine. I don't see any

1 suggestion for a POSA to say that that
2 hypothetical should actually be implemented in
3 this Sigurdsson reference.

4 Q. Sure.

5 Well, let's go back to figure --
6 sorry, paragraph 68, and maybe we can clear that
7 up.

8 So, paragraph 68 says in the last
9 sentence here, The server can then transmit the
10 content to the remaining client peers such as
11 Client B and C. Right?

12 And in -- in connection with Figure 3,
13 there's really other -- there's really no other
14 reason why Client B would even have an HTTP
15 server except to, you know, receive these HTTP
16 requests, including an HTTP post message for
17 example, from the server. Right?

18 MR. SALIBA: Objection to form.

19 A. So, that sentence there is talking
20 about an embodiment from Figure 4.

21 Furthermore, it's just talking
22 about -- I described this in my declaration.
23 It's just talking about transmitting data, not
24 automatically transmitting data, which the two
25 are different.

1 You can transmit data if you're asked.
2 And even the get message requires -- which is a
3 pull-based request, it requires the server, the
4 web server, to transmit data to the client.

5 So that disclosure by itself, it
6 doesn't tell me that you are actually using push
7 from the server or the server actually now
8 running a client and doing a post. That does
9 not seem to be the case.

10 A POSA would simply understand this to
11 be using standard HTTP because the client is
12 simply requesting content.

13 And, again, this is Figure 4. We were
14 talking earlier about Figure 3, so I don't know
15 why the statement would apply to Figure 3.

16 Q. Sure.

17 So let's go to paragraph 32. So that
18 describes Figure 2 as being a sequence diagram
19 that implements the system shown in Figure 1.

20 Do you see that in the first sentence
21 there?

22 A. Yes, I do.

23 Q. Okay. And then if we look at
24 paragraph 45 on the next page, that also says
25 it's a block diagram showing the system 100 in

1 Figure 1 in more detail.

2 So that's the same system that's
3 referenced in Figure 1, right?

4 MR. SALIBA: Objection to form.

5 A. So there is a statement, paragraph 45,
6 that says, Figure 3 is a block diagram showing
7 System 1 in Figure 1 in more detail. So it's
8 indicating that Figure 3 is giving more
9 information about Figure 1.

10 Q. Right.

11 And then paragraph 51 says, Figure 4
12 is a schematic diagram showing a System 400.

13 And then in the next sentence, it
14 says, And System 400 content still can be shared
15 among Client A, Client B and Client C, using the
16 server in a method similar to the method of
17 Figure 2, which is described in connection with
18 Figure 1. Right?

19 MR. SALIBA: Objection to form.

20 A. So Figure 4 is talking about a system
21 that uses this mixed architecture that we were
22 describing. It has both peer-to-peer and client
23 server.

24 And then it says that there is some
25 part of that that is related to Figure 2, which

1 has -- which is essentially Client A, Client B
2 and Client C using the server.

3 Q. Right.

4 And if you -- if you can just -- you
5 know, I think you have a copy of this. If you
6 could just kind of scroll through the system
7 diagrams that -- you know, Figure 1, Figure 3,
8 and Figure 4.

9 All of those refer to the same clients
10 or, you know, at least a subset of Clients A, B
11 and C, right? In other words, there's no client
12 other than Client A, B or C that's even referred
13 to in those figures, right?

14 MR. SALIBA: Objection to form.

15 A. So Figure 1 shows Client A and B.

16 Q. Right.

17 A. Figure 2 shows Client A and B.

18 Figure 3 shows Client A and B.

19 If you go to 4, it shows Client A, B,
20 C, and it also refers to Client X, which could
21 be any client.

22 Q. Right.

23 But that's -- that's on the arrows,
24 right? So the actual physical devices are
25 Client A, B and C in that figure, right? In

1 Figure 4?

2 A. In Figure 4, the three client devices
3 that are shown are labeled A, B and C.

4 Q. Right.

5 And, in fact, in all of the
6 embodiments, it only refers to either two or
7 three of Clients A, B and C. Right? Except for
8 Figure 9, which is -- that doesn't refer to any
9 of the clients, I guess.

10 A. I just look at the figures that are
11 shown here. They refer to A, B and C as
12 physical devices. There is reference to Client
13 X, which would be any client, and those are the
14 only clients that are explicitly shown in the
15 figures, except for 9, which, as we said, has no
16 figure -- no mention of any client.

17 Q. Right. Okay.

18 And you haven't provided any opinion
19 that the Client A referred to in Figure 4 is
20 different from the Client A referred to in
21 Figure 1, right?

22 MR. SALIBA: Objection to form.

23 A. So I have not provided any specific
24 opinions on the clients being similar or
25 different, one way or the other.

1 Q. Okay. Okay.

2 We can go back to the '942 patent,
3 which I think is Exhibit 9.

4 Yeah.

5 And let's go down to Column 8. That's
6 going to be PDF page 10.

7 And if you could take a look at line
8 50. I want to ask you a question about that
9 sentence that starts "In the illustrated
10 embodiment."

11 Do you see that?

12 A. Yes.

13 Q. Okay. So if you could read that
14 sentence, and then the next one about polling.

15 You see those two sentences?

16 A. Okay.

17 Q. So what does the word "polls" mean
18 in -- here on line 52 of the '942 patent?

19 A. So in this case, this sentence here,
20 which I'm going to read out. It says, The Sync
21 Application 380 Polls the Device 280 to
22 determine whether Device 280 is in communication
23 with the Server 3 -- 230.

24 So this is an example of the heartbeat
25 messages I was talking about, where the

1 application is determining whether the device
2 is -- online and is -- able to communicate with
3 the server.

4 Q. Right.

5 And you'll recall that we were -- we
6 discussed Claim 4 of the '561 patent earlier,
7 and the fact that in Claim 4, the server stores
8 the file while the client is offline.

9 Do you recall that conversation?

10 A. Yes, I do.

11 Q. So, in the '942 patent, before any
12 communication between the server and the client
13 can be done, the client has to respond to that
14 heartbeat message from the server, right, when
15 it first comes online?

16 MR. SALIBA: Objection to form.

17 A. So, first of all, this Synchronization
18 Application 380 is running on the server. So
19 the server is just trying to exchange heartbeat
20 messages, and it's polling this client, saying,
21 "Are you online?"

22 The client can say yes, if it's
23 online. And then the server knows that it is in
24 communication with the client device.

25 Q. Right.

1 And that would be a prerequisite for
2 doing anything else in terms of communications
3 between the server and the client, right?

4 A. So in this embodiment, it's trying to
5 make sure that the server -- the device is
6 online; the server is checking whether the
7 device is online.

8 Q. Okay.

9 Yeah, let's go to the next sentence
10 there after that -- the one you just read.

11 So starting on line 54, it says, If
12 the Device 280 is in communication with the
13 Server 230, the Sync Application 380 transfers
14 the File 370 to the device, whereupon the
15 transfer client resident on Device 280 replaces
16 the previous version of the file.

17 Do you see that?

18 A. Yes, I do.

19 Q. So that's a conditional phrase. It
20 says if the device is in communication, then the
21 sync application transfers file, right?

22 A. So this is one way by which you can
23 implement server push in cases where the device
24 can go offline and come on -- come back online.

25 So here the server is simply checking

1 if the device is in communication with it, and
2 if so, it automatically transfers the file.
3 Yes.

4 Q. Right. So in Claim 4, what -- do you
5 understand what a dependent claim is with
6 respect to an independent claim in patents?

7 A. Yes, I have some understanding of a
8 dependent claim.

9 Q. Right.
10 So, dependent Claim 4 of the '561
11 patent that we discussed earlier depends from
12 Claim 1 of the '561 patent, is that your
13 understanding?

14 Indirectly, claim -- yeah, so it's --
15 actually, let's just -- yeah, let's just pull up
16 the patent so we can look at it. So this is
17 going to be the '561 patent. I can't remember
18 the exhibit number.

19 Let's see.

20 It's going to be Exhibit-- Exhibit 11.
21 So if we can take a look at Exhibit 11 on the --
22 on the last page.

23 Do you see Claim 4?

24 A. Yes, I do.

25 Q. So it says it depends from Claim 3,

1 right? And then if you look at Claim 3, Claim 3
2 depends from the Claim 1, right?

3 A. That is correct, yes.

4 Q. Yeah.

5 So -- so, in Claim 1, according to
6 you, requires automatic transfer of the file
7 from the server to the third client in one of
8 the elements. Right?

9 A. Yes. Claim 1 talks about automatic
10 transfer from the server to the client.

11 Q. Right. But Claim 4 says that the
12 third electronic device is not in communication
13 with the first electronic device. Right?

14 MR. SALIBA: Objection to form.

15 A. Claim 4 talks about the system where
16 the first application is configured to store the
17 file if the server, which is the first
18 electronic device, is not in communication with
19 the client device, which in this case is the
20 third electronic device.

21 Q. Right.

22 And so, Claim 1, because it's an
23 independent claim and because Claim 4 indirectly
24 claims -- or is -- you know, indirectly depends
25 from Claim 1, that means that all of Claim 1's

1 limitations are in Claim 4. Right? Is that
2 your understanding?

3 A. Because Claim 4 is a dependent claim,
4 it has all of the limits of Claim 1, and the
5 additional one that is mentioned in Claim 4.

6 Q. Right.

7 Yeah. And so one of those limitations
8 is actually the automatic transfer limitation in
9 which the first electronic device has to
10 automatically transfer a copy of the modified
11 file to the third electronic device, which in
12 Claim 4 is actually not in communication with
13 the first electronic device. Right?

14 MR. SALIBA: Objection to form.

15 A. So in Claim 4, it says that if the
16 device is not in communication, you have to
17 perform an extra step, which is to store the
18 file. It's talking about transferring the file;
19 that can happen eventually.

20 Q. Right.

21 And that's similar to Sigurdsson,
22 which talks about in one embodiment, Client C
23 being offline, and then later the server can
24 transfer the file to Client C when it comes back
25 online, right?

1 MR. SALIBA: Objection to form.

2 A. As we discussed earlier, Sigurdsson
3 has a scenario where a client can be offline,
4 and in that case, it stores the file, but the
5 main difference in that case is when the client
6 comes back online, it's actually requesting the
7 content. So, as I'll explain in my declaration,
8 that's not an automatic transfer from the
9 server's perspective.

10 Q. Okay.

11 Let's go back to Exhibit 13, which is
12 Sigurdsson, and let's take a look again at
13 Figure 6.

14 So, which of these steps in Figure 6
15 is not automatically performed, in your opinion?

16 A. So, as I explained, again, in my
17 declaration, when Client C comes online, it's
18 going to perform Step 612, which is request list
19 on the sync content. And then it is going to
20 determine the sole source to obtain missing
21 content, and then request that missing content.

22 So what I'm saying is, because the
23 client is initiating the request, that is not
24 automatic from the server's perspective.

25 Q. Okay. Where in the claim does it say

1 it needs to be automatic from the server's
2 perspective? I thought you said that the -- I
3 thought you said the claims were user-centric.

4 Is that -- is that not correct?

5 A. I -- well, we said the architecture of
6 the system was user-centric, but if you read
7 what the claim actually says, Claim 1 says, it
8 says that the first electronic device, and
9 specifically the application that's running on
10 the device, is performing the automatic
11 transfer.

12 So it's not the system, but it is
13 actually the device and the application running
14 on it that are performing the automatic
15 transfer.

16 Q. So the claims are user-centric; is
17 that correct?

18 MR. SALIBA: Objection to form.

19 A. So I don't know what it means to say,
20 "The claims are user-centric."

21 Earlier, we talked about that the
22 patent being an invention that has a
23 user-centric view, that the claims here are
24 simply talking about how transfer of files occur
25 between the first -- the second and the first

1 device and then the first device to the third
2 device, specifically Claim 1.

3 Q. So, just going back to my question:
4 What steps exactly are not automatically
5 performed in Figure 6, if any?

6 MR. SALIBA: Objection to form.

7 Q. Or have you not -- have you provided
8 an opinion about that?

9 A. So, as I said, the Sigurdsson
10 reference is not teaching automatic file
11 transfers from the server's perspective, as
12 Claim 1 requires.

