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2 UNITED STATES PATENT AND TRADEMARK OFFICE
3 BEFORE THE PATENT TRIAL AND APPEAL BOARD
4 -----X
5 FUBOTV MEDIA INC. AND YANKA INDUSTRIES,
6 INC.,
7 Petitioners,
8 V.
9 DISH TECHNOLOGIES L.L.C.,
10 Patent Owner.
11 IPR2024-00918
12 Patent 9,407,564
13 -----X
14 UNITED STATES PATENT AND TRADEMARK OFFICE
15 BEFORE THE PATENT TRIAL AND APPEAL BOARD
16 -----X
17 AYLO FREESITES LTD,
18 Petitioner,
19 V.
20 DISH TECHNOLOGIES L.L.C.,
21 Patent Owner.
22 IPR2024-00940
23 Patent 11,991,234 B2
24
25 Job No. CS7142847

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

-----X

FUBOTV MEDIA INC. AND YANKA INDUSTRIES,
INC.,

Petitioners,

V.

DISH TECHNOLOGIES L.L.C.,

Patent Owner.

IPR2024-00917

Patent 10,757,156 B2

-----X

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

-----X

FUBOTV MEDIA INC. AND YANKA INDUSTRIES,
INC.,

Petitioners,

V.

DISH TECHNOLOGIES L.L.C.,

Patent Owner.

IPR2024-00919

Patent 8,868,772 B2

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February 6, 2025
9:00 a.m.

DEPOSITION of DR. HENRY HOUH,
taken by the Patent Owner, pursuant to
Notice, held at the offices of Venable
LLP, 151 West 42nd Street, New York, New
York, before Debbie Zaromatidis, a
Shorthand Reporter and Notary Public of
the State of New York.

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

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A P P E A R A N C E S: (CONTINUED)

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- and -

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Washington, D.C. 20001

BY: ANDREW WILSON, ESQ.

ALSO PRESENT:

1 H O U H

2 D R . H E N R Y H O U H ,
3 having first been duly sworn by a Notary
4 Public of the State of New York, was
5 examined and testified as follows:

6 EXAMINATION BY MR. GUY:

7 Q . All right. Dr. Houh, will you
8 state your full name for the record,
9 please.

10 A . My name is Henry Houh. That is
11 spelled H-O-U-H.

12 Q . Where do you currently reside?

13 A . I live in Lexington,
14 Massachusetts.

15 Q . Do you have an address there?

16 A . Yes, I do. It is 15 Ballard
17 with a B Terrace.

18 Q . And you've been retained as an
19 expert in the case involving four IPRs; is
20 that correct?

21 A . Yes.

22 Q . And were you personally retained
23 or was a company retained for whom you
24 work?

25 MR. SHENG: Objection form.

1 HOUH

2 A. I would have to check the
3 retainer letters. I am not sure.

4 Q. With whom?

5 A. The retainer letters.

6 Q. Okay. If it wasn't you
7 personally, do you operate any company or
8 own a company that would be hired?

9 A. Yes.

10 Q. What is the name of the company?

11 A. It is called Houh Consulting,
12 Inc.

13 Q. Does Houh consulting, Inc. have
14 any other experts or employees other than
15 you?

16 A. Yes.

17 Q. Who?

18 A. I have an assistant.

19 Q. What is that person's name?

20 A. Her name is Jena Leech. She is
21 really an administrative type of
22 assistant.

23 Q. And who have you been retained
24 by in this case?

25 A. I think there are two different

1 HOUH

2 parties in this case. I don't recall
3 whether it is the parties themselves or
4 the attorneys for the parties that
5 retained me, but on three of them
6 there -- Fubo TV with Latham is the law
7 firm, and the other is Aylo Freesites.
8 Venable is the law firm.

9 Q. And what about the fourth?

10 A. Sorry. The three were Fubo TV
11 and Fubo TV Media and Latham. That is
12 three. The fourth is Aylo Freesites with
13 Venable.

14 Q. So on three of them is it
15 jointly? Have you been jointly hired by
16 Aylo and Fubo TV?

17 MR. SHENG: Objection form.
18 Legal conclusion as well.

19 A. Not as far as I know, no. It
20 is just Latham and Fubo TV for the parties
21 matters that I am here to be deposed on
22 today, the three of them.

23 Q. Did you prepare separate bills
24 for Fubo TV versus Aylo?

25 A. Yes, I did.

1 HOUH

2 Q. And with respect to Aylo you
3 only charged them for the '234 patent?

4 A. Yes, for this proceeding.

5 Q. Are there any other proceedings
6 in which you are representing them or
7 offering opinions on their behalf?

8 A. On whose behalf.

9 Q. On Aylo's behalf?

10 A. I have. Yes.

11 Q. And what are they?

12 A. I think there is some other
13 matters. I think there is one involving
14 a company named Welcome Mat and Aylo. I
15 think there are other parts of -- I think
16 there is an EPR -- some EPRs that I have
17 submitted on behalf of Aylo, and I can't
18 remember what other declarations I have
19 submitted or reports I submitted on behalf
20 of Aylo at the moment.

21 Q. And you've also separately
22 worked for Fubo TV and Master Class with
23 respect to the '156 patent; is that
24 correct?

25 A. Yes. That is right.

1 HOUH

2 Q. And with respect to the '564
3 patent, who are you representing there?

4 A. That would be Fubo TV Media and
5 I think also Master Class.

6 Q. And with respect to the '772
7 patent, who do you represent there?

8 A. I think that would at least be
9 Fubo TV Media. If my memory is correct,
10 Master Class may also be one of the
11 petitioners.

12 Q. All right. Approximately how
13 many hours have you worked on these four
14 IPRs?

15 MR. SHENG: Objection to form.

16 Q. Have you worked any time at all
17 on these four IPRs in preparation of the
18 declarations you submitted?

19 MR. SHENG: Objection to form.

20 A. Sorry. Could you ask the
21 question again, please.

22 Q. I'll have it read back.

23 (Record read.)

24 A. Well, I put in some time on '234
25 and separately in submission of the three

1 HOUH

2 other matters, but they were I understand
3 what is known as copycat declarations. I
4 am not a lawyer. I don't know what the
5 real term is.

6 Q. Okay. But by copycat you mean
7 that the declarations in the '156, '564
8 and '772 were substantially copies of what
9 you submitted in the '234; is that
10 correct?

11 MR. SHENG: Is that correct?

12 A. No. I don't think that is
13 right.

14 Q. What did you mean by copycat?

15 A. They were previously submitted
16 by Aylo earlier, and then again I am not a
17 lawyer. I don't know what the right
18 terminology is, but then Fubo TV and I
19 think Master Class joined as petitioners
20 together to submit effectively in an IPR
21 the same declarations for the same patent
22 challenging the same patents as previously
23 submitted that I previously submitted
24 under an IPR for Aylo for the same
25 matters.

1 HOUH

2 Q. Do you do any additional work
3 for Fubo/Master Class with respect to the
4 '156, '564, and '772?

5 MR. SHENG: Form.

6 A. Perhaps. I can't remember at
7 the moment.

8 Q. All right. Approximately how
9 many hours have you billed Aylo?

10 MR. SHENG: Objection to form.

11 Q. Have you billed any hours to
12 Aylo at all in your work on these IPRs?

13 MR. SHENG: Form.

14 A. With respect to the submission
15 of the '772, '564 and 156 petition since
16 no, I didn't bill any hours to Aylo for
17 submitting them as part of the IPRs that
18 Fubo TV as one of the petitioners filed.

19 Q. All right. How much time did
20 you bill Fubo or Master Class for those
21 three IPRs?

22 A. I don't know offhand.

23 Q. You have no idea?

24 MR. SHENG: Form.

25 A. I -- I would have to look it up.

1 HOUH

2 I don't know offhand.

3 Q. All right. How many hours have
4 you billed Aylo on -- on the IPRs whether
5 they were the ones that were denied or the
6 '234?