13 Here, the client is the one initiating
14 the request, so that's not automatic from the
15 server's perspective.

16 It may be automatic from some other
17 perspective in that the user has not initiated
18 that request. The client is initiating the
19 request. But the -- the Sigurdsson reference --
20 I'm sorry, the -- not the Sigurdsson, the '561
21 and the '942 reference specifically require that
22 the automatic transfer be done from the server's
23 perspective. That is not where to start in the
24 Sigurdsson reference.

25 Q. Let's look at paragraph 31 of this

Box/Dropbox Exhibit 1045

1 document.

2 A. This is the Sigurdsson reference?

3 Q. Yes. This is going to be PDF page 13,
4 please.

5 So this paragraph says that, The
6 Server 106 can facilitate synchronization of
7 content among users computers.

8 What is your understanding of what the
9 word "synchronization" means?

10 A. "Synchronization" is a broad term of
11 art. It's used in various different contexts in
12 computing systems.

13 Broadly, it means that you can try to
14 ensure that you have some files or some content
15 on two different machines, are made identical or
16 are replicated so that you can have the same
17 copy on multiple machines.

18 Q. Right.

19 And you'll note that on -- in
20 paragraph 31, it's talking about Figure 1.

21 Do you see that?

22 I think you have to scroll back up to
23 paragraph 26 where the discussion of Figure 1
24 starts.

25 But is it your understanding that

1 paragraph 31 is discussing Figure 1?

2 A. So the discussion of Figure 1 starts
3 on paragraph 26, and it seems to continue for
4 several paragraphs, and through paragraph 31.
5 So 31 appears to also describe some aspects of
6 Figure 1.

7 Q. Right.

8 And the rest of that paragraph says,
9 When the Client A 102, e.g., the user's home
10 computer, connects to the Server 106, Client B,
11 Content 112, originating from the Client B 104,
12 is automatically copied to Client A 102, as
13 indicated by Arrow 116.

14 In some implementations, copying
15 occurs for the Client B content 112, not already
16 stored on the Client A 102. Similarly, whenever
17 the Client B 104, e.g., the user's work
18 computer, connects to the Server 106, any
19 missing Client A content 108 is copied
20 automatically to the Client B 104, as indicated
21 by Arrow 118.

22 Do you see that?

23 A. Yes, I do.

24 Q. So now let's go up and look at Figure
25 1, please. This is a PDF page 2.

1 A. Okay.

2 Q. So we see here that there is a Client
3 A on the left, and a server on the middle and
4 the Client B. Right?

5 So there's no connection shown here
6 between Client A and Client B. Right?

7 A. Figure 1 does not show any connection
8 between Client A and Client B. They show arrows
9 going from A to the server and back, and B to
10 the server and back.

11 Q. Right.

12 So these transfers of updated files
13 from Client A to Client B and from Client B to
14 Client A are going through the server; is that
15 correct?

16 A. So the embodiment being described in
17 Figure 1, shows that the data is being
18 transferred between clients through the server.

19 Q. "Through the server," is that what you
20 said? Sorry.

21 A. Yes, I said "through the server."

22 Q. And if you go back down to paragraph
23 31, it says that that transfer back and forth
24 between the clients is automatically performed.
25 Right?

1 MR. SALIBA: Objection to form.
2 Foundation.

3 A. So I can explain what that sentence
4 means in the context of this patent, and how it
5 still does not teach what Sigurdsson is
6 teaching. And you can just look at Figure 2,
7 which, as we already said, is describing how
8 Figure 1 works.

9 And it's clear that in Figure 2,
10 Client B is polling for updates, and it's
11 receiving content based on the updates. So it
12 is requesting content from the server, so it's a
13 client-pull protocol.

14 So all that that sentence is saying,
15 that is automatic transfer, but in this case,
16 it's automatic from the user's perspective
17 because the user is not initiating this. It's
18 not still automatic from the server's
19 perspective.

20 So the real distinction is: The word
21 "automatic" is being used in this context, but
22 the way it's being used in the claims of the
23 '561 and '942 patent is actually different. It
24 requires that that automatic step be performed
25 from the server's perspective.

1 And Figure 2 very clearly shows that
2 the automatic transfer of Sigurdsson is really a
3 pull-based approach, which is not what the
4 patent -- the '561 and the '942 patents are
5 invented.

6 MR. WHITT: Just going through my
7 notes here, trying to skip some things.

8 Q. So we talked earlier about Claim 4 in
9 the '561 patent, and the fact that it, you know,
10 discusses a client as offline, and that the
11 server will store a file, and, you know, wait
12 for the client to come back online before
13 synchronizing with the client.

14 So, in that context, Claim 1 clearly
15 contemplates embodiments in which a
16 reestablishment of communication is necessary
17 before a file would actually be transferred to
18 the third electronic device. Right?

19 Because that must -- my question is:
20 Doesn't that mean that, you know, the embodiment
21 of Claim 4 must be contained within the scope of
22 Claim 1; isn't that correct?

23 MR. SALIBA: Objection to form.

24 A. So Claim 4 is a dependent claim that
25 depends on, I believe, Claim 3, which then

1 depends on Claim 1.

2 So, Claim 4, from that perspective, is
3 narrower than Claim 1, and Claim 1 would include
4 Claim 4 from that perspective.

5 Q. So, in other words, Claim 1 is broad
6 enough in scope to cover implementations that
7 have additional steps that are not even
8 discussed in Claim 1, like, for example,
9 resuming communications with a client that has
10 gone offline, right?

11 MR. SALIBA: Objection to form.

12 A. So Claim 4 only talks about storing a
13 file at the server if the device is not
14 communicating with the server.

15 It doesn't really talk about any of
16 the other steps that must take place for the
17 file to be eventually transferred to the client.
18 Clearly, as a matter of networking technology,
19 you have to have the client and the server
20 reestablish communication before file transfer
21 can take place once the client comes back
22 online.

23 That doesn't mean that the client has
24 initiated the communication or that's a request.
25 As I said, that's just reestablishing a TCPIP

1 communication. It's not making a request of the
2 server or anything like that.

3 Q. Right. So if we look at Claim 4, this
4 is Exhibit 11 on the last page. So it refers to
5 "the modified first electronic file copy,"
6 right? Do you see that on the second line
7 there?

8 A. The second line says, Configure to
9 store the modified first electronic file copy.

10 Q. Right.

11 And then, likewise, Claim 3 refers
12 also to the first application, that's the first
13 application running on the first electronic
14 device, is configured to store the modified
15 first electronic file copy, right?

16 A. Yes, I think Claim 3, second line,
17 again, has a similar phrase which says, Store
18 the modified first electronic file copy.

19 Q. Right.

20 And so -- and then if you look at
21 Claim 1, it refers to a copy of the first
22 electronic file there on line 54 in Column 10.

23 Do you see that?

24 A. Line 54, I -- of that column, 10, as a
25 phrasing a copy of the first electronic file.

1 Q. Right.

2 So that -- from -- yeah, receive from
3 a second -- yeah, the preceding part of that
4 limitation says, Receive from a second
5 application executable on the second electronic
6 device, a copy of a first electronic file,
7 automatically transferred from the second
8 application when the user modifies a content of
9 the first electronic file.

10 Do you see that?

11 A. Yes, I do.

12 Q. And then the next limitation says,
13 Wherein the first electronic device is further
14 configured to receive, basically, you know, the
15 same sort of thing, but it's going to be a -- a
16 third application on a third electronic device
17 involving a second electronic file.

18 And then the limitation after that
19 says that the first application is further
20 configured to automatically transfer the
21 modified first electronic file copy to the third
22 electronic device.

23 Do you see that?

24 A. Yes, I do.

25 Q. So that -- the modified first

1 electronic file copy is referring back to the
2 same, a copy of the first electronic file that
3 we referred to earlier in Claim 1, right?

4 MR. SALIBA: Objection to form.

5 A. So here, it talks about the modified
6 first electronic file copy. Earlier in the
7 claim, it says, A copy of the first electronic
8 file. So it is referring to the first
9 electronic file that has been modified by the
10 user.

11 Q. Right.

12 So, my point with all this is that,
13 you know, that Claim 1 introduces the concept of
14 a copy of a first electronic file that's been
15 modified by the user. And then in later
16 limitations of Claim 1 and then also in Claims 3
17 and 4, it's referring to the same modified first
18 electronic file copy.

19 Is that your understanding?

20 A. I think the -- modified first
21 electronic file copy that's mentioned in claims
22 3, 4, and 1, are referring to the same file that
23 has been modified by the user on the second
24 electronic device.

25 Q. Right.

1 And so, Claim 1 says that that first
2 electronic file that's been modified has to be
3 automatically transferred from the first
4 electronic device to the third electronic
5 device. Right?

6 A. Claim 1 says that that file has to be
7 automatically transferred by the server to the
8 electronic device.

9 It doesn't say when it has to be
10 transferred.

11 Q. Right.

12 A. It just says that it has to be
13 transferred automatically.

14 Q. Right. That's my point, is that it
15 does have to be transferred, and -- well, first
16 of all, it doesn't say the word "server," does
17 it?

18 A. The -- claim does not have the word
19 "server." It talks about the first electronic
20 device. But if you look at the specification,
21 it's clear that the first electronic device here
22 is a server.

23 Q. Okay.

24 So, are you saying that the -- there's
25 like disclaimer, disavowal or definition in the

1 patent that defines the first electronic device
2 to be a server?

3 MR. SALIBA: Objection to form.

4 A. I'm just saying that if the POSA would
5 read the specification and the claim, they would
6 understand the first electronic device to be a
7 server. I'm not saying what the scope of that
8 first electronic device is, but the server is
9 certainly one type of a first electronic device.

10 Q. Right.

11 So the -- the modified first
12 electronic file copy is transferred from the
13 first electronic device to the third electronic
14 device in Claim 1.

15 And Claim 4 says that that must happen
16 when the first electronic device, you know, re-
17 -- reestablishes communication with the third
18 electronic device, because otherwise, there's no
19 way that that -- that automatic transfer could
20 take place, right?

21 MR. SALIBA: Objection to form.

22 A. Claim 4 is simply talking about
23 storing that file on the server when it's not in
24 communication with the device. It's not talking
25 about when that file is transferred.

1 Claim 1 simply says that there has to
2 be -- the server has to automatically transfer
3 the file at some point.

4 Q. Right. But you agree with me that it
5 could not make that transfer if the first
6 electronic device was not in communication with
7 the third electronic device, correct?

8 A. If the device is offline, you cannot
9 make the file transfer, yes, that I would agree
10 with.

11 Q. So there is a step here that is not
12 listed in the claims, and that step is
13 reestablishing communication between the first
14 electronic device and the third electronic
15 device. Is that correct?

16 MR. SALIBA: Objection to form.

17 A. I think -- I don't know whether you
18 can call that a missing step or anything like
19 that because the claim is as what is written
20 here. But if the -- all I'll say is if the file
21 has transferred from the server, which is the
22 first electronic device, to the third electronic
23 device, the third electronic device has to be
24 online for this transfer to occur.

25 Q. Right.

1 Otherwise, Claim 4 doesn't even work
2 because -- I mean, like we -- I think we agree
3 that Claim 4 includes all the limitations of
4 Claim 1, which -- one of which is the file
5 transfer from the first electronic device to the
6 third electronic device actually has to happen,
7 right?

8 MR. SALIBA: Objection to form.

9 A. All that Claim 4 is saying is that you
10 have to store the file at the server. Which --
11 if the device is offline.

12 And then, there are other aspects of
13 Claim 1, which are now part of the Claim 4, that
14 says then the file transfer will occur when --
15 as we said, that -- will occur eventually
16 because the claim doesn't say when it has to
17 occur.

18 Q. Right.

19 And that only happens when
20 communication is reestablished between the first
21 electronic device and the third electronic
22 device, right?

23 MR. SALIBA: Objection to form.

24 A. From a technical perspective, the
25 communication has to be reestablished between

1 the client and the server for the transfer to
2 occur if the device was previously offline.
3 That's not mentioned in the claim.

4 Q. Right.

5 So is it your opinion that Claim 4
6 does not work? Is it inoperative, or is it just
7 missing that step?

8 MR. SALIBA: Objection to form.

9 A. I don't -- I don't think that question
10 makes sense to me because I think Claim 4 is
11 written as is. It works fine. It depends from
12 Claim 3, which depends from the Claim 1. All
13 the steps are there.

14 The claims do not include every single
15 thing that has to happen. It's only claiming
16 what the invention is about. And there may be
17 other things that are not in the claim that you
18 might have to do to -- for a working system.

19 Can we also take a break for a few
20 moments?

21 Q. Yes, of course.

22 MR. WHITT: 10-minute break?

23 THE WITNESS: That would be great.

24 MR. SALIBA: That works for me.

25 (A recess was taken from 2:03 to

Box/Dropbox Exhibit 1045

1 2:15.)

2 Q. Okay.

3 So, I would like to go to paragraph 48
4 of your declaration. This is going to be
5 Exhibit 4. It's going to be on page 25 --
6 sorry. 26.

7 And the first sentence here -- just
8 let me know when you're there, Dr. Shenoy.

9 A. Okay. I'm there now.

10 Q. The first sentence here says,
11 Considering the Sigurdsson reference as a whole,
12 a POSA would have considered Sigurdsson's
13 alternative embodiment of Step 606 as limiting
14 the transfer of the content to using Steps 620
15 and its associated steps, 612 to 620 and 626 to
16 630.

17 I just wanted to know, in the
18 sentence, what do you mean by the phrase
19 "limiting the transfer of the content"? What --
20 what does that mean?

21 A. I think it simply means that the
22 alternative embodiment is also performed using
23 those steps I listed subsequently.

24 Q. Okay.

25 You're saying that the -- so you're

1 saying that the alternative embodiment uses the
2 same steps as the other embodiment -- sorry.

3 Is that what you're saying?

4 A. That's the transfer -- it's using the
5 specific steps listed there, which would be 612
6 to 620 and 626 to 630.

7 Q. So let's go back to paragraph 68 of
8 Sigurdsson, which I believe is Exhibit 13. This
9 is going to be page 16 -- PDF page 16 of
10 Exhibit 13.

11 So, the last sentence here refers to,
12 The Server 106 can then transmit the content to
13 the remaining client peer, such as Clients B and
14 C.

15 That transfer would only occur when
16 Clients B and C are online. Right?

17 A. The server can transmit the content to
18 a client only when it's online. Yes, that is
19 indeed the case.

20 Q. And then, you also had a statement in
21 paragraph 48 of your declaration here. It
22 says -- this is the last sentence on page 26.
23 It says, If Client C was online, Sigurdsson
24 teaches that the transfer would be performed
25 using the peer-to-peer technique that does not

1 involve transferring content from the server.

2 Do you see that sentence?

3 A. Yes, I do.

4 Q. Doesn't this paragraph 68 and
5 Sigurdsson say, though, that it's the server
6 that would transfer the file to Client C when
7 the -- because you just said that it only
8 happens when the Client C online, right? So I'm
9 just trying to understand the sentence in that
10 context.

11 A. What I'm trying to say here is, if the
12 client is offline, you use the server to hold
13 the file, and then transfer the file when the
14 client comes online. But if the clients are
15 both online, the two clients can directly
16 communicate using the peer-to-peer technique,
17 they don't have to use the server, because, as
18 Sigurdsson says, that's the more efficient way
19 to transfer files.

20 Q. So you don't cite or discuss any
21 disclosure in Sigurdsson that says that
22 peer-to-peer and client-server models are
23 fundamentally inconsistent with each other,
24 right?

25 MR. SALIBA: Objection to the form of

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1 the question.

2 A. I have actually provided some
3 explanation that -- that client server and peer
4 to peer are two different architectures.

5 And peer-to-peer architectures are
6 used in scenarios where we don't have a server;
7 that's the reason to have the peers communicate
8 with one another. In some cases, this is also
9 referred to as serverless architectures.

10 So once you introduce a server, you
11 essentially have devices talking to server, so
12 you -- that becomes a client-server
13 architecture.

14 If you don't have a server that the
15 clients are talking directly to one another,
16 that becomes a peer-to-peer architecture, and
17 I'll say there are actually two different
18 architectures that are used for different
19 purposes in computing systems.

20 Q. Right.

21 But you could use the same HTTP
22 protocol to communicate between peers in a
23 peer-to-peer network that you would use in
24 communications with between a client and server
25 in a client-server architecture, right?

1 MR. SALIBA: Objection to form.

2 A. So HTTP is a web protocol that can be
3 used for many different purposes.

4 You can implement peer-to-peer clients
5 using HTTP -- we talked about some of that
6 earlier today -- and also implement
7 client-server file transfers using HTTP. We
8 also spoke about that earlier today.

9 But as I said, that doesn't mean that
10 since a peer can push content to another peer,
11 suddenly now the server is pushing content to
12 clients because that part was never taught in
13 Sigurdsson.

14 Q. And let's go to paragraph 61 in your
15 declaration.

16 So, this is going to be five lines
17 from the bottom of page 33. It says, But even
18 if Sigurdsson were read to have one client send
19 the modified content to the server to
20 synchronize with another client that was online
21 at the time, this hypothetical example would
22 fall outside the scope of Claims 4 and 11.

23 And then you say, Claim 4 expressly
24 recites that first application is configured to
25 store the modified first electronic file copy to

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1 the memory device associated with the first
2 electronic device when the third electronic
3 device is not in communication with the first
4 electronic device.

5 And then you discuss Claim 11.

6 So I'm curious. Why exactly are you
7 saying that this hypothetical example would fall
8 outside the scope of Claims 4 and 11?

9 Are you saying that -- that Claims 4
10 and 11 have broader scope than the independent
11 Claim 1 here?

12 MR. SALIBA: Objection to form.

13 A. No, that's not what I was trying to
14 say here.

15 What I'm saying is: Claims 4 and 11
16 talk about a device that is offline. And all I
17 said, here, was, if you were to treat Sigurdsson
18 as having taught some concept where the client
19 is sending modified content to the server, that
20 both of them are online, that is not Claim 4
21 because Claim 4 involves one client that is
22 offline. That's all that I'm saying there.

23 Q. Right.

24 But if we go back to Exhibit 13,
25 paragraph 68, which we were looking at just a

1 second ago, that particular paragraph does not
2 say whether or not Clients B and C are online,
3 right?

4 In that last sentence, it says, The
5 server can then transmit the content to the
6 remaining client peers, such as the Clients B
7 and C. Right?

8 It doesn't say one way or the other
9 whether Clients B and C are online or offline at
10 any particular point. It just says that the
11 server can transmit the content to them, right?

12 A. The sentence that you just pointed to
13 in paragraph 68 only talks about transmitting
14 content to B and C. It doesn't actually say
15 whether B and C or online or offline one way or
16 the other.

17 Q. Right.

18 Why don't we take a look at paragraph
19 63 of your declaration. This is Exhibit 4
20 again. And going to be page 34.

21 So you said in your opinion,
22 Sigurdsson is directed to a pull mechanism and
23 fails to automatically transfer the modified
24 first electronic file copy to the third
25 electronic device associated with the user.

1 But you do agree that -- I think we
2 discussed earlier that there are push mechanisms
3 described in Sigurdsson, right, you know, at
4 least with respect to Client A, pushing content
5 to, for example, the server in the alternative
6 embodiment, right?

7 A. Yes, we had discussed earlier certain
8 embodiments where there is push from the client
9 to the server.

10 What I'm trying to say in this
11 sentence is actually not teaching the server
12 pushing the file to the third electronic device.
13 That's what I meant to say here.

14 Q. Okay.

15 And when -- when you send a post
16 message using HTTP, the request that is being
17 sent by the client is that the server accept the
18 data that's being sent in the post message,
19 among other things. Right?

20 MR. SALIBA: Objection to form.

21 A. I actually didn't understand the
22 question.

23 Q. Sure. Yeah.

24 I'm just referring to the terminology
25 that you use in your report, because you refer

1 to "HTTP requests."

2 And so my question is: Using a
3 post -- well, first of all, I think we already
4 covered this, but HTTP post, that's an example
5 of an HTTP request, right?

6 A. HTTP post is an example of an HTTP
7 request, yes.

8 Q. And the request includes data that is
9 being sent to the server that the -- the HTTP
10 client wants the server to accept; is that
11 correct?

12 A. An HTTP post request will send data
13 from the client to the server, and the server
14 can then process.

15 Q. And similarly, the put method requests
16 that the enclosed data be stored in whatever is
17 specified in the URI that's included in that
18 message; is that correct?

19 MR. SALIBA: Objection to form.

20 A. So HTTP put request, which is another
21 type of an HTTP request, allows the client to
22 send a file or some data to the server, which
23 the server can then process.

24 Q. So, as part of your review of these
25 patents, did you review the file histories?

1 A. When I had written my declaration, I
2 did review the file histories as well.

3 Q. Okay. Did you see anything in the
4 file history that you viewed as limiting or
5 narrowing the claims in any way?

6 MR. SALIBA: Objection to form.

7 A. So I was not asked to provide any
8 specific opinions like that. I just reviewed
9 them to make sure that my opinions that are
10 actually written down in the declaration are
11 accurate.

12 Q. And similar question with the
13 specification, did you encounter anything when
14 you reviewed the specification of the patents
15 that narrowed or limited the scope of any of the
16 challenged claims?

17 MR. SALIBA: Objection to form.

18 A. Again, I was not asked to provide any
19 such opinion. I read the specification, I read
20 the claims, I read the other references, and
21 made sure whatever I had written in my
22 declaration are accurate.

23 Q. And let's take a look at -- let's go
24 back to paragraph -- Exhibit 13, please. And
25 let's take a look at PDF page 14.

1 So we talked about this earlier in
2 the -- in connection with paragraph 47, but I
3 also wanted to look at paragraph 45, which, kind
4 of toward the middle paragraph 45 there, it
5 says, Client A 102 posts the Client A content,
6 108, to the server.

7 Do you see that?

8 A. I do see a sentence that says, Client
9 A 102 posts a Client A content 108 to the Server
10 106 after the content is changed on the Client A
11 102.

12 Q. Right.

13 And this would refer to, like, an HTTP
14 post message; is that right?

15 A. As you mean that as all of this is
16 happening over HTTP, that sentence was
17 indicating that the client has sent an HTTP post
18 request to the server, and sent the modified
19 content to the server using the post request.

20 Q. And that post message is not described
21 anywhere in this reference, right? It's just
22 used because of POISA -- a person of ordinary
23 skill in the art would know what it means,
24 right? Posting -- did that term have a meaning
25 to a person of ordinary skill in the art?

1 MR. SALIBA: Objection to form.

2 Q. Let me rephrase the question: Did the
3 term, "post," in paragraph 45, have a meaning to
4 a person of ordinary skill in the art?

5 A. Assuming that was a person of ordinary
6 skill in the art knew we were talking a HTTP,
7 post has a really specific connotation, which is
8 what I just described earlier.

9 By -- earlier, if the person of
10 ordinary skill was reading this without that
11 context of HTTP, a post could mean many
12 different things, much like you post a -- a
13 message to a social media site, that just means
14 that you are sending a request. So that could
15 mean many other things in other contexts.

16 In the context of HTTP, a person of
17 ordinary skill would understand what that
18 sentence meant.

19 Q. Okay.

20 Yeah. Let's take a look at paragraph
21 79 of Sigurdsson. This is Exhibit 13 on page
22 7 -- not page -- it's going to be paragraph 79,
23 page 7 -- or 17, PDF page 17.

24 So, yeah, towards the middle of this
25 paragraph, it says, Additionally, the client, C

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1 406, can request the content from the server
2 even if one or more of the other clients are
3 online.

4 Do you see that sentence?

5 A. Yes, I do see that.

6 Q. And then it says, For instance, the
7 Client C may request the content from the
8 server, if the other clients have less available
9 bandwidth relative to the server.

10 Do you see that sentence?

11 A. Yes, I see that as well.

12 Q. So that's providing a motivation even
13 when other clients are online for a Client C to
14 nevertheless request the content from the
15 server. Right?

16 MR. SALIBA: Objection to form.

17 A. So since this is talking about Step
18 620, which is all part of this Figure 6 that we
19 were describing, it's -- it's actually talking
20 about Client C contacting the server to request
21 missing content, even if the other clients are
22 online, because you have that option, contact
23 the server without checking whether other
24 clients are on.

25 And then there is another sentence

1 that says you can request that content from the
2 server if you're less bandwidth relative to the
3 server, which says this is a more efficient way
4 of doing this.

5 I will note that a lot of this the
6 context of -- or actually this sentence, is in
7 the context of this sequence diagram where C was
8 offline and comes back online later.