7 MR. SHENG: Objection to form.

8 A. I don't know offhand. I am
9 not -- I don't know.

10 Q. Can you find that information
11 out? Did you keep track of it, in other
12 words?

13 A. I do have billing records, but I
14 am not sure I organized them in a way that
15 I would be able to answer that last
16 question I asked.

17 Q. All right. Approximately how
18 much have you billed Aylo?

19 MR. SHENG: Objection form.

20 Q. In total?

21 A. I don't know that offhand.

22 Q. Do you know whether it is
23 \$10,000 or \$100,000?

24 MR. SHEUNG: Objection form.

25 A. It is probably more than 10,000,

1 HOUH

2 but I don't know whether -- what order it
3 would be with respect to the hundred
4 thousand dollar number offhand.

5 Q. How many cases are you working
6 on right now?

7 MR. SHENG: Form.

8 A. I couldn't give you an exact
9 count.

10 Q. More than ten?

11 A. Yes.

12 Q. More than 20?

13 A. Probably, yes.

14 Q. All right. Over the last year
15 do you have any idea approximately how
16 much time or hours or money you have
17 billed to Aylo?

18 MR. SHENG: Objection form.

19 A. No. I wouldn't know that
20 offhand.

21 Q. Are these records readily
22 accessible by you or your assistant?

23 A. I do have the records in my
24 files.

25 Q. When was the last time you saw

1 HOUH

2 them?

3 A. I mean the last time I -- I have
4 a billing file that I probably made
5 entries in yesterday.

6 Q. Okay. And do you remember what
7 you entered in that billing file
8 yesterday?

9 A. Maybe approximately.

10 Q. Okay. What is that?

11 A. I entered some time that I met
12 with attorneys and time I spent reviewing
13 documents.

14 Q. Okay. How much time did you
15 enter?

16 A. I actually don't remember that
17 offhand.

18 Q. So you have no recollection of
19 billing any time to Aylo --

20 MR. SHENG: Objection form.

21 Q. -- in terms of a specific
22 amount?

23 A. I don't remember the exact
24 amount.

25 Q. I am not asking about an exact

1 HOUH

2 amount. Do you have any approximation of
3 how much time you billed Aylo on the case?

4 MR. SHENG: Objection form.

5 A. I didn't look at the totality of
6 my records. I just made one entry
7 yesterday.

8 Q. Okay. And you can't remember
9 what that amount is either; is that
10 correct?

11 A. Not exactly.

12 Q. Okay. What can you remember
13 about yesterday's entry? Please tell me.

14 MR. SHENG: I just caution you,
15 Doctor, to disclose -- he is asking
16 just for the time. Not the substance
17 of what you recorded.

18 MR. GUY: You can note your
19 objection without coaching.

20 MR. SHENG: It is a privilege
21 objection, Hop. Come on.

22 MR. GUY: I didn't touch on
23 privilege. I asked for the amount.

24 MR. SHENG: And I was cautioning
25 the witness not to reveal privileged

1 HOUH

2 information.

3 MR. GUY: Then that should be
4 your objection. That is not what you
5 did.

6 MR. SHENG: It absolutely was my
7 objection.

8 Q. Please answer if you can, sir.

9 A. So yesterday I think there would
10 have been about 4.2 hours that I billed to
11 Aylo or -- entered in my Aylo billing
12 records.

13 Q. And do you have any other
14 recollection of any amount of time that
15 you billed Aylo?

16 MR. SHENG: Objection form.

17 A. Not really, no.

18 Q. But those records are readily
19 accessible by you or your assistant; is
20 that correct?

21 A. Yes.

22 Q. When is the last time you
23 invoiced Aylo?

24 A. It is probably in the beginning
25 of January.

1 HOUH

2 Q. Okay. So about 30 days ago?

3 A. Probably around there or maybe a
4 few days more than that.

5 Q. Okay. And do you recall how
6 much that invoice was for approximately?

7 A. I don't know.

8 Q. Do you recall how many other
9 invoices you issued in that timeframe?

10 MR. SHENG: Objection to form.

11 A. Not exactly.

12 Q. Okay. Do you recall any
13 approximation of the number of invoices
14 you sent out in early January?

15 MR. SHENG: Form.

16 A. It was probably around a dozen.

17 Q. All right. And did you send an
18 invoice to Fubo?

19 MR. SHENG: Objection form.

20 A. I don't remember.

21 Q. How about Master Class? Did you
22 send them an invoice?

23 A. Well, actually I wouldn't have
24 sent an invoice to people at either Fubo
25 or Master Class.

1 HOUH

2 Q. All right. Well, for work for
3 Master Class/Fubo, did you send an invoice
4 to Latham?

5 A. I don't remember for the last
6 time I invoiced whether that was included
7 or not.

8 Q. What would be the best way for
9 you to determine the approximate amount of
10 time that you billed Aylo versus Fubo and
11 Master Class?

12 A. I would look at my invoices.

13 Q. Okay. And you have access to
14 those invoices?

15 A. I do.

16 Q. And do you have them available
17 online?

18 A. Yes. If I am on the right
19 computer.

20 Q. All right. What is the right
21 computer?

22 A. I have access to them on my
23 desktop and my laptop.

24 Q. Okay. Where is your laptop
25 right now?

1 HOUH

2 A. It is -- it is here with me.

3 Not in the room here, but --

4 Q. All right. Well, we would ask
5 you to look at the laptop on a break to
6 see if you could find out approximately
7 how much time you billed Aylo and Master
8 Class and Fubo if you would. You could
9 do that; is that correct?

10 MR. SHENG: Objection to form.

11 A. Sure. I could do that.

12 Q. Okay. How long would it take
13 you to do it?

14 A. Probably a few -- a few minutes.

15 Q. Okay. And how much did you
16 bill Fubo yesterday do you know or enter
17 time for them?

18 MR. SHENG: Objection to form.

19 Q. If any.

20 A. Probably a little more than for
21 Aylo.

22 Q. So you billed Aylo 4.2 hours; is
23 that right, for yesterday?

24 A. It sounds about right. I am
25 not sure if that was the --

1 HOUH

2 Q. And you billed Fubo and Master
3 Class a little bit more than that?

4 A. Yes.

5 Q. And was that for a total of more
6 than eight hours or was that for the same
7 4 plus hours?

8 A. Sorry. Could you repeat the
9 question, please?

10 Q. Did you work in meetings -- did
11 you meet with them for eight hours
12 yesterday?

13 A. I am not sure who you are
14 referring to.

15 Q. Okay. Yesterday you said that
16 you worked about 4.2 hours for Aylo,
17 correct?

18 A. Yes.

19 Q. Okay. Do you know how many
20 hours you billed Fubo or Master Class?

21 A. Yes. I think it was a little
22 more than that.

23 Q. Okay. 4.2 plus, is that fair?

24 A. Yes.

25 Q. Okay. And so that looks like

1 HOUH

2 8.4 plus hours you billed yesterday; is
3 that correct?

4 A. Probably I think a little more
5 than that.

6 Q. Okay.

7 A. For these two matters or these
8 two parties rather.

9 Q. Did you bill any other party for
10 work adverse to Dish yesterday?

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

12 Q. And how much time did you
13 actually work yesterday?

14 MR. SHENG: Objection to form.

15 Q. That you billed for.

16 A. Probably around nine or ten
17 hours.

18 Q. Who did you meet with yesterday,
19 if anyone?

20 MR. SHENG: Objection form.

21 A. I met with Ian and Steven.

22 Q. And that would be Ian Paquette
23 and Steven Peters, correct?

24 A. I think that is right. I
25 don't -- I don't remember Steven's last

1	HOUH
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2 name, but it sounds like that could be
3 right.
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4 Q. All right. Did you meet with
5 the two of them at the same meeting?

6	A. Partly.
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7	Q. I'm sorry?
---	---------------

8	A. Partly.
---	------------

9 Q. All right. How much time did
10 you meet with them jointly? Let me clarify
11 that for the record. How much time did
12 you meet yesterday with both Ian Paquette
13 and Steve Peters?

14 A. Just to clarify that was for
15 this matter. These matters I mean, but
16 yesterday five -- a little more than five
17 and a half hours I think.

18 Q. And how much time did you spend
19 with either of them separately?

20 A. Maybe one of them maybe under 30
21 minutes, 30 minutes or slightly under.

22 Q. Which one?

23	A.	Ian.
----	----	------

24 Q. And how long did you meet with
25 Mr. Peters?

1 HOUH

2 A. Separately or -- or generally?

3 Q. Separately. Sorry.

4 A. I don't -- I don't think there
5 was much -- maybe just a few minutes.

6 Q. What is your billing rate? The
7 documents in front of me appear to say
8 that it is 650 an hour?

9 A. That's correct.

10 Q. And did you bill the same rate
11 to Fubo and Aylo?

12 A. I don't remember.

13 Q. We would ask you to check your
14 records on your laptop and give us some
15 idea of the total number of time or amount
16 billed to Fubo on one hand and Aylo on the
17 other. Okay.

18 MR. SHENG: Form.

19 A. I will --

20 MR. SHENG: Think about it.

21 Q. Well, let us know if you are not
22 going to do it. I am sure that we will
23 have a response to that. So give us the
24 courtesy of letting us know whether you
25 are going to do it or not. All right.

1 HOUH

2 MR. SHENG: Are you talking to
3 me?

4 MR. GUY: What?

5 MR. SHENG: You are talking to
6 me?

7 MR. GUY: Yes.

8 MR. SHENG: Sure.

9 Q. Approximately how many times
10 have you been deposed, Dr. Houh?

11 A. I have long lost count, but it
12 is probably around 200 times.

13 Q. And you understand the Federal
14 Rules of Civil Procedure pertaining to a
15 deposition generally?

16 MR. SHENG: Objection to form.

17 A. I am not sure I would know all
18 the rules.

19 Q. Okay. All right. Well, you
20 know you are under oath?

21 A. Yes.

22 Q. All right. And you are sworn
23 to tell the truth?

24 A. Yes.

25 Q. And is there any reason the

1 HOUH

2 testimony you might give today would be
3 impaired in any way?

4 A. No.

5 Q. All right. Are you currently
6 under any medication that might affect
7 your ability to recall?

8 A. No.

9 Q. Are you under any obligation of
10 confidentiality that you could not answer
11 completely any question today under
12 privilege?

13 MR. SHENG: Objection form.

14 A. It depends what questions you
15 ask.

16 Q. Okay. Are you aware of any, as
17 you sit here today, obligation that you
18 owe that would prevent you from testifying
19 fully?

20 MR. SHENG: Form.

21 A. It depends what questions you
22 ask.

23 Q. I have a question more out of
24 curiosity than anything. Were you
25 involved in Bringing Down the House in any

1 HOUH

2 way? Do you know what that is?

3 MR. SHENG: Objection scope.

4 A. I -- that is a book. Are you
5 referring to the book by Mezrich?

6 Q. Yes.

7 A. I was not involved in talking to
8 the author about that book.

9 Q. Okay. Were you involved in the
10 MIT group that went to Las Vegas and
11 basically had created a card counting
12 scheme?

13 MR. SHENG: Objection scope.
14 Actually let's take a break actually
15 because this could implicate -- I
16 don't know where you are going with
17 this -- but Fifth Amendment stuff. I
18 don't know. So --

19 MR. GUY: Well, I mean I am
20 just asking whether he was involved in
21 that or not.

22 MR. SHENG: Involved
23 specifically in what?

24 MR. GUY: In the subject matter
25 of Bringing Down the House, which

1 HOUH

2 involved the MIT group that used aided
3 card counting in playing blackjack.

4 Q. If you can answer.

5 MR. SHENG: Objection form.

6 I - -

7 A. That is an incorrect
8 characterization of what I understand was
9 described in the book.

10 Q. Okay. Were you ever involved
11 with the MIT group that did card counting?

12 MR. SHENG: Objection.

13 Same - - same objection, Fifth
14 Amendment. Don't answer it, Dr.
15 Houh.

16 Q. Interesting.

17 So as you sit here you don't
18 deny being involved in that group. You
19 are just refusing to answer; is that
20 correct?

21 MR. SHENG: Objection to form.
22 Doctor, you don't need to answer that
23 question.

24 MR. GUY: You are instructing
25 him not to answer?

1 HOUH

2 MR. SHENG: I am absolutely
3 instructing him not to answer about
4 this MIT card counting thing, whatever
5 you just mentioned. It is outside the
6 scope, and frankly it is wildly
7 inappropriate.

8 Q. With respect to the Dish AVR
9 patents, who contacted you first with
10 regards to that? Was it Fubo TV or was it
11 Aylo?

12 MR. SHENG: Objection form.

13 A. I am not sure what specific
14 patents you are referring to.

15 Q. Okay. Let's say the '772 patent
16 or any of the four patents for the
17 declarations you have in front of you.

18 A. What is the question then?

19 Q. With respect to those patents
20 that are the subject of the four IPRs, who
21 contacted you first? Was it Aylo or Fubo?

22 MR. SHENG: Objection form.

23 A. I don't think anyone from either
24 of those companies has contacted me about
25 these patents.

1 HOUH

2 Q. Okay. What counsel contacted
3 you first, Venable or Latham?

4 A. It would have been Venable.

5 Q. Have you ever met anyone from
6 Aylo?

7 MR. SHENG: Objection form.

8 A. Not in person.

9 Q. Have you talked to anybody from
10 Aylo?

11 MR. SHENG: Objection to form.

12 A. I believe I have. Yes.

13 Q. Who was that?

14 A. I -- I don't remember any names.

15 Q. When was it that you spoke with
16 them?

17 A. It's been a while. I don't
18 remember exactly whether that would have
19 been.

20 Q. How long did the conversation
21 last?

22 A. It might have been a few hours
23 in total across all the -- across -- it
24 might have been a few hours in total.

25 Q. How many calls were there?

1 HOUH

2 A. There were probably a few.

3 Q. Do you know the title of the
4 individual?

5 A. I don't remember that.

6 Q. Do you know the purpose of why
7 you were talking to him?

8 MR. SHENG: Objection form and
9 caution you, Dr. Houh, not to reveal
10 the substance of any attorney-client
11 communications.

12 A. Could you repeat the question,
13 please?

14 Q. Have it read back. We have an
15 objection.

16 (Record read.)

17 A. Partly probably.

18 Q. What was it?

19 MR. SHENG: Objection privilege.
20 Don't answer.

21 Q. Do you remember the title of the
22 individual?

23 MR. SHEUNG: Objection form.

24 A. I don't remember that offhand.

25 Q. Do you remember whether they

1 HOUH

2 were a technical individual or a business
3 person?

4 A. At least some technical.

5 Q. Okay. With respect to Fubo TV,
6 have you talked to anybody at the company
7 of Fubo TV?

8 MR. SHEUNG: Objection form.

9 A. I don't know everyone that I
10 have talked to where they work.

11 Q. I am not asking you to identify
12 everyone. I am saying do you know whether
13 you talked to anyone at Fubo TV apart from
14 say Latham?

15 A. Apart from Latham I don't know
16 anyone who I know works for Fubo TV.

17 Q. Okay. So you don't have any
18 recollection of talking to anybody that is
19 an employee of Fubo TV?

20 A. I don't know where everybody I
21 have talked to in my life works.

22 Q. I am not asking you for that.
23 I am asking you for anybody you can
24 identify as, you know, being an employee
25 of Fubo TV.