9 Q. Right.

10 But even if Client B is online, for
11 example, Client C could decide to go to the
12 server to get the file, instead, if there's
13 limited bandwidth between Client C and B
14 relative to the server, right?

15 A. You could do that in this example, but
16 this would require that the other clients, A and
17 B, always push their content to the server, even
18 if they are online.

19 So, although this says that it's less
20 bandwidth, this is actually going to consume
21 more bandwidth because if you don't know whether
22 Client C is going to make a direct connection to
23 A or B or go to the server, you have to assume
24 either of those possibilities would be true.

25 So now you have a case where you can

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1 push directly or peer to peer, or you also have
2 to send that same file, even if you're online to
3 the server, because C might decide, Hey, I don't
4 want to go to the peer. I'm going to go to the
5 server.

6 So if you actually did this, it's
7 going to be worse performance in my opinion,
8 because you're sending the file potentially more
9 than you need to, sending it to the server and
10 even if you didn't.

11 But sure, if you want a system that's
12 less efficient, you could do this. I wouldn't
13 think a POSA would want to do it because it
14 seems to be doing the opposite what is actually
15 said here.

16 Q. So -- but this is basically saying
17 that you have a choice. So if Client C is
18 online, and Client B is online, and both the
19 Client B and the server have the missing file
20 that Client C needs, you can use either a
21 peer-to-peer architecture or a client server
22 architecture, you know, at the choice of Client
23 C, right?

24 MR. SALIBA: Objection to form.

25 A. So again, as I said earlier, Client C

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1 can request when it comes back online, the
2 content from server or it could go and request
3 it from the peer.

4 That is certainly the case when C was
5 offline and came back online.

6 Now, if you're saying the same
7 technique can be used when you are always
8 online, as I indicated just now, that is
9 actually going to be less efficient because
10 you're going to duplicate the work, not knowing
11 whether Client C would request the content from
12 the server or the peer, you might just send the
13 data to the server without -- without it being
14 needed to be sent.

15 Q. Right. But in this particular
16 embodiment, use of the server is described as
17 being interchangeable with use of a client to
18 receive the missing file; is that correct?

19 MR. SALIBA: Objection to form.

20 A. So in the case where C was offline and
21 comes back online, this embodiment that we are
22 describing here, the alternative embodiment,
23 says C has the choice of where to get it, the
24 missing content from.

25 Q. Okay.

1 So the -- would you describe the
2 peer-to-peer embodiments in Sigurdsson as being
3 serverless?

4 A. So this word "serverless" is often
5 used as a shorthand for peer to peer in the
6 broader literature. It simply means that the
7 peers talked to one another without having a
8 server in the architecture.

9 So from that perspective, the
10 peer-to-peer embodiment alone is serverless,
11 but, of course, Sigurdsson has a teaching of a
12 server, and clients are our architecture. So I
13 would not say all of Sigurdsson teachings are
14 serverless because there is a server in there as
15 well.

16 Q. Okay. All right.

17 MR. WHITT: Let's switch gears. I'm
18 going to mark another exhibit, Brown. So,
19 this will be Exhibit 14; is that correct?

20 THE ONLINE TECHNICIAN: That is
21 correct, yes.

22 MR. WHITT: Thank you.

23 (U.S. Patent Number 7,035,847, by
24 Brown, was marked Shenoy Exhibit 14 for
25 identification, as of this date.)

1 Q. So --

2 A. I still haven't seen it.

3 Q. Okay.

4 Let me know when you've got that.

5 A. This is not showing up. I'm
6 refreshing the browser. I did it multiple
7 times. It doesn't seem to show up here.

8 Now it's here.

9 Q. Okay.

10 MR. WHITT: And I guess, while we're
11 at it, I'm going to mark Shappell as well,
12 as Exhibit 15. And --

13 A. Let me download that file as well.

14 (U.S. Patent Publication Application
15 2005/0091289, by Shappell and others, was
16 marked Shenoy Exhibit 15 for
17 identification, as of this date.)

18 Q. Then I'm also going to Mark Hesselink
19 as Exhibit 16.

20 (U.S. Patent Publication Application
21 2005/0120082, by Hesselink and others, was
22 marked Shenoy Exhibit 16 for
23 identification, as of this date.)

24 MR. WHITT: And then Microsoft
25 computer dictionary is going to be

1 Exhibit 17.

2 (Microsoft Computer Dictionary was
3 marked Shenoy Exhibit 17 for
4 identification, as of this date.)

5 MR. WHITT: I think that's it.

6 Q. So just let me know when you have
7 Exhibits 14, 15, 16, and 17 downloaded, please.
8 Thank you.

9 A. Yeah, I have downloaded them now.

10 Q. Okay, perfect.

11 Let's start with Exhibit 17, actually.
12 So this is an excerpt from the Microsoft
13 Computer Dictionary.

14 And I want to have you take a look on
15 PDF page 3, at the definition of polling, and it
16 says -- right there, it says, Auto polling, it
17 says, is the same as that.

18 And then there's a definition of auto
19 polling on the page, page 4, that says, in part:
20 The process of periodically determining the
21 status of each device in a set so that the
22 active program can process the events generated
23 by each device, such as whether a mouse button
24 that was pressed or whether new data is
25 available at a serial port.

1 Does that sound like a fair definition
2 of auto polling to you from the perspective of a
3 person of ordinary skill in the art?

4 MR. SALIBA: Objection to form.
5 Foundation.

6 A. So, there is a definition here of
7 "auto polling," but I would say it's a data
8 definition because the -- the Microsoft Computer
9 Dictionary is somewhat old.

10 So this definition would be more
11 relevant if you are talking about a single
12 system and the operating system on that machine,
13 which -- that says, Windows is trying to figure
14 out whether the user has pressed a mouse button
15 or a keystroke or something like that, and is
16 keeping -- is checking periodically whether
17 that's happening.

18 I would say that the definition of
19 polling is much broader than that, and what
20 Sigurdsson uses, for example, to poll, it's not
21 checking for the mouse button or -- it's
22 checking to see if there's a file that has
23 updated, was received and so on.

24 So I would not agree that this is
25 actually a good definition. It's fairly limited

1 to what an operating system would do in terms of
2 trying to figure out events on that machine.

3 Q. Right. What about -- so at the end of
4 this, it kind of distinguishes polling from
5 event-driven processing such as using
6 interrupts.

7 Is it fair to say that polling is
8 different from using interrupt-driven
9 processing?

10 MR. SALIBA: Objection to form.

11 Foundation.

12 A. Again, very broadly, if you're just
13 talking about operating system, not any of the
14 patents that we have been discussing, you
15 have -- when you write device drivers, and
16 you're trying to process events on operating
17 system, there are two methods you can use.

18 One is poll-base method where the
19 operating systems keep checking with the
20 hardware device as some event occurred, like a
21 mouse button was pressed. And the other is, the
22 device can send what's called an interrupt to
23 the operating system, saying, Okay. This event
24 occurred, somebody pressed a mouse button, and
25 so on.

1 So that's a well-understood approach
2 in the context of operating systems. As I said,
3 this reference seems really old, and this
4 definition is very specific to operating
5 systems. And these concepts, at least the
6 polling concept, is used in many other contexts
7 today or even in the timeframe of these patents
8 we've been discussing.

9 Q. Okay.

10 So the concept of polling, as it's
11 used, you recall that we discussed polling in
12 the context of the challenged patents earlier
13 today, that concept of sort of ping-pong
14 repeatedly something to see if it's online or in
15 communication, is that -- is that your
16 interpretation only in the networking context,
17 or is that something that applies more broadly
18 in computer science, generally?

19 MR. SALIBA: Objection to the form of
20 the question.

21 A. So polling is a very broad concept.
22 It's used in many different scenarios, this --
23 Microsoft dictionary talks about polling in the
24 context of writing device drivers and operating
25 systems.

1 What we talked about earlier was,
2 polling to check if machine was online.

3 You can use polling for many different
4 reasons in many different contexts. It's a
5 broad concept that's used in many different
6 scenarios.

7 Q. Okay.

8 And then if we could go to Exhibit 15,
9 which is Shappell, for a moment.

10 So I believe you discuss in your
11 report, Shappell's sharing of files among group
12 members, and you had some opinions about the
13 associated with the user limitation.

14 Do you recall those opinions?

15 A. Yes, I have mentioned how Shappell
16 works with groups and what that means in terms
17 of what the patents need for being associated
18 with the user. It's in my declaration.

19 Q. Right.

20 So let's take a look at paragraph 87,
21 please, of Shappell, this is page -- PDF page 29
22 of Exhibit 15.

23 Let me know when you're there.

24 So the -- the paragraph 87, let me
25 find the sentence here.

1 Yeah. So let's go to the second
2 sentence here. It says, Thus in an embodiment,
3 a group administrator or owner supplies an
4 enterprise policy, such as group creation, how
5 many group members are present, who can be
6 members, such as employees of corporation X but
7 not corporation Y, domains, whether content can
8 be shared.

9 Do you see that sentence?

10 A. Yes, I do.

11 Q. So the group policy associates users
12 with particular access rights and access
13 credentials to the shared group as described in
14 Shappell; is that correct?

15 A. So what is described here, is our
16 administrator can specify a policy in terms of
17 groups and who is present in these groups, and
18 what content can be shared and so on. So it
19 says that there is some flexibility on --
20 that -- the administrator has in terms of
21 deciding what groups can be formed and how they
22 share content.

23 Q. Right. And so, for example, do you
24 have a group policy on your computer that's
25 associated with your work, if you have a work

1 computer?

2 A. I -- I'm not sure we have a group
3 policy on individual laptop computers. There
4 are group policy on servers at our workplace.

5 Q. Right. And so those particular
6 machines that are associated with a particular
7 group policy, they -- one of the things you can
8 configure with such a group policy is whether
9 machines can talk to each other and whether they
10 can access files on other machines that are part
11 of the group; isn't that correct?

12 MR. SALIBA: Objection to form.

13 A. So very broadly speaking -- again, I'm
14 not describing anything with reference to this
15 particular patent.

16 Very broadly speaking, system
17 administrator can specify policies that say how
18 files are shared across servers and which
19 servers have access to storage and other servers
20 and so on. Those types of network policies can
21 be put in place in enterprise environments.

22 Q. Okay.

23 Let's go to -- back to your
24 declaration. This is Exhibit 4.

25 And let's skip down to paragraph 94.

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1 It's going to be page -- PDF page 45.

2 So, again, you're providing an opinion
3 here, that Brown, in combination with Hesselink,
4 requires a request from the client to initiate
5 the data transfer.

6 Is that your opinion?

7 A. Are we talking about paragraph 9
8 before now? Which --

9 Q. Yes. 94 in your declaration.

10 A. Okay. Yes, I did say in this
11 paragraph that the disclosure sub Brown and
12 Hesselink require a request from the client to
13 initiate a data transfer.

14 Q. And you haven't provided any
15 alternative opinion in your declaration if the
16 claims are, for example, determined to not
17 require an implementation that excludes client
18 requests for data. Right?

19 So in other words, you haven't -- if
20 the claims are construed to cover scenarios in
21 which clients request data from the server, you
22 haven't provided an alternative opinion on that
23 claim construction, right?

24 MR. SALIBA: Objection to form.

25 A. I was not asked to perform that

1 analysis or provide opinions from that
2 perspective.

3 All I've said is, the claims -- my
4 understanding of the claims is they are required
5 the transfer be automatic from the server's
6 perspective, and these references don't teach
7 that.

8 Q. And then if we go to the next
9 paragraph, paragraph 95, you say, in the --
10 paragraph -- see. Yeah.

11 You say that Brown discloses that
12 communication between the clients and the server
13 uses the HTTP protocol.

14 So let's go to Brown -- this is going
15 to be Exhibit 14. And this is going to be
16 Column 3, and it's going to be on page -- PDF
17 page 33.

18 So --

19 A. I didn't get the columns and the --

20 Q. Yeah. It's going to be Column 3,
21 lines 1 through 8.

22 A. Okay.

23 Q. So, the second sentence here,
24 actually, line 2, says, Preferably the client
25 SA -- that's the application on the client --

1 communicates with the server SFS using a
2 proprietary protocol tunnel within the HT --
3 hypertext transport protocol HTTP. But a person
4 of skill in the art -- a person skilled in the
5 art, rather, will recognize that other protocols
6 can be used.

7 Do you see that?

8 A. Yes, I do.

9 Q. So, do you agree with the statement
10 that a person of skill in the art would have
11 recognized that other protocols could have been
12 used to implement Brown's functionality?

13 MR. SALIBA: Objection to form.

14 A. So the sentence originally says that,
15 but it doesn't actually give any explanation of
16 what are the protocols it's contemplating or how
17 it would work, but certainly, there is a
18 sentence there that says that.

19 Q. Okay.

20 Are you familiar with "FTP"?

21 A. I am familiar with "FTP"; it stands
22 for File Transfer Protocol.

23 Q. Are there differences between FTP and
24 HTTP?

25 A. There are very significant differences

1 between FTP and HTTP, yes.

2 Q. And could a client share a file with a
3 server using FTP?

4 A. FTP, is just stands for File Transfer
5 Protocol. Just is a protocol that allows you to
6 transfer a file from one machine to the other.

7 You could certainly upload a file with
8 FTP. I don't know whether that means you can
9 share the file or anything like that, but
10 certainly, you know, this hypothetical example
11 you just gave of FTP, you could upload a file
12 from a device to server using FTP.

13 Q. And a person of ordinary skill in the
14 art would know how to transfer files using FTP
15 prior to 2008, right?

16 A. A person of ordinary skill would know
17 how to transfer a file or FTP. But let me go
18 back to that sentence you read, because the
19 server is using a proprietary protocol. Turn it
20 over, HTTP. It's not using HTTP by itself as a
21 standard. It's using a proprietary protocol
22 tunnel using HTTP.

23 I don't know how somebody would tunnel
24 a protocol FTP, because FTP is a much simpler
25 protocol that simply allows you to do file

1 transfer.

2 So if the question is, can you -- FTP
3 with FTP, I don't think so, because, unless
4 there's an explanation of how this proprietary
5 protocol can be tunneled or FTP, but I don't
6 know how you can tunnel anything over FTP.

7 So I would say, no, you couldn't use
8 it in this context, unless there is additional
9 teachings showing how to do it.

10 Q. Okay. Let's go to Exhibit 16, which
11 is Hesselink. And we're going to be looking at
12 PDF page 23.

13 And this is going to be paragraph 75,
14 and it says, down here kind of towards the
15 middle, there's a sentence that says, The
16 invention may be embodied in network computer
17 systems in a variety of configurations. Other
18 than the exemplary configurations shown herein,
19 the invention is -- is described primarily in
20 terms of use of -- with HTTP, but may be used
21 with other data transfer protocols.

22 Do you see that?

23 A. Yes, I do.

24 Q. So, again, do you disagree that a
25 person of ordinary skill in the art would have

1 recognized other data transfer protocols that
2 could have been used aside from HTTP and
3 Hesselink?

4 MR. SALIBA: Objection to the form of
5 the question.

6 A. So, again, that sentence here says
7 that the invention is described as using HTTP,
8 but other protocols could be used. Certainly,
9 that may be possible. But the reference doesn't
10 talk about what those protocols are. Will they
11 be drop-in replacement for HTTP? Will other
12 modifications be needed? None of that is
13 taught.

14 There is a cursory sentence here, and
15 I'm going to take it at face value saying, yes,
16 you could potentially use other protocols, but
17 without some proper teachings of how you can
18 make it work with other protocols, I wouldn't
19 think that it's obvious to a POSA to take some
20 on arbitrary data transfer protocol and drop it
21 in here because, I think, the -- the reference
22 uses HTTP in certain ways, and you would have to
23 think carefully about how you could replace it
24 with other data transfer protocols.

25 Q. Okay.

1 Let's talk about Hesselink's
2 embodiment here for a bit. So let's actually
3 take a look at the figures. I think it's the
4 easiest way to take a look at that.

5 So if you look at Figure 2, for
6 example, you have certain user devices here on
7 the left that have labels that start with the
8 number 12.

9 Do you see those?

10 A. Yes, I do.

11 Q. And then you have an HTTP server
12 machine, right there in the middle, right?

13 A. There is a machine, Box Number 48
14 that's labeled "HTTP server machine" in Figure
15 2.

16 Q. Right.

17 And then that has a number of server
18 modules. It -- have labels that start with 14.

19 Do you see those?

20 A. Yes, I do.

21 Q. And then finally, there are some -- I
22 think they are referred to as network connected
23 devices here for -- I can't remember what DCU
24 stands for, but there are additional items here
25 that are listed with labels that begin with 18.

1 Do you see that on the right?

2 A. There are several boxes of squares and
3 circles and -- tab labels "18A" through "18N."
4 I cannot remember offhand what "DCU" stands for,
5 but, yes, there are those or boxes on the right
6 that are shown as well.

7 Q. So this is depicting a client server
8 architecture; is that correct?

9 A. So in this case, we have a server, and
10 then there are user devices, so you will have a
11 client server architecture when those devices
12 communicate with the server.

13 Q. Okay.

14 And then looking at Figure 3 on the
15 next page, we have the same user devices on the
16 left and the same, I guess, you know, circles on
17 the right, although the numbering on the DCUs is
18 changed a bit. It looks like there's a
19 component inside the DCU on these ones.

20 This is also depicting a client-server
21 architecture; is that correct?

22 A. So Figure 3 is showing box labeled
23 "56." That has a name "Security servers," so
24 that's a security server. And, again, it shows
25 other devices, which are machines that are

1 communicating with the server.

2 But this is another example of a
3 client-server architecture. In this case, these
4 clients and servers are presumably using some
5 other techniques for communication because HTTP
6 is not shown explicitly.

7 Q. Okay.

8 And then if we could go all the way
9 down to PDF page 11, this is Figure 10. This is
10 also depicting a -- a client server
11 architecture. Right? With the Connection
12 Server 14 in the middle, and then client
13 devices, 72, 74, and 76.

14 Do you see that?

15 A. We have, in Figure 10, three computers
16 that are being shown. And there is something
17 called "a connection server."

18 I have to think about whether it's
19 actually showing a client-server architecture
20 because I don't see a -- that the computers are
21 actually talking to the servers. They are
22 talking to firewalls. As if any communication
23 goes to the server or it goes directly from one
24 computer to another, I would have to think
25 about.

1 Q. Okay. Right.

2 So what about client -- so let's take
3 the example of Client 72 -- actually -- yeah.
4 We can talk about that later with respect to the
5 spec.

6 But, yeah, let's take a look at --
7 let's take a look at -- I think is going to be
8 paragraph 84. Yeah.

9 So if you look at paragraph 84, it's
10 going to be on PDF page 25. So this is talking
11 about Figure 3, which is the embodiment we just
12 looked at for the security server.

13 So it -- it discusses there that, The
14 security server uses an authentication
15 application to see whether or not the
16 authentication data in the request from a client
17 computer verifies the user of Client Computer
18 12, such that the client computer is assigned a
19 Connection Server 14.

20 Do you see that?

21 A. Which sentence are you reading? I
22 couldn't quite get it.

23 Q. Yeah. It's -- it's towards the middle
24 there. It's the sentence that starts, "Security
25 Server 58."

1 Do you see that?
2 Security server 58 may be operatively
3 coupled.

4 Do you see that?

5 A. Okay, I do see the sentence.

6 Q. So it may be operatively coupled to
7 those client computers we discussed earlier,
8 that, you know, that begin with 12. And then
9 it's also coupled to a plurality of device
10 control computers, 36, and network-enabled
11 devices 18, via the Internet.

12 And then it says that client computers
13 12, each include the stored client processor
14 program. And skip down here.

15 Yeah, it's kind of a long explanation,
16 but if you skip down to the next paragraph,
17 basically, there's an authentication application
18 on the server. This is about nine lines from
19 the bottom of the page, in paragraph 85.

20 So it say, The authentication
21 application on the security server checks to see
22 whether or not the authentication data and the
23 request has been altered. This is from the
24 client computer, and whether or not the
25 authentication data verifies the user of the

1 client computer.

2 And if the authorization is denied,
3 then it's repeated, and then an HTTP request is
4 sent. But if it's not denied, in the -- this is
5 the top -- the first line, in the right-hand
6 column on this page, it says, If the user of
7 Client Computer 12 is authorized in the event,
8 encryption keys may be prepared and verified
9 following user authorization Event 420 is
10 carried out.

11 And then paragraph 86, it says, At
12 Event 420, security server assigns one of the
13 connection servers, 14, to the user of client
14 computer 12 that was authorized in Event 410.

15 And then, in 430, a connection is made
16 between the connection server and the Client 12,
17 and then also the Network-Enabled Device 18.

18 So, you see how in these paragraphs,
19 there's a security server that is assigning,
20 based on access rights, connections between a
21 User Computer 12 and a Network-Enabled Device
22 18?

23 MR. SALIBA: Objection to form.

24 A. So you read a lot of the text on
25 the -- of the language on paragraph 85.

1 The figure is describing a security
2 server that is being used for authentication and
3 invention of the patent, very broadly, and say
4 that the invention is still based on a
5 peer-to-peer application. There are server
6 components that are being used to perform
7 certain tasks like authentication.

8 That is there in this reference.

9 Q. Right.

10 And specifically, here, in paragraph
11 86, it's talking about an Event 420. It says
12 that the security server assigns a connection
13 server to one of the client computers, 12,
14 right?

15 You see that?

16 A. In paragraph 86, it talks about a
17 security server assigning one of the connection
18 servers to the client computer, yes.

19 Q. Yeah. And that's based on the
20 authorization in Event 420, right?

21 A. It does talk about in that sentence
22 saying that it was based on -- that what was
23 authorized in Event 410, so it's referring to
24 the authorization from Event 410.

25 Q. Okay.

1 So the -- and then if we go back up to
2 the previous paragraph, this is the -- the
3 authentication, in particular, is talking about
4 verifying that the user is authorized to make
5 this access. Right?

6 You can read that paragraph to
7 yourself, if you need to to understand it.

8 (Witness reviewing document.)

9 A. Figure 4 seems to be describing an
10 embodiment that relates to access control and
11 authentication and is trying -- is describing
12 steps that determine whether the user's computer
13 is authorized to perform certain actions.

14 Q. And then, in the next paragraph, which
15 we already discussed, there's a connection
16 between the clients and -- Client 12 and the
17 Connection Server 14, and then also, a
18 connection between the Server 14 and a
19 Network-Enabled Device 18.

20 Do you see that?

21 A. Yes. So in this case, it talks about
22 when authorized, you can connect to a connection
23 server with devices labeled 12, and then the
24 connection server is also connect to some
25 network-enabled devices labeled 18.

1 Q. Right. Okay.

2 And then, do you see in paragraph 85,
3 the first sentence says, Figure 4 is a flow
4 chart describing the operation of the access and
5 Control System 54?

6 A. Yes. The first sentence says, Figure
7 4 is a flow chart describing the operation of
8 the access and Control System 54. That's the
9 first sentence of that paragraph.

10 Q. And then, Figure 3 -- and then the --
11 the -- the previous paragraph, 84, says, Figure
12 3 illustrates still another example of an access
13 and Control System 54.

14 You see that same number there?

15 A. Figure 3 -- in paragraph 84. There's
16 a sentence above Figure 3 that says, Figure 3
17 lists still another example of an access and
18 Control System 54 that may be used in accordance
19 with the present invention for efficient and
20 more access and control of storage devices.

21 Q. Right.

22 A. So both these sentences talk about
23 access and Control System 54.

24 Q. Right.

25 And then in paragraph 87, it says, In

1 Event 440, the client computers in this system
2 transmit instructions or commands through the
3 server to a Network-Enabled Device 18. And then
4 in response, the Network-Enabled Device 18
5 transmits data to the Client Computer 12.

6 And if we go back up here and look at
7 Figure 3, so that -- that shows the -- the
8 communications between clients -- the
9 Network-Enabled Device 18 and the Client 12 must
10 go through the server.

11 Is that your understanding?

12 MR. SALIBA: Objection to form.

13 A. So Figure 3 talks about a security
14 server. I don't think that I would say that the
15 data is actually going through the security
16 server when that devices are communicating with
17 one another.

18 Q. Okay.

19 It's not through the connection
20 server, right?

21 So I guess the Figure 2 -- actually,
22 yeah. Let's go down to -- yeah, so Figure 2 --
23 this is paragraph 83 on PDF page 24 at the
24 bottom.