1 HOUH

2 A. There is no one that I could
3 identify that I've talked to as an
4 employee of Fubo TV.

5 Q. If you could turn to the
6 declaration, Aylo Exhibit 1003 in the '234
7 IPR.

8 A. I don't have a copy of that in
9 front of me.

10 Q. I am sure it is right there in
11 front of you.

12 A. You are talking about the patent
13 number, not the IPR?

14 Q. Yes, the IPR number is 940.

15 A. I do have that.

16 Q. And is your CV attached to the
17 back of that one?

18 A. Yes, I do see it here.

19 Q. Could you turn to the last page,
20 13 of 13.

21 A. Yes.

22 Q. Do you see under acting?

23 A. Yes.

24 Q. What is that?

25 A. I had a role in a movie.

1 HOUH

2 A. The movie that is listed on one
3 of them.

4 Q. So you actually appeared in the
5 movie 21?

6 A. Yes.

7 Q. And this was based on the
8 movie -- based on the book Bringing Down
9 the House?

10 A. It was a movie inspired by the
11 book Bringing Down the House.

12 Q. What is the difference between
13 inspired and based on?

14 A. I don't know to what extent -- I
15 wasn't involved in the authoring of the
16 movie, so I don't know the extent it was
17 based on as opposed to telling the story
18 that was also told in Bringing Down the
19 House.

20 Q. And what did you mean by the MIT
21 blackjack team?

22 A. There was the book Bringing Down
23 the House, which loosely told a story of
24 the MIT -- one of the MIT blackjack teams.

25 Q. And were you a former member of

1 HOUH

2 the MIT blackjack team?

3 A. Not the actual one as told in
4 the book by the person who I understood
5 told the author the story.

6 Q. Okay. Well, what do you mean in
7 your CV where you list a bullet that says
8 "former member of the MIT blackjack team"?

9 A. I was a former member of one of
10 the MIT blackjack teams.

11 Q. And that is different than the
12 one that was in the book?

13 A. As I understand it, yes.

14 Q. How many blackjack teams were
15 there at MIT?

16 MR. SHENG: Objection to form.

17 A. There were a handful over time.

18 Q. Okay. And who were the members
19 of your blackjack team?

20 A. So I can only probably remember
21 a few names. One was Semyon Dekach. One
22 was Mike Plusch. One was J.P. Massar.
23 One was John chang.

24 Q. And did Kevin Spacey play any of
25 those characters?

1 HOUH

2 MR. SHENG: Objection to form,
3 scope.

4 A. I mean he played a character in
5 the movie.

6 Q. No doubt. What was the name of
7 his character, if you recall?

8 MR. SHENG: Objection scope.

9 A. I don't remember that offhand.

10 Q. Did you meet Mr. Spacey?

11 A. Yes.

12 Q. How many times?

13 A. I think just once.

14 Q. But you don't remember the
15 character he played?

16 A. I don't remember the name of the
17 character he played.

18 Q. Okay. All right. Now, you
19 received your dissertation -- I mean your
20 PhD from MIT, correct?

21 A. Yes.

22 Q. And you submitted a dissertation
23 as part of the requirements of that; is
24 that correct?

25 A. Yes, for the PhD degree.

1 HOUH

2 MR. GUY: Okay. Can I have this
3 marked as the next exhibit.

4 (Houh Exhibit 2201 marked for
5 identification.)

6 (Document handed to witness.)

7 Q. Can you identify what has been
8 marked as Houh Depo Exhibit 1?

9 A. This appears to be a copy of my
10 thesis obtained through the MIT library.

11 Q. Do you refer to it as a thesis
12 or dissertation or it doesn't matter?

13 A. It doesn't matter to me. I
14 think -- I think of the word thesis.

15 Q. And can you give me an overview
16 or description of what this thesis
17 involved?

18 A. So I submitted this, and it was
19 accepted in early 1998, and at that time I
20 was talking about how the information
21 transfer on the Internet was rapidly
22 moving to a client server model and was
23 having -- the shift was happening rather
24 dramatically, and I -- in my thesis I
25 examined the asymmetries of network

1 HOUH

2 traffic and how to achieve better methods
3 of flow classification, which would
4 overall make the network more efficient.

5 Q. Could you be more specific as to
6 how you made it more efficient?

7 A. Well, I studied methods of flow
8 classification. I am not saying I made it
9 more efficient. I am saying that is what
10 I studied. So I looked at a number of
11 different ways of classifying flows based
12 on addresses in the Internet packets
13 including port numbers in higher layer
14 protocols contained within the Internet
15 packets and studied how traffic classified
16 under different classification models did,
17 how efficient they were in terms of their
18 ability to capture flows in the network.
19 That fell under those classifications,
20 which would in turn make the routing of
21 packets in those flows more efficient by
22 using labeling techniques, which didn't
23 really have a name back then, but today
24 similar labeling techniques are used such
25 as multi-protocol label switching or MPLS.

1 HOUH

2 Q. Okay. On the face of it you
3 indicate that you had received a Master's
4 in intellectual engineering in 1991?

5 A. Yes.

6 Q. And that is correct?

7 A. Yes. That is correct.

8 Q. And it looks like your PhD
9 thesis was published in March of 1998; is
10 that correct?

11 A. I submitted it in advance of my
12 thesis defense, which was in January, but
13 then the stamp on the library version this
14 stamp is March 27, 1998, and just to be
15 clear about an earlier question I received
16 a degree from the department of
17 intellectual engineering computer science
18 and that is the Master's degree.

19 Q. Okay. And so when did you
20 receive your PhD?

21 A. I think I met the requirements
22 by January '98, but I actually received
23 the physical degree when I attended
24 commencement ceremonies in June of 1998.

25 Q. Okay. Approximately how much

1 HOUH

2 time between 1991 and 1998 did you spend
3 on preparing your dissertation?

4 MR. SHENG: Objection form.

5 A. I joined the research group I
6 think sometime in late 1991 or sometime in
7 maybe early '92 or thereabouts, and it was
8 the work that I did in the resource group
9 that led up to this thesis. I don't know
10 how to break down all that work in terms
11 of what was in this thesis or all the
12 other work that we did in terms of
13 research that research assistants were
14 doing in the group.

15 Q. Can you approximate it? In terms
16 of a percentage during that I guess
17 seven-year period, was it 10 percent, 20
18 percent, 50 percent?

19 MR. SHENG: Objection form.

20 A. Well, a lot of the early work
21 made the foundation for hardware and
22 the implementation of certain things that
23 we did that I think I discussed in this
24 thesis. I don't remember everything that
25 I discussed here, but I mean I was a full

1 HOUH

2 time research assistant by the time I
3 joined the group. I may have taken a
4 couple of classes here and there, and I
5 may have spent one or two terms as a
6 teaching assistant during that time
7 period. So pretty much most -- the rest
8 of the time was spent in research doing
9 research kind of in the group, and, you
10 know, it took -- it took a while to come
11 to the idea of this thesis. A lot of
12 groundwork -- research I did was
13 groundwork leading up to that. So it is
14 probably the last two or three years I was
15 really focusing on this thesis topic, but
16 a lot of research led up to that point.

17 Q. All right. And the thesis was
18 published as far as you know?

19 A. I do. It has been published and
20 submitted to the library and accessible
21 online.

22 Q. And this might seem obvious, but
23 I will ask the question. This is a peer
24 reviewed paper. Is that fair?

25 A. It is different than a

1 HOUH

2 conference peer review. I had a panel of
3 four professors who were my thesis
4 committee, and it was reviewed by all of
5 them, and I think at the time as a grad
6 student I wouldn't think of that as my
7 peers. They were my professors. I may
8 have had some of my fellow grad students
9 look at it as well, but what mattered was
10 that my thesis committee felt that
11 whatever I did met the qualifications for
12 getting a PhD.

13 Q. Okay. On the first page of the
14 abstract I think it may be page 4, but it
15 is in the documents. It is the very
16 first page. It has a heading that says
17 abstract. Do you see that page?

18 A. Yes.

19 Q. Okay. And in the third
20 paragraph down, there is a reference in
21 the second sentence to I believe the
22 simulation; is that correct?