25 It says, Figure 2 shows another

1 arrangement of an Access Control System 46, and
2 then it refers to in this paragraph, Connection
3 Servers 14, and then those same Connection
4 Server 14 items are referenced in paragraph 87.
5 Right? Do you see the references to 14A through
6 N in both paragraphs 83 and 87?

7 A. So which paragraph are you referring
8 to now?

9 Q. So, in -- paragraph 83 of Brown -- or
10 sorry, Hesselink.

11 So do you see in Hesselink, paragraph
12 83, the reference to Items 14A through 14N?

13 A. Yes.

14 Q. And then those same connections
15 servers are referenced in figure -- in -- sorry,
16 in paragraph 87, right? 14A through 14N?

17 A. Paragraph -- both paragraph 83 and 86
18 make a reference to Connection Servers 14A and
19 14N.

20 Q. Yeah. So -- so the data would go
21 through the connection server and in paragraph
22 87, right, from client -- from the
23 Network-Enabled Device 18 to Client 12?

24 MR. SALIBA: Objection to form.

25 A. I'm not seeing anything that says the

1 data is slowing through communication devices or
2 connection servers.

3 I do see that when computers are
4 transmitting, instruction or combined.

5 Q. Do you see how there's data going
6 from -- in the -- in the -- the third and fourth
7 lines there, in paragraph 87, it says,
8 Network-Enabled Devices 18A through 18N
9 transmits data to Client Computers 12A through
10 12N?

11 A. I'm trying to find the sentence that
12 you just referred to. I couldn't -- is it 87?
13 Paragraph --

14 Q. It's just -- it's actually the second
15 part of that first sentence there just after the
16 comma. It says, Network-Enabled Devices 18A
17 through 18N transmits data to client -- or
18 Client Computer 12A through 12N.

19 (Witness reviewing document.)

20 A. I do see that sentence, but I'm not
21 seeing where it says the data is going through
22 the connection servers. So I don't know --

23 Q. So let's go back -- yeah, paragraph
24 86. It says, An Event 420 Security Server 58
25 assigns one of the connection servers, 14A

1 through 14N, to the user of client computer 12A
2 through 12N.

3 Do you see that?

4 A. Yes.

5 Q. And then it says in Event 430, a
6 connection is made between the connection
7 server, 14A through 14N, assigned an Event 420
8 and a network-enabled device, 18A through 18N,
9 selected by the user authorized an Event 410.

10 Do you see that?

11 A. Yes, I do see that as well.

12 Q. Right. So, the user is selecting a
13 network-enabled device, and then there's a
14 connection established between that
15 network-enabled device and the connection
16 server, right?

17 A. So in this paragraph, it talks about
18 the connection servers and client computers, 12A
19 through 12N, connecting to the connection
20 server.

21 Q. Right.

22 And the next step it says that the
23 same connection server is assigned in an
24 event -- that was assigned an Event 420, is also
25 connected to the network-enabled device that was

1 selected by the user. Right?

2 A. The next sentence does say that in the
3 network-enabled device -- that's selected by the
4 user authorized in Event 410.

5 Q. Right.

6 So you understand that the
7 communications between the Network-Enabled
8 Device 18 discussed in the next paragraph, which
9 is part of the same set of steps in Figure 4,
10 would be going from Item 18 through the
11 Connection Server 14 to the Client 12. Right?

12 MR. SALIBA: Objection to form.

13 A. Yes, when you're using the connection
14 server in this case, and -- to send instructions
15 commanding data, and that paragraph also says
16 you are using a HTTP requests to do that.

17 Q. Right.

18 It says, The Client Process 32 running
19 on Client Computer 12 periodically sends HTTP
20 requests to the Connection Server 14.

21 Is that what you're talking about?

22 A. I was referring to that sentence, yes.
23 And the one after that also talks
24 about more HTTP requests.

25 Q. Okay.

1 So, if we look at -- let's take a look
2 at the flow diagram, actually, on page -- PDF
3 page 8. This is going to be Figure 7.

4 So, this is -- this also discussed --
5 discusses HTTP requests, right? Do you see that
6 in steps 730 and 740?

7 A. Yes. I think, Figure 7 of this
8 reference has steps 730 and 740 that send HTTP
9 requests and look at time to send HTTP requests.

10 Q. Right.

11 And paragraph 7 -- or not paragraph --
12 Item 740 expressly states that you can make an
13 HTTP to request and embed data in that request,
14 right?

15 A. The box labeled "740" says you can
16 make an HTTP request and embed data.

17 As we talked about earlier, that would
18 be an example of a put HTTP request.

19 Q. Right.

20 And if we go all the way down to PDF
21 page 27, in this reference, so this refers to an
22 Event 710. This is six lines from the bottom
23 here. Sorry, it's a long reference.

24 An Event 710, the Client Process 32
25 determines whether or not Client Computer 12A

1 has any data to send to Network-Enabled Device
2 18A. Right?

3 A. I couldn't figure out which paragraph
4 you are referring to.

5 Q. Paragraph -- paragraph 105 on PDF page
6 27.

7 A. That -- I forgot which sentence you
8 read that from.

9 Q. Yeah. Just six lines from the bottom
10 there, on the right. So it says, At Event 710.
11 Do you see that?

12 A. Okay.

13 Q. And then it says, Client Process 32
14 determines whether or not Client Computer 12 has
15 any data to send to Network-Enabled Device 18.

16 And then it says, This event is
17 carried out by checking a sending buffer, in the
18 memory of Client 12, wherein our stored data
19 that is to be sent to Network-Enabled Device 18.

20 Do you see that?

21 A. Yes, I do.

22 Q. Yeah. And then it says on the next
23 page, starting at the second line, it says, If
24 data for Networked-Enabled Device 18 is present
25 in the sending buffer, Event 740 is carried out,

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1 and Client Process 32 maintains communications
2 with the Connection Server 14 by periodically
3 sending HTTP requests to the connection server.

4 If no data was found, then you wait
5 for data, basically.

6 And then -- skipping down to the next
7 paragraph, paragraph 106, the first sentence:
8 On Event 740 client processes prepares and sends
9 an HTTP request to the Connection Server 14A
10 through N.

11 And then, If data for Network-Enabled
12 Device 18A through N was present in the sending
13 buffer in Event 710, this event may additionally
14 comprise embedding the data in the HTTP request.

15 So this is talking about embedding
16 data in an HTTP request that the client is
17 sending to the connection server.

18 Do you see that?

19 MR. SALIBA: Objection to form.

20 A. So there is a lot of text you read,
21 but I think the most recent one, basically,
22 talks about embedding data in the HTTP request.
23 And then the second last line -- sentence of
24 paragraph 106, says that data embed may, for
25 example, be carried out using an HTTP post

1 method.

2 So we talked about using post or puts
3 for embedding data that goes from an HTTP client
4 process to an HTTP server process. So this is
5 just describing an example of that process.

6 Q. And then, yeah, so the HTTP -- do you
7 want to take a break? We can take that break if
8 you want.

9 A. Yes, that, I think that would be good.

10 (A recess was taken from 3:28 to
11 3:40.)

12 Q. So we were discussing the Hesselink
13 reference, and I think we -- left off, I think
14 on PDF page 28.

15 So, let's just skip down to paragraph
16 109.

17 And just reading that first sentence
18 there, it says -- are you -- on that page?
19 Dr. Shenoy?

20 A. Yes.

21 Q. Okay. It says, The Connection Server
22 14A through 14N may serve as a bridging medium
23 between Client Computers 12A through 12N and
24 Networked-Enabled Devices 18A through 18N, via
25 the Device Control Computers 13 -- 36A and 36N.

1 Between Client Computers 12A through
2 12N and Client Computers 12A through 12N and
3 between Device Computers 36A and 36N and Device
4 Control Computers 36A and 36N.

5 So, data from the Devices 18A through
6 18N that are destined for Client Computers 12A
7 through 12N are posted to the Connection server
8 14A through 14N using an HTTP request, as
9 previously described.

10 So is that consistent with your
11 understanding of how HTTP posts request would
12 operate in that situation?

13 MR. SALIBA: Objection to form.

14 A. Again, you're -- you read -- several
15 sentences from paragraph 109.

16 But the -- the last sentence that you
17 read talks about client devices using a post
18 through the connection server use HTTP. That
19 sentence indicates that the client computers are
20 using HTTP post requests to send data from the
21 client to the connection server.

22 Q. And so I just want to see if I
23 understand your interpretation of the word --
24 well, the words "push" and "pull."

25 So, is it -- is a "push" a transfer of

1 data that occurs without being requested?

2 MR. SALIBA: Objection to form.

3 A. So, broadly speaking, the term,
4 "push," indicates that a data is being sent
5 without an explicit request from the other end
6 where the data goes to.

7 Q. Right.

8 And it's without a specific request
9 for that data. Right?

10 So, in other words, you have to be
11 requesting that data in order for it to be a
12 pull? Is that correct?

13 MR. SALIBA: Same objection.

14 A. Again, broadly speaking, "pull" means
15 you send a request for the data, and then the
16 data is sent back to you as a response.

17 Whereas in the push case, a data is
18 sent from, let's say, a server to a client
19 without the client explicitly requesting that
20 data.

21 Q. Okay.

22 So continuing on here where we left
23 off, just right here in paragraph 109, so, the
24 next sentence, I think, is five lines from the
25 bottom there.

1 On the left, in paragraph 109, it
2 says, Receiving the HTTP request, the Connection
3 Server 14A through 14N then temporarily stores
4 for buffers any data from the request in its
5 memory, i.e., the sending buffer.

6 Do you see that?

7 A. Yes, I do.

8 Q. And then it says, The next time an
9 HTTP request comes from Client Computer 12A
10 through 12N in this example, but as noted above,
11 a request could also be from another device
12 Control Computer 36A through 36N, and the
13 Connection Server 14A through 14N retrieves the
14 data from the sending buffer and sends the data
15 to Client Computer 12A through 12N or other
16 Device Control Computer 36A to 36N, along with
17 the response for the HTTP request.

18 Do you see that?

19 A. Yes, I do.

20 Q. So, this is basically saying that the
21 data can be forwarded to the destination. So
22 you have, basically, a client that -- a -- you
23 know, a source client that's providing the data
24 to the connection server, and then the
25 connection server can buffer that data. And

1 then the next time an HTTP request comes in,
2 that data could be forwarded to the destination
3 device.

4 Is that your understanding?

5 MR. SALIBA: Objection to form.

6 A. So, broadly speaking, the sentences
7 you read describe a scenario where the client
8 first sends data to the connection server using
9 an HTTP post request.

10 The connection server then stores that
11 data in the temporary buffer. And when other
12 HTTP request comes from a client, that data is
13 then sent back to the clients. In this case,
14 that's latter client has pulled the data from
15 the buffer to itself.

16 Q. So the response in a procedure that
17 was discussed in this paragraph, that's sending
18 data that was not specifically requested by the
19 client, right? That's just packaging it up into
20 an HTTP response and sending it to the client
21 without an explicit request for that data,
22 right?

23 MR. SALIBA: Objection to form.

24 A. It's quite the opposite. Because the
25 sentence clearly says, The next time an HTTP

1 request comes from the client computer, and then
2 it is all this verbiage, and then says it sends
3 the data to the computer as response.

4 So it is sending the data as part of a
5 response to a request that was explicitly made.

6 So it is -- the -- the first client,
7 data post and send data to the connection
8 server, and then another client made an HTTP
9 request and retrieved that data from the
10 connection server.

11 So it is a pull-based -- I mean, it's
12 a standard HTTP, so it's a pull-based request
13 response, message exchange that we are talking
14 about here.

15 Q. So let's skip down to there's an
16 embodiment of the same sort of functionality
17 from the perspective of the server, in Figure 8.
18 That's discussed starting on -- in paragraph
19 110.

20 And, again, we've got, you know, at
21 least two users, you know, at least two client
22 computers, 12A to 12N, and at least two device
23 controllers, Computers 36A through 36N. And
24 they've been authorized to talk to each other.
25 That's -- this is paragraph 110.

1 And then, skipping down to Event 810,
2 this is in paragraph 111, The connection server
3 process determines whether or not an HTTP
4 request has been received. And, you know, if
5 not, it kind of loops.

6 And then, at the end of that
7 paragraph, it talks about, If a request has been
8 received Event 830 occurs. And then 830 talks
9 about the connection server process reads the
10 HTTP request. And Event 840 the connection
11 server process determines whether or not any
12 data to or from the client computer, 12A through
13 12N, is embedded within the request. If there
14 is data embedded, the Event 850 is carried out.

15 If an 850, any data is buffered, and
16 then this -- you know, this data, in paragraph
17 113, it says, Event 860, connect server
18 processes -- Process 34 determines if there is
19 any data present for Client Computer 12, from
20 Network-Enabled Device 18A, and if there is,
21 then it puts that in an HTTP response, and it
22 sends that back to Client 12A.

23 So this is basically -- these
24 paragraph 110 through 113, are describing the
25 use of HTTP requests and HTTP responses to

1 transmit data; is that correct?

2 MR. SALIBA: Objection to form.

3 A. So then, there's a lot of text that I
4 was read out, and several steps we spoke about
5 that relate to Figure 8, but by and large, all
6 of those steps involve making an HTTP request
7 and receiving an HTTP response by the client.
8 And as part of that response the connection
9 server may send data.

10 So it is still an example of using
11 HTTP in a request and response manner to pull
12 data from the connection server.

13 Q. Right.

14 But if you look at paragraph 114, for
15 example, it says, an HTTP response is sent to
16 Client Computer 12A by the connection server,
17 and if any data was present at the connection
18 server sending buffer for the Client 12, then
19 that data is embedded in the response. Right?

20 A. That -- the sentences in paragraph 114
21 do say that. But it's talking about an HTTP
22 responses sent to the client, which means the
23 client has to have made a request first.
24 Responses are only sent in the -- after request
25 is made.

1 So it's not just sending the data
2 without a request made. It's always an HTTP
3 response goes back to the client after the
4 client make a request, which is why HTTP is a
5 request-response protocol. You make the request
6 to get back a response.

7 Q. Right.

8 But you can send data in an HTTP
9 response, right?

10 MR. SALIBA: Objection to form.

11 A. Yes. All get requests, actually, get
12 the response back as data. So when a browser
13 connects to the server, it makes a get request
14 to the web server, and the web server includes
15 the web page as part of the response.

16 So the data always comes back from the
17 server to the client as a response. That's
18 always been the case for HTTP.

19 Q. Right.

20 And so these periodic HTTP requests
21 that are discussed in these paragraphs, those
22 could be HTTP get requests. And if there's no
23 data for the client, then the server could just
24 provide a response without providing any data
25 embed in the response. Is that correct?

1 MR. SALIBA: Objection to form.

2 A. So this embodiment here involves HTTP
3 requests being made periodically, this is a form
4 of polling, actually, and can you make a request
5 if there's no data to send, the server would
6 send an empty response.

7 But if there is data to send, then the
8 get request will come back with a data embedded
9 as part of the response.

10 This is still a pull-based process.
11 It's a request-response process that is
12 basically standard HTTP.

13 Q. Okay.

14 So let's go to -- back to the Brown
15 reference. This is going to be Exhibit 14.

16 A. Okay.

17 Q. And we're going to look at Column 3
18 right here. So just look at line 40 -- on
19 Column 3. This is, From the user's perspective,
20 this synchronization process is automatic, runs
21 in the background, and requires minimal
22 monitoring for intervention.

23 Do you see that sentence?

24 A. Yes, I do.

25 Q. So, you opined in your report, as we

1 discussed earlier, the claims are user-centric;
2 is that right?

3 MR. SALIBA: Objection to form.

4 A. So I did say that the reference talks
5 about a user-centric architecture, but the
6 claims are talking about file transfers and
7 synchronization that is automatic from the
8 server's perspective.

9 This sentence here, which I actually
10 opined on in quite some length my declaration,
11 talks about automated process that's automatic
12 from a user's perspective, which is different
13 from being automatic from the server's
14 perspective.

15 So all this is saying is, that a
16 synchronization process does not require any
17 user involvement. It's just happening in the
18 background.

19 And then this can be done using a
20 client-pull-based approach which is what this
21 reference is doing, actually.

22 But what the -- the claims of the '561
23 and '942 patent require, is essentially a
24 different type of automatic file transfer that's
25 from the server's perspective.

1 Q. Okay.

2 Are you familiar with how the term
3 "automatically" is used in the specification of
4 the challenged patents?

5 A. That is -- language in the
6 specification that used the term, "automatic."
7 I don't know if you are referring to any
8 specific language in the specification.

9 Q. Yeah. Let's take a look at the '561
10 patent, which is going to be Exhibit 11.

11 And if you could go to the PDF page 9,
12 please.

13 So this is going to be the -- starting
14 on line 47. It says, Referring now to Figure 3,
15 illustrated as functionality of an embodiment of
16 the invention allowing a user, not shown, who
17 owns and otherwise controls devices to
18 automatically maintain file synchronization
19 between at least Devices 210, 280, or any other
20 user devices on which principles of the present
21 invention are implemented.

22 Do you see that sentence?

23 A. Yes, I do.

24 Q. So that is referring to automatically
25 from the user perspective. Right?

1 A. So this specific sentence is talking
2 about being automatic from the user's
3 perspective. But claims are talking about being
4 automatic from a server's perspective.

5 And I'll say this, if any automatics
6 from a server's perspective, also automatic from
7 the user's perspective, because in -- even in
8 that case, the user doesn't have to do anything.

9 So one way to think about is being
10 automatic from the user's perspective can be
11 implemented using a pull-based architecture,
12 which is all of these references that we have
13 been talking about, Sigurdsson, Shappell, Brown
14 and Hesselink seems to do, but you can also
15 implement this from a service perspective, which
16 is really the invention here.

17 That's the key difference between the
18 patent that we have here, the '561 and '942, and
19 all of those references, which is why none of
20 those references are teaching this type of
21 automatic.

22 Both are automatic from a user's
23 perspective, but being automatic from a server's
24 perspective is actually different way of
25 implementing at that automatic transfer. That's

1 really the point I made in my declaration.

2 Q. Right.

3 So when you talk about being automatic
4 from the server's perspective, are you saying
5 that no input is required to the server from
6 anything in order to accomplish the
7 functionality? Is that what you're saying?

8 MR. SALIBA: Objection to form.

9 A. Specific language in the claims that
10 say that you transfer the file automatically
11 from the server's perspective. That means the
12 server has to initiate that process without an
13 explicit request from the client.

14 Once the server is initiated process,
15 you can implement that automatic many different
16 ways, one of which is just pushing that data.

17 But that's what I mean by being
18 automatic from the server's perspective, that it
19 has to be initiated by the server.

20 Q. Okay.

21 So, in order to infringe this claim,
22 you have to have a server that sends data to a
23 client without any request from the client for
24 that data. Right?

25 MR. SALIBA: Objection to form.

1 Foundation and scope.

2 A. So, looking at Claim 1, there are
3 elements that say that you have to transfer
4 files from the first electronic device to the
5 third electronic device.

6 And that is automatic from the first
7 electronic devices' perspective, which in this
8 case is the server, that claim element cannot be
9 met if the client has initiating that transfer
10 because then it's not automatic from the
11 server's perspective.

12 Of course, there are other claim
13 elements of automatic transfers from the second
14 device to the first device and so on. That's a
15 different type of automatic transfer. It's also
16 in the claims.

17 Q. Right. And let's go back to
18 Hesselink, please. This is Exhibit 16. And if
19 we could go to PDF page 39.

20 And I'm going to ask you a question
21 about paragraph 183, which is a paragraph that
22 you discuss in your declaration.

23 So in the first sentence here -- are
24 you at paragraph 183?

25 A. Yes, I am.

1 Q. And in the first sentence here, it
2 says, As noted above when data is updated such
3 as when a file is edited, for example, the
4 system may be configured to automatically update
5 all or some designated subset of computers on
6 the network as soon as the update has been
7 performed at one location.

8 Do you see that?

9 A. Yes, I do.

10 Q. You understand how that process could
11 be carried out by the systems that we talked
12 about earlier, right? Because you've got these
13 constant messages in HTTP going back and forth
14 between the client and the server, and the
15 server just basically has to just pick one of
16 those responses to essentially push the data
17 back to the client. The client has no idea
18 what's coming, but there's just this ping and --
19 back and forth between the client and the
20 server, and the data comes from the server to
21 the client after it's arrived from the other
22 client, right?

23 MR. SALIBA: Objection to form.

24 A. So as far as this sentence is
25 concerned, it's talking about the system

1 performing this automatic update, and, as we
2 talked about earlier, you're using pull requests
3 from the client to the server, and the server
4 sends back some data as part of HTTP peer
5 responses.

6 So it's still a pull-based method.
7 It's automatic from the user's perspective.
8 It's still not going to teach what the claims
9 require, which is being automatic from the
10 server's perspective.

11 Q. Right.

12 But the -- the client is not really
13 specifically asking for any data, in particular,
14 though, right? I mean, it's just sending an
15 HTTP request, and it doesn't even know if
16 there's any data.

17 So is that still a poll, in your
18 opinion?

19 A. Yes, a poll-based request is a pull
20 request, because you're just pulling -- all as
21 simply saying, if you have any data, send it to
22 me. That's what they're pulling for is, do you
23 have any data? If so, send it to me.

24 So you are making a request from the
25 server.

1 The server could say, I don't have any
2 data. We talked about that as that HTTP
3 response that is blank. Or it might say, I do
4 have some data, here it is, and you send that
5 back as a response. So that's still a
6 pull-based approach.

7 All polling-based approaches are
8 pull-based approaches.

9 (Reporter requested clarification.)

10 MR. WHITT: We've been talking about
11 both P-U-L-L and P-O-L-L, so it makes it a
12 little confusing. Sorry.

13 Q. Let's talk about -- we -- I think we
14 talked a little bit about the embodiment in
15 paragraph 87 and Hesselink.

16 Can we go to PDF page 25 of Hesselink.

17 So here in -- yeah, it's going to be
18 the second sentence here, in paragraph 87.

19 Starting on the fourth line there, it
20 says, These events may occur concurrently as
21 full-duplex connections are established.

22 Do you know what a "full-duplex
23 connection" is?

24 A. Just one second. You're talking about
25 paragraph 87 now?

1 Q. Yes.

2 A. So the sentence that you read out,
3 which is the second sentence from paragraph 87,
4 says, These events may occur concurrently as
5 full-duplex connections are established.

6 So in this context, these full-duplex
7 connections referred to TCPIP connections. All
8 TCPIP connections are full duplex, which means
9 that data can flow from either machine to the
10 other machine.

11 Q. Right. Okay.

12 Let's go to paragraph 141 now. This
13 is going to be on page -- PDF page 32. This is
14 another embodiment you discuss in your report --
15 in your declaration, rather.

16 So this is discussing using a server
17 to push a modified file from one client to
18 another client.

19 So can you just read paragraph 141 to
20 yourself, and then I'll ask you a question.

21 A. Okay.

22 (Witness reviewing document.)

23 A. Okay.

24 Q. So this is referring to Items 72A and
25 72SU and 74SD and -- yeah, so these items are --

1 appear in Figure 10, right? This is going to be
2 on PDF page 11.

3 Do you see that?

4 A. Yes. I do see them in Figure 10.

5 Q. Right.

6 And so, this paragraph is describing
7 basically a subscription model where the user,
8 through the use of local applications, makes a
9 change. When that occurs, the user module sends
10 any modifications or deletions to 74, so that's
11 72 going to 74.

12 So, in Figure 10, that would be, you
13 know, going through this -- you could go either
14 through the connection server or directly to 72,
15 but then there's also -- sorry, the other way
16 around, 72 to 74.

17 But then also in -- in that same
18 paragraph, it says -- later on, it says, After
19 receiving the modifications, Device Module 74
20 consults the file overhead subscription
21 information to identify any other connected user
22 modules that are actively subscribed to the
23 modified file overhead information. And then
24 subsequently, the modifications are transmitted
25 to other user devices that are subscribed.

1 Did you read that?

2 A. So I lost the paragraph number when I
3 switched to the figure. Which paragraph are we
4 talking about?

5 Q. 141 on PDF page 32.

6 A. 141, okay. I read it one more time.

7 Q. Sure.

8 MR. SALIBA: Counsel, did you say that
9 the paragraph refers to -- is referring to
10 72SU in Figure 10? I'm lost.

11 MR. WHITT: Yes. 72. Yes, sorry.
12 It's just 72, not 72SU. Yeah, 72.

13 MR. SALIBA: I'm sorry, 72SU?

14 MR. WHITT: Yeah, I think that's what
15 I said, yeah, but it's -- yeah, actually
16 72, yeah.

17 A. Okay. I've gone through the paragraph
18 again.

19 Q. So, so this embodiment -- if we were
20 going to implement it in Figure 10, for example,
21 there's a User Device 76 shown in Figure 10.
22 This is on PDF page 11.