23 A. Yes.

24 Q. And was there a simulation that
25 was part of your thesis methodology?

1 HOUH

2 A. There was, yes.

3 Q. Okay. And can you describe
4 that simulation?

5 A. So I built a model of all my
6 different flow classification techniques
7 and various parameters related to them
8 such as timing outflows, and I captured
9 real life network traffic from the lab's
10 network, which had a number of public
11 servers such as web servers, which
12 actually were quite popular at the time
13 because we had what I think could have
14 been the first video demos available
15 through a website.

16 So I captured all the traffic I
17 believe that was going to these public
18 servers and on a public portion of the
19 network in our lab. So I had a -- I had
20 some sample network traces which then I
21 ran through my simulation models that
22 modeled different ways of characterizing
23 flows, and that told me how many flows I
24 could -- and how packets were part of each
25 flow, and from there I used that to gauge

1 HOUH

2 the efficiency gain of using that method
3 of flow classification over a baseline
4 standard routing of each individual packet
5 in the network.

6 Q. And did you build the simulator
7 or simulation software?

8 A. That was part of -- yes. That
9 was part of the work that I did.

10 Q. Was that part of your thesis is
11 building that simulator?

12 A. That -- the analyzer, you know,
13 analyzing the network traffic and building
14 the model of the flows. That was part of
15 what I did as work for my thesis.

16 Q. Did you have any help with that?
17 I see in the sentence it says "We simulate
18 IP switching using real network traces of
19 wide air network and gateway traffic."

20 Who is the we?

21 A. I think I did that myself. I
22 mean certainly I would talk to my
23 professor about methods, but I did the
24 actually coding for the simulator, so I
25 think I just use the word we sometimes,

1 HOUH

2 but in this particular case I did the
3 simulations. I wrote the simulator --

4 Q. And was it -- sorry. Go ahead.

5 A. Sorry. That is -- that is what
6 I -- that is what I did, part of what I
7 did.

8 Q. So the simulation was part of
9 your methodology in getting I guess a PhD
10 at MIT; is that correct?

11 A. Well, as part of what I did. I
12 don't know that it is part of everybody's
13 methodology. I don't think that it would
14 necessarily have to be.

15 Q. What was VuNet, V-U capital
16 N-E-T?

17 A. VuNet was a name of the -- the
18 name we gave to our pole system that was
19 developed, high speed network component
20 parts of which I developed, designed and
21 built. A few other members contributed
22 to the design of other components in the
23 VuNet, but that was the name that we gave
24 to our network, which was a home grown
25 network that could achieve, you know,

1 HOUH

2 speeds up to a gigabyte at points and end
3 to end around 500 megabytes.

4 Q. Is there any portion of the
5 thesis that talks about the simulator? I
6 looked through it, and I'll admit that it
7 is a little bit above my head, but if you
8 can identify any section that describes
9 the simulation?

10 MR. SHENG: Objection to form.

11 A. Well, partly if you look at
12 Chapter 5 starting on the page that is
13 labeled 79 at the bottom, this is -- this
14 chapter is titled "IP Switching Model and
15 Trace Simulations", and if you look at the
16 third full paragraph I say "We created an
17 IP switch simulator to analyze network
18 traces from the local and wide areas.
19 Using a work model of IP switching that we
20 developed, we compared the work required
21 to a work model of IP routing to determine
22 the cost savings. In our simulations, our
23 network with extended flow types processed
24 the packets and the traces with one-fourth
25 the total work required as compared to the

1	HOUH
---	------

2 reference IP switch implementation and
3 one-sixteenth at amount of work required
4 to route the traces."

5 And then if you look at Section
6 5.2.3 starting on page 83, I talk here
7 about "The simulator must be able to model
8 IP switch's methods of determining when to
9 switch flows. Since the IP switch cannot
10 know how long a flow is going to last, a
11 threshold, N Threshold, is generally used.
12 When this threshold is reached for a
13 particular flow, the decision is made to
14 redirect the flow. The exact optimal
15 threshold must be determined carefully and
16 is a function of how much work it costs to
17 handle a flow relative to the cost of
18 routing the packet." I mean this goes on.
19 I am not going to read it all, but I think
20 there is at least this subsection
21 describing, and there are some equations
22 in the next couple of pages, the kind of
23 work that I -- and functions I implemented
24 in the simulator with respect to at least
25 this section is talking about this N

1 HOUH

2 threshold number, and I think I talk about
3 other -- elsewhere in the thesis other
4 parameters with respect to the simulator
5 as well.

6 Q. Okay. So going back to page
7 79, the first page of chapter 5 the
8 paragraph you read in, it was a central or
9 fundamental aspect of your thesis that you
10 were going to show that through simulation
11 that it required one-fourth the total work
12 as compared to the reference IP switch
13 implementation and one-sixteenth the
14 amount of work required to route the
15 traces.

16 MR. SHENG: Objection.

17 Q. That was a central proposition
18 of your thesis, wasn't it?

19 MR. SHENG: Objection to form.

20 A. I mean I suppose that is part of
21 one of the conclusions that I -- that I
22 had based on the data and simulations I
23 performed.

24 Q. And the actual data you had from
25 VuNet was not sufficient to scale to

1 HOUH

2 validate the simulator input flows as
3 performing better than real traffic loads;
4 is that correct?

5 A. So we implemented within the
6 VuNet and within the VuNet, which is our
7 custom hardware, and, you know, which
8 extended to a few other sites outside of
9 MIT, but what I used was the actual
10 capture of network traces, as I mentioned
11 earlier, from public-facing web servers at
12 the lab, and actually the whole network
13 being segments on which those servers were
14 on or maybe even at the entry point
15 of -- to the lab for computer science, and
16 it is those network traces that I used,
17 and along with other network traces I was
18 able to find from -- publically posted on
19 the network that were available from other
20 Internet research groups that I used for
21 additional more real world traffic type
22 for my simulations.

23 Q. But the point of your
24 simulations was to prove the advantages if
25 you scaled it up; is that correct?

1 HOUH

2 MR. SHENG: Objection form.

3 A. Well, the actual traffic traces
4 were from real life. You know, some were
5 from the Internet core. Some were from
6 more the edge but higher volume web
7 servers. So I -- I used that data to
8 actually show the performance when it was
9 traffic at that -- at those scales, and so
10 that is part of what I did for my
11 analysis.

12 Q. But you used the simulation to
13 show what would happen in large scale; is
14 that correct?

15 A. In large scale it was based on
16 these traces that I -- I recorded from the
17 lab and downloaded that were publically
18 available to analyze from certain points
19 in the core of the network.

20 Q. And it was accepted methodology
21 to use a simulation; is that correct?

22 A. My thesis committee, you know,
23 let me graduate, so they accepted it.

24 Q. Okay.

25 MR. SHENG: Doctor, you okay to

1 HOUH

2 keep going for a little bit?

3 THE WITNESS: Sure.

4 Q. It is fair to say that your
5 thesis at MIT did rely upon simulations as
6 part of the thesis; is that correct?

7 A. Yes. For the purposes of the
8 topic that I selected I did perform
9 simulations, and my thesis committee
10 accepted the simulations as part of my
11 thesis research and the results of those
12 simulations.

13 Q. Before we move off the thesis,
14 I have one more question. If you turn to
15 page 106, the summary.

16 A. Okay.

17 Q. Let's see. The fifth paragraph
18 down in the summary, it says "Since we can
19 not replace backbone and gateway routers
20 to validate our hypothesis, we developed a
21 simulator to analyze wide area network and
22 gateway network traces." That was a true
23 statement, correct?

24 A. I mean sure. I mean I couldn't
25 go into the Internet and replace any

1 HOUH

2 backbone routers, and I don't think I
3 would have even been able to replace
4 gateway routers other than any router that
5 we might have had in our research group.

6 Q. So using the simulation to
7 validate your hypothesis was an
8 appropriate methodology at least for
9 getting a PhD; is that correct?

10 A. For the purposes of my research
11 topic and the analysis of these flows,
12 that was part of the work I did, and my
13 thesis committee, you know, let me
14 graduate, and they accepted the fact that
15 I used the simulation with respect to
16 analyzing these types of flows and the
17 flow classification I proposed in my
18 thesis.

19 Q. Was the prototype that you
20 developed I think it was called VuNet, was
21 that ever commercialized in any way?

22 A. No. It really wasn't
23 commercialized.

24 Q. Now, I believe that you have
25 reviewed the ITC initial determination and

1 HOUH

2 the ITC investigation involving these
3 patents; is that correct?

4 MR. SHENG: Objection to form.

5 Q. Or some of these patents.

6 A. In the four declarations I have
7 in front of me right now I do an IT
8 initial determination for THE ITC 3371265
9 listed as one of the exhibits I
10 considered. That is at least one.

11 Q. That was Exhibit No. 1009 in the
12 Aylo Exhibit 1003 for the '234 patent,
13 correct?

14 A. That appears to be correct.

15 Q. And did you read the section in
16 the ITC initial determination regarding
17 secondary considerations of
18 nonobviousness?

19 A. I don't think that I would have
20 focused on that portion of the -- of that
21 Exhibit 1009 for purposes of submitting
22 the declaration I submitted in the '234
23 IPR case.

24 Q. In fact in your declaration,
25 you don't address secondary

1 HOUH

2 considerations, do you?

3 MR. SHENG: Objection form.

4 A. I don't have a section that I
5 see in my table of contents for the '234
6 declaration. That is -- that is
7 addressing secondary considerations.

8 Q. All right. In any of the other
9 three declarations, do you address
10 secondary considerations?

11 A. In the four documents I have in
12 front of me, I don't see any specific
13 heading that indicates that there would be
14 a section addressing secondary
15 considerations, and that would be for the
16 time -- at the time these were submitted
17 for the purpose of these four IPRs.

18 Q. And the grounds in each of the
19 IPR is obviousness; is that correct?

20 MR. SHENG: Objection form.

21 A. Yes. All the grounds in these
22 four declarations I have in front of me
23 are based on obviousness. They are based
24 on obviousness.

25 Q. Do you have any understanding of

1 HOUH

2 whether or not in rendering an opinion of
3 obviousness that you need to address
4 secondary considerations?

5 MR. SHENG: Objection form.

6 Legal conclusion.

7 A. So I understand that if they are
8 raised by -- at some point then I may have
9 the opportunity to address matters with
10 respect to secondary considerations, but
11 these are the opening declarations
12 submitted in the petition, which I
13 understand, and I am not a lawyer, but
14 there is -- there would be a point that
15 the patent owner can offer a preliminary
16 response in this matter, and I understand
17 in these cases, and again I am not a
18 lawyer, there is times to bring things up,
19 and I think the patent owner may raise
20 them. At which point if I am asked to
21 offer opinions I may submit additional
22 declarations.

23 Q. So let me make sure I understand
24 your understanding of how to render an
25 obviousness opinion. Again, I am not

1 HOUH

2 asking for your opinion as a lawyer. I
3 am just asking for what you did and what
4 you believed the procedure is.

5 Is it your understanding that
6 you don't have to address secondary
7 considerations of nonobviousness in
8 rendering an obviousness opinion until a
9 patent owner raises it as a defense?

10 MR. SHENG: Objection form.

11 Legal question.

12 A. So I don't know -- I am not a
13 lawyer. I don't know exactly in an IPR
14 when is the appropriate time to address
15 it, but at the time with respect to the
16 IPR being submitted there was -- these
17 are to my understanding the opening -- the
18 petition is the first step in the process,
19 and I understand that the patent owner has
20 a chance to submit a preliminary response
21 and a response, and so if they -- if they
22 or the patent owner does as a rebuttal to
23 the -- on patentability of the patent that
24 my opinions in each of these IPR
25 declarations I have in front of me contain

1 HOUH

2 they could say that things wouldn't have
3 been obvious because of secondary
4 considerations of nonobviousness, and
5 again I am not sure when the appropriate
6 time to do it is, but if they do raise
7 those then I may if I am asked to provide
8 response opinions that I would -- I would
9 do so if I were asked.

10 Q. So in the case of the eight IPRs
11 that were based on Ogden, you submitted a
12 declaration in each one, correct?

13 MR. SHENG: Objection scope.
14 Form.

15 A. I don't remember exactly the
16 scope and how many IPR declarations I
17 submitted for -- for I think what you are
18 asking about.

19 Q. All right. You eventually
20 submitted a supplemental declaration in
21 the Ogden IPRs addressing secondary
22 considerations, didn't you?

23 MR. SHENG: Objection scope.

24 A. I don't remember what happened
25 in that case.

1 HOUH

2 Q. Do you have any recollection of
3 forming any opinions regarding secondary
4 considerations of nonobviousness?

5 MR. SHENG: Objection form,
6 scope.

7 A. I mean I don't have any opinions
8 with respect to the four matters where I
9 have the declarations in front of me now,
10 which I am -- I understand I am hear to
11 testify about today.

12 Q. So you have not yet formed any
13 opinion about secondary considerations of
14 nonobviousness as you sit here today with
15 regard to the four IPRs that you submitted
16 declarations for, the subject of
17 the -- the subject of the deposition?

18 MR. SHENG: Objection to form.

19 A. Well, I am pretty sure that
20 these challenges are based on different
21 patents and different combinations
22 than -- than I submitted in what you are
23 referring to as prior -- prior
24 declarations.

25 Q. Well, I am asking you whether

1 HOUH

2 you formed any opinion regarding secondary
3 considerations as to these four IPRs
4 including the '234?

5 MR. SHENG: Objection form.

6 A. Well, I haven't -- I haven't
7 provided any written opinions in -- in
8 these four IPRs for which I have
9 declarations in front of me right now.
10 With respect to secondary considerations
11 that I see from looking at the table of
12 contents, and I don't think they are
13 even -- if we look through it, we can look
14 through it, but I don't believe that I
15 address that in these opening -- in these
16 opening declarations, but, as I understand
17 it, these -- these challenges are based on
18 different combinations and different
19 references, at least the main reference
20 than any other cases that I may have
21 submitted declarations or supplemental
22 declarations on.

23 Q. Okay. I heard that answer
24 twice. My question is different.

25 As you sit here today, have you

1 HOUH

2 performed any opinions regarding secondary
3 considerations as to the three IPRs that
4 are the subject of today's deposition?

5 MR. SHENG: Objection to form.

6 A. So you are focused only on three
7 Fubo TV IPRs now.

8 Q. I'm sorry. The three -- there
9 is four. I'm sorry. It is four IPRs
10 today. Have you formed any opinions with
11 respect to the secondary considerations of
12 nonobviousness with respect to the four
13 IPRs that is are in front of you right
14 now?

15 A. So with respect to these four
16 IPRs, I haven't seen any argument
17 submitted yet by patent owner arguing that
18 there are secondary considerations and
19 what they are, so I wouldn't have any
20 written opinions about -- about secondary
21 considerations raised in these four IPR
22 cases that I haven't seen yet.

23 Q. Okay. Again, that is still not
24 quite answering my question.

25 I am not asking for written

1 HOUH

2 opinions. I am asking for any opinion
3 you currently have with respect to
4 secondary considerations. Have you formed
5 any opinion at all?

6 MR. SHENG: Objection scope,
7 form.

8 A. With respect to these particular
9 challenges based on the leading reference
10 as obviousness cases, I haven't gotten to
11 the point to think about that with respect
12 to these cases and about secondary
13 considerations with respect to these four
14 IPR cases partly because I haven't seen
15 any secondary considerations put forth by
16 patent owner yet in this case.

17 Q. And it is again your view that
18 it is Dish's obligation to first raise
19 secondary considerations before you have
20 to respond to it; is that correct?

21 A. So I don't -- I don't know the
22 full law on this or when the right timing
23 is. I understand in other cases I worked
24 on that there are appropriate times to
25 raise certain defenses. I don't know how

1 HOUH

2 that applies to these particular IPR
3 matters, but I -- with respect to these
4 particular IPR matters, these four today I
5 haven't seen any -- anything set forth
6 that I have been asked to look at with
7 respect to secondary considerations
8 raised. And so if I am asked to review
9 them and submit a supplemental declaration
10 at some future date, I would -- I would
11 look at that with respect to these cases
12 and these particular challenges and these
13 references raised in these declarations.

14 Q. All right. Have you -- do you
15 want to take a break now?

16 MR. SHENG: I could use a break.

17 A. Sure. Now would be a good time.

18 Q. Okay. Why don't we take one.

19 (Recess taken.)

20 MR. GUY: Back on the record.

21 Q. Dr. Houh, you are still under
22 oath.

23 A. I understand that.

24 Q. Okay. Before the break I asked
25 you to look at your billing records on the

1 HOUH

2 laptop, which you have in your possession
3 here. Did you do that?

4 A. No.

5 Q. Why not?

6 A. Because I used the break to take
7 a break.

8 Q. Any reason you -- do you need to
9 take more time now to look at the billing
10 records? Can you do that?

11 MR. SHENG: He is not going to
12 look through the billing records, Hop.

13 MR. GUY: Why not?

14 MR. SHENG: I am instructing him
15 not to.

16 MR. GUY: So we have an
17 instruction not to look at his billing
18 records, so he can answer questions
19 about who he is billing for and how
20 much he is billing on this case; is
21 that correct?

22 MR. SHEN: You're asking me?

23 MR. GUY: Yes.

24 MR. SHENG: He is not going to
25 look through his billing records.

1 HOUH

2 Q. Dr. Houh, with respect to
3 secondary considerations in this case with
4 respect to the four IPRs, were you asked
5 or instructed not to render an opinion on
6 secondary considerations in your initial
7 declaration?

8 MR. SHENG: Objection that is
9 privileged. Don't answer.

10 Q. And do you take your counsel's
11 instruction and refuse to answer, sir?

12 A. I will listen to my counsel.

13 Q. And you refuse to answer; is
14 that correct?

15 A. I will listen to my counsel.

16 Q. And you refuse to answer; is
17 that correct? Can I get an answer to that?

18 A. I am following my counsel's
19 instructions with respect to the
20 objection.

21 Q. Which counsel instructed you not
22 to review your files for the billing
23 records?

24 MR. SHENG: Objection. You can
25 answer that. If there is --

1 HOUH

2 A. Nobody.

3 Q. No?

4 A. Nobody.

5 Q. Nobody instructed you not to
6 look at your billing records?

7 A. During the break, no.

8 Q. You just refused of your own
9 decision?

10 MR. SHENG: Objection form.

11 A. I used the break to take a
12 break.

13 Q. You do know that I asked you to
14 look at your billing records on the laptop
15 you have in your possession; is that
16 correct?

17 A. I don't remember exactly how you
18 phrased it.

19 Q. But you understood I made a
20 request that you look at your billing
21 records during the break; is that correct?

22 A. Sure. I suppose you had made a
23 request of some sort.

24 MR. GUY: Can I have this passed
25 to the witness.

1 HOUH

2 (Document handed to witness.)

3 Q. Dr. Houh, I've handed you what
4 has been marked as Aylo Exhibit 1004, and
5 it is Exhibit 1004 in each of the four
6 IPRs. I will represent to you it is a
7 copy from the IPR filings, and it is the
8 Leaning PCT application. I am sorry.
9 PCT patent.

10 Q. Now, you've seen this document
11 before?

12 A. Yes, I have.

13 Q. And it is the primary reference
14 in each of the four IPRs; is that correct?

15 A. Yes, that sounds right.

16 Q. And you're familiar with this
17 reference?

18 A. I've spent time studying it.

19 Q. Approximately how many times
20 have you read it?

21 A. I mean I wouldn't -- I don't
22 organize my thinking about -- along those
23 lines, so I don't think I could really
24 tell you that.

25 Q. Have you read it once?

1 HOUH

2 A. Certainly, yes.

3 Q. Now, have you made any attempt
4 to simulate any of the -- any of the
5 pseudo code that is listed in the Leaning
6 reference?

7 MR. SHENG: Objection to form.

8 A. Not on a computer.

9 Q. Okay. Have you done any
10 simulation of the pseudo code that is
11 shown on pages 9, 10, and the top of page
12 11 of the Leaning reference Exhibit 1004?

13 MR. SHENG: Objection form.

14 A. I mean I've analyzed it, but I
15 haven't written a simulation on the
16 computer.

17 Q. And what have you done to
18 analyze that pseudo code?

19 A. I reviewed it. I followed
20 through different steps in my head. I
21 wrote about some of the steps in my
22 declarations, those kinds of things.

23 Q. Did you produce any computer
24 code at all in your analysis?

25 A. I did not write a simulation on

1 HOUH

2 a computer for the purposes of these
3 declarations.

4 Q. Do you intend to?

5 MR. SHENG: Objection form.

6 A. I don't know what is going to
7 happen in the future.

8 Q. That is a different answer. Do
9 you presently intend to perform any
10 simulations of the pseudo code at pages 9,
11 10, and 11 of the Leaning reference?

12 MR. SHENG: Objection form.

13 A. I don't have plans to do so at
14 the moment.

15 Q. Okay. Do you have an
16 understanding that the patent is assigned
17 to British Telecom?

18 MR. SHENG: Objection to form.

19 A. I see on the cover under
20 applicants that it lists British
21 Telecommunications, a public company. I am
22 not a lawyer with respect -- and with
23 respect to how this is listed for
24 applicant on these
25 Internet -- international patents I don't

1 HOUH

2 know the law there.

3 Q. All right. You see the inventor
4 is Anthony Leaning and Richard James
5 Whiting. Do you see that on the first
6 page of the Leaning reference?

7 A. I do see those -- some parts of
8 those names.

9 Q. Okay. Have you ever met
10 Anthony Leaning?

11 A. I don't think so. No.

12 Q. Have you ever met Richard
13 Whiting?

14 A. I don't think so. No.

15 Q. When did you first learn of the
16 Leaning patent, and again I am talking
17 about PCT Patent W002/09343?

18 A. I don't remember the exact time.

19 Q. Has it been in the last three
20 years?

21 A. Probably.

22 Q. Okay. Were you aware of any
23 other reference by either Leaning or
24 Whiting, any publication of any type
25 before three years ago?

1 HOUH

2 I don't remember everything that I -- that
3 I review. So I don't have a memory older
4 than three years, a specific memory of
5 reviewing a document by either Mr. Leaning
6 or Mr. Whiting that -- but it is partly
7 because I don't remember everything I have
8 ever reviewed.

9 Q. All right. As you sit here
10 today, you have no recollection of reading
11 anything that either of these gentlemen
12 authored before three years ago?

13 A. As I sit here today, I don't
14 have a specific memory of that. Well,
15 sorry. I don't have a specific memory
16 that is older than three years of
17 reviewing a document by Mr. Leaning or Mr.
18 White.

19 Q. Now, are you familiar with any
20 of the British Telecom products from say
21 the 2000's to the 2010 timeframe?

22 MR. SHENG: Objection form.

23 A. I am pretty sure I've read about
24 a number of different things by British
25 Telecom that were from the past. I don't

1 HOUH

2 remember their exact timeframes and -- but
3 I am pretty sure that I have read papers
4 and product -- some product descriptions
5 or -- by British Telecom.

6 Q. Do you recall anything in
7 which -- by British Telecom in which there
8 was a discussion of taking either audio or
9 verbal content and -- and subdividing it
10 or partitioning it into subfiles?

11 MR. SHENG: Objection form.

12 A. Other than as I've described in
13 my declarations about some of that with
14 respect to the -- this Leaning reference,
15 I don't have a specific memory of other
16 papers or products that I read about
17 mostly because I don't remember everything
18 I've read of all -- I am pretty sure I
19 have read about, you know, British Telecom
20 and some of their services and products
21 from an earlier timeframe at some point.

22 Q. Have you ever seen a
23 commercialized version of any of the
24 methods or techniques described in the
25 Leaning reference?

1 HOUH

2 MR. SHENG: Objection form.

3 Q. By British Telecom?

4 A. I mean I am not sure how I could
5 know enough about what I have seen
6 to -- to understand what -- how things are
7 implemented underneath simply by looking
8 at something visually.

9 Q. Okay. Well, I am asking you
10 for what you were aware of during the
11 approximately 2000 timeframe. I believe
12 in your declaration you state that you are
13 a person of ordinary skill in the art as
14 of the prior art date 2000; is that
15 correct?

16 MR. SHEUNG: Objection form.

17 A. If you look at page 22 of my
18 '234 declaration, and I am using the last
19 three digits of the patent when I refer to
20 that three-digit number in the
21 declaration, paragraph 42, I describe the
22 level of the person of ordinarily skill in
23 the art in my opinion, and the last
24 sentence says I was a PHOSITA at the time
25 of the prior art date.

1 HOUH

2 Q. And what was the prior art date?

3 A. So in paragraph 41, I say that I
4 do not offer any opinion as to whether the
5 '234 patent can claim a prior art date of
6 April 30, 2004. I am calling that the
7 prior art date as that is the
8 parenthesized statement there. Based on
9 the claim priority to the provisional
10 application number 60/56631 for purposes
11 of this analysis I will assume prior art
12 date is April 30, 2004. So that is what
13 I have assumed, and I was a PHOSITA at the
14 time of the assumed prior art date, as I
15 laid out in paragraph 41.

16 Q. Okay. So as of that prior art
17 date April 30, 2004, as you sit here
18 today, do you have any recollection of any
19 products that British Telecom offered that
20 implemented methods in or any of the
21 methods in the Leaning reference?

22 MR. SHENG: Objection form.

23 A. So I was -- when I say I was in
24 the PHOSITA -- the level of PHOSITA, I
25 meant I was at least at the skill level

1 HOUH

2 that I laid out in paragraph 42, but a
3 PHOSITA I understand can actually -- has
4 knowledge of all the prior art -- again, I
5 am not a lawyer, but if given the chance
6 to research I could -- I may be able to
7 come up with something.

8 Q. Okay. So that was one of my
9 questions. When you say I was a PHOSITA
10 at the time of the prior art date, what
11 you really mean is I possessed the skill
12 of PHOSITA at the time of the prior art
13 date; is that correct?

14 A. I was at least at the level as I
15 laid out in terms of the education and
16 work experience or the tradeoff
17 between more education and less
18 experience, but I was at least that level.
19 A PHOSITA I understand is a hypothetical
20 person. I am not a hypothetical person,
21 but that hypothetical person does have
22 knowledge of the body of prior art at that
23 point in time.

24 So given the ability to search
25 the hypothetical -- well to access that

1 HOUH

2 body because my brain doesn't hold the
3 same -- you know, all that information
4 within it, but given the opportunity to
5 search and access the -- what would have
6 been by a PHOSITA I may be able to find
7 something.

8 Q. Okay. All right. Thank you
9 for that clarification.

10 So it makes my question a little
11 bit easier, as you sit here today with
12 your personal knowledge of April 30, 2004
13 you don't have currently any recollection
14 of any commercial embodiment of the
15 Leaning reference by British Telecom;
16 isn't that correct?

17 MR. SHENG: Objection form.

18 A. I mean based on my personal
19 knowledge, but personally I cannot access
20 some of the, you know, proprietary code
21 that may underlie any products that I may
22 have seen, but I don't -- I don't -- I
23 would have to think about what I have
24 seen. I don't have personal recall of
25 everything that I have seen before and nor

1 HOUH

2 would I necessarily know that everything
3 like who -- what kind provided products or
4 services that I have seen.

5 Q. Well, I'm just asking you for
6 your non-PHOSITA personal knowledge, what
7 you are aware of. As of April 2004, you
8 were not aware of BT commercializing any
9 of the Leaning techniques or methods,
10 correct?

11 MR. SHEUNG: Objection form.

12 A. I mean I am not sure what I
13 could think of going -- put myself in the
14 time of April 2004. I would -- I would
15 have to spend some time thinking about the
16 context to start thinking about that.

17 Q. Were you aware of any work that
18 was being done by British Telecom in that
19 timeframe of April 2004?

20 MR. SHENG: Objection form.

21 A. That question is somewhat
22 ambiguous. I'm not sure how to answer
23 it.

24 MR. GUY: Can I have the
25 question read back.

1 HOUH

2 (Record read.)

3 Q. I am asking you whether as of
4 that timeframe sitting here today whether
5 you are aware of any work that was being
6 done by British Telecom?

7 MR. SHENG: Objection form.

8 A. I don't understand the question.

9 Q. Were you aware of any work being
10 done by British Telecom as of 2004 as you
11 sit here today other than the fact that
12 they were a British telephone company?

13 MR. SHENG: Objection form.

14 A. I have vague recollections. As
15 I am sitting here today, I don't know how
16 to place it in terms of the time of
17 when -- what I have read about would have
18 been available, so I am not sure that I
19 could answer that without thinking more
20 and maybe even looking at the reference
21 that I am thinking of and doing a little
22 bit of research.

23 Q. Have you ever worked for British
24 Telecom?

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

1 HOUH

2 Q. Do you know anyone that has ever
3 worked for British Telecom?

4 MR. SHENG: Objection form.

5 A. I don't know the work
6 affiliations of everyone I've ever known,
7 so I -- but I can't think of anyone that
8 comes to mind.

9 Q. Okay. Have you ever been to
10 the British Telecom research facility
11 outside of Ipswich, England?

12 MR. SHENG: Objection to form.

13 A. I don't think so. No.

14 Q. Have you ever been to a research
15 park called Adastral Park?

16 A. No.

17 Q. Have you spoken to any British
18 Telecom employee in the last three years
19 that you know of?

20 A. Not that I know -- not that I
21 remember or knew of.

22 Q. Have you discussed with any
23 British Telecom representative anything
24 about this case?

25 A. Not for the purposes of this

1 HOUH

2 case.

3 Q. As you sit here today, do you
4 have any information that British Telecom
5 ever commercialized the Leaning patent in
6 an audio product?

7 A. As I sit here today, I am not
8 aware of that.

9 Q. Have you ever investigated
10 whether British Telecom has any evidence
11 of commercial success based upon the
12 Leaning patent?

13 MR. SHENG: Objection form.

14 A. I don't recall doing anything
15 like that.

16 Q. Are you aware of any industry
17 recognition of the Leaning patent
18 referenced, the '343 patent?

19 MR. SHENG: Objection form.

20 A. Not as I sit here today.

21 Q. Have you ever heard anyone
22 describe Anthony Leaning as a pioneer in
23 the industry?

24 A. Not that I can recall hearing
25 sitting here right now.

1 HOUH

2 Q. The same question with respect
3 to Richard Whiting?

4 A. Not that I can recall hearing
5 about sitting here right now.

6 Q. Now, you've already made
7 reference to your declaration paragraph 42
8 regarding a PHOSITA, and you described
9 that as a person with "At least a BS
10 degree in CS or EE or comparable degree
11 and two years of experience in networking
12 or streaming of media or an MSN CS EE or
13 comparable degree."

14 Is that your opinion of what a
15 person of ordinary skill in the art would
16 be in this case?

17 A. With the further provision that
18 a higher level of education or specific
19 skill might make up for less experience
20 and vice versa.

21 Q