23 Let's say that user device was
24 subscribed to the file, so this is saying that
25 when the modification arrives at Client 74, 74

1 would broadcast through the connection server to
2 76 that file update.

3 Is that correct?

4 MR. SALIBA: Objection to form.

5 A. So it's talking about subscriptions
6 and delivering files or changes to computers
7 that are subscribed to those events.

8 My understanding is that this is still
9 being done using a pull-based approach, where
10 you could have subscribe, but when you pull,
11 then the -- the relevant events are delivered to
12 you because of the way HTTP and other protocols
13 work.

14 Q. Okay.

15 Let's go to paragraph 122. And this
16 is -- specifically describing Figure 10, this is
17 PDF page 29 down there at the bottom right.

18 So it says, Figure 10 shows another
19 example of the present invention in which only
20 three computers/network-enabled devices, 72/18A,
21 74/18B, and 76/18C, are shown for simplifying
22 the description of the functionality.

23 And then it says, Although Figure 10
24 only show three computers -- it could be larger
25 or smaller number of computers.

1 And then it provides a specific
2 example here in the last sentence of that
3 paragraph, where it says, Any of Computer 72,
4 74, and 76, may be a desktop, a laptop, or
5 personal digital assistant or other device of
6 the user. Right?

7 A. Yes. It's -- it's the language in
8 paragraph 122, that you read out.

9 Q. Right.

10 And then, so that device, there's
11 other examples in the patent, for example,
12 paragraph 121, the previous page, it talks about
13 right there in the third sentence, it says, For
14 example, a user from the location of Laptop 76,
15 may access a Remote Device 18A to share a
16 personality financial statement.

17 So it's talking about basically going
18 through a server to share files.

19 If we go back to Figure 10, you can
20 see that Device 76 is not directly connected to
21 72 or 74. Right?

22 MR. SALIBA: Objection to form.

23 A. So the other example that you gave,
24 earlier, to accessing the financial statement,
25 refers to Figure 9, not Figure 10. But as far

1 as Figure 10 is concerned, Device Number 76 is
2 using -- is intermediary server to access data
3 from other devices that are being sent.

4 Q. Let's go back to your declaration, and
5 let's look -- take a look at paragraph 114.
6 This is Exhibit 4.

7 And it's going to be PDF page 57.

8 Do you have an opinion here? It says,
9 In my opinion to a POSA, Hesselink fails to
10 disclose the first application associated with a
11 user automatically transferring a modified first
12 electronic file, copy, to the third electronic
13 associated with a same user.

14 So -- and then I think your opinions
15 that follow here relate to the associated with
16 the user element; is that correct?

17 A. Yes, I think this paragraph that you
18 just referred to, which is paragraph 114, is
19 discussing my opinions regarding the files --
20 files associated with the same user, and then
21 there is some more description of it in the
22 following paragraphs.

23 Q. Yeah. And you don't provide any
24 analysis of what Dr. Balakrishnan relies on from
25 Brown reference with respect to the limitation

1 associated with a same user. Right?

2 MR. SALIBA: Objection to form.
3 Foundation.

4 A. So this particular paragraph is
5 talking about my analysis with regards to
6 Hesselink. I don't know if you're asking some
7 questions about other paragraphs that relate to
8 Brown, but this paragraph is talking about
9 Hesselink, in particular.

10 Q. Okay.

11 So we've talked about Sigurdsson,
12 which uses a push in the form of an HTTP post
13 message. We've also talked about push-based
14 implementations and Hesselink.

15 So, a person of ordinary skill in the
16 art would not have viewed the use of HTTP post
17 messages to be incompatible with the use of HTTP
18 get messages, right? Like they could be used in
19 the same implementation; is that correct?

20 MR. SALIBA: Objection to form.
21 Foundation.

22 A. So we spoke earlier about HTTP post
23 messages, which go from the client to the
24 server. They transmit information from the
25 client machine to the server machine.

1 We also talk about HTTP get messages,
2 which also go from the client to the server.
3 And HTTP get messages are used to retrieve
4 information from the server.

5 Now, a standard HTTP server, in the
6 broad sense, can support both get requests and
7 post requests and put requests, and a standard
8 HTTP client can also support different types of
9 requests, such as get and post and so on.

10 So, it is -- most implementations of
11 browsers and clients will support different
12 types of get requests and post requests and
13 different types of HTTP requests, which includes
14 gets and posts and puts.

15 Still, I will say this, just because
16 you can support these types of requests, doesn't
17 mean that the server has become a push-based
18 server. It's still the client initiating
19 whether it's a get or a post or a put, that
20 request.

21 Q. Okay.

22 And then, in your -- if we could go
23 down a few pages to -- this is going to be PDF
24 page 62 here.

25 In paragraph 124, you've got this

Box/Dropbox Exhibit 1045

1 block quote from Brown, and the first sentence
2 of that block quote says, The client-server
3 architecture is designed to minimize the load on
4 the server processor.

5 Do you see that?

6 A. Yes, I do.

7 Q. So, wouldn't one way to minimize the
8 load on the server processor be to transfer any
9 file that is being sent to the server, that's,
10 you know, destined for a different device as
11 quickly as possible as and efficiently as
12 possible?

13 MR. SALIBA: Objection to form.

14 A. I didn't fully understand the
15 question.

16 Q. Sure.

17 We talked about how in Hesselink how
18 you could use both an HTTP request to send data
19 to the server, and then the server could
20 actually use an HTTP response to send data to a
21 client.

22 So one way you could minimize the load
23 on a server, for example, would be to
24 efficiently use HTTP requests and responses to,
25 you know, get -- basically, pass data as quickly

1 as possible from the buffer in the server to
2 another client where it's destined, rather than,
3 you know, keeping it stored in memory, right?

4 MR. SALIBA: Objection to form.

5 A. So what you described as a
6 hypothetical scenario that would make the
7 communication more efficient if you're sending
8 data quickly, you're making efficient use of the
9 network between the server and the client.

10 In doing so, I don't see how that
11 reduces the processing load on the server
12 itself, because communication is different from
13 processing requests.

14 Q. Okay.

15 MR. WHITT: If we can have a
16 five-minute break. I think I'm pretty much
17 done. I just need to see if I have more
18 cleanup questions, and then I can wrap up,
19 if that's okay.

20 MR. SALIBA: Okay. So 25 past?

21 MR. WHITT: Yeah, thanks.

22 (A recess was taken from 4:21 to
23 4:26.)

24 Q. Just a couple more questions.

25 The -- I think you testified earlier,

Box/Dropbox Exhibit 1045

1 that a -- a push-based system requires no
2 explicit request for whatever is being sent in
3 the pushed message. Is that correct?

4 MR. SALIBA: Objection to form.

5 A. So we had a lot of questions about
6 push. I'm not sure if you're referring to
7 specific question. But I also describe broadly
8 what a server push technique might look like,
9 and I said that, the server sends the content
10 without any explicit request for that content in
11 any way, like polling or explicit request for
12 that specific content, that's a push-based
13 approach or a push-based protocol.

14 Q. Okay. So let me give an example. I
15 have an iPhone right here. And on my iPhone, I
16 have a setting that allows me to receive push
17 notifications.

18 So when I -- when I specifically
19 choose to opt in to push notifications, which
20 you have to do on an iPhone, am I requesting
21 those push notifications?

22 MR. SALIBA: Objection to form.

23 Foundation and scope.

24 A. So, there are many ways to do push.
25 As of the date of the patent we talked about,

1 HTTP protocol did not have push functionality,
2 but now it does.

3 There are later versions that are push
4 functionality, there are other web technologies
5 called web sockers that are push functionality.
6 So your iPhone is using more than web
7 technologies where you can receive your push
8 notifications without your client making any
9 requests, and that can happen on HTTP.

10 As of the time of this patent and
11 these -- these other papers, the Sigurdsson and
12 all these other references, HTTP did not have
13 that functionality.

14 So things are changed since 2007/2008
15 timeframe, and now you can do lot more with HTTP
16 than you could before.

17 Q. Okay.

18 But -- yeah. I'm not talking
19 specifically about HTTP. I'm just saying, if
20 the user selects a setting that enables the user
21 to receive messages via push, is that a push
22 implementation or is that a pull implementation,
23 because the user is making a request, right, to
24 receive pushed messages, but the messages still
25 might be, you know, part of a push -- like, for

1 example, Apple's push notification, system.
2 Right?

3 MR. SALIBA: Objection to form.
4 Foundation. Scope.

5 A. So, just because you accept it or a
6 push notification, doesn't mean that the user of
7 the plan made a request. This is simply a
8 configuration setting which says, is the server
9 allowed to send push notification or the user
10 declining to receive any notification or not.
11 It's not explicit request. It's just a
12 configuration.

13 If the user opts in, the server
14 basically sends push notification, and if the
15 user opts out, the server knows that this user
16 doesn't want to receive any notification.

17 So I won't call it request as much as
18 configuration setting, either opting in or
19 opting out, whether you want to get your push
20 messages.

21 Q. Okay. Thank you very much.
22 Dr. Shenoy.

23 MR. WHITT: I pass the witness.

24 THE WITNESS: Thank you.

25 MR. SALIBA: So if we can go off the

1 record for five to ten minutes and let me
2 review my notes, see if I have any
3 redirect.

4 (A recess was taken from 4:30 to
5 4:39.)

6 EXAMINATION BY MR. SALIBA:

7 Q. So, Dr. Shenoy, I just have maybe one
8 or two questions for you. If you could pull up
9 Exhibit 4, which I believe is your declaration.

10 And if -- the court reporter could put
11 it on the screen.

12 And go to the -- paragraph 17.

13 If I could ask you to read paragraph
14 17 of your declaration.

15 A. Do you want me to read it aloud for
16 the record?

17 Q. No, you can read it to yourself.
18 That's fine.

19 (Witness reviewing document.)

20 A. Okay.

21 Q. In rendering your opinions in this
22 declaration, did you consider the knowledge of a
23 person of ordinary skill in the art in the 2007
24 and 2008 timeframe?

25 A. Yes. As I mentioned here, my opinions

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1 that are mentioned with regards to the
2 challenged claims are discussed, based on the
3 knowledge and skill of a POSA that they would
4 have had at the time of the invention, which
5 I've said here is around 2007 and 2008 and the
6 priority date of the '561 patent.

7 Q. Okay.

8 Thank you. That's all I have.

9 A. Thank you.

10 MR. WHITT: I'm also all done.

11 Thanks. I have no further questions.

12 MR. SALIBA: Okay. Dr. Shenoy, thank
13 you very much.

14 MR. WHITT: Thank you, Dr. Shenoy. We
15 can go off the record.

16 (Time noted: 4:41 p.m.)
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A C K N O W L E D G E M E N T

I, PRASHANT SHENOY, hereby certify, I have read the transcript of my testimony taken under oath in my deposition of February 8, 2024; that the transcript is a true, complete and correct record of what was asked, answered and said during this deposition, and that the answers on the record as given by me are true and correct.

PRASHANT SHENOY

Subscribed and sworn to
before me on this ____ day
of _____, 2024

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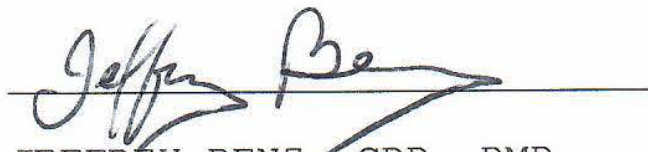
STATE OF NEW YORK }
COUNTY OF NEW YORK } Ss.:

I JEFFREY BENZ, a Certified Realtime Reporter, Registered Merit Reporter and Notary Public within and for the State of New York, do hereby certify:

That the witness whose examination is hereinbefore set forth was duly sworn by me and that this transcript of such examination is a true record of the testimony given by such witness.

I further certify that I am not related to any of the parties to this action by blood or marriage and that I am in no way interested in the outcome of this matter.

IN WITNESS WHEREOF, I have hereunto set my hand this 12th of February, 2024.


JEFFREY BENZ, CRR, RMR

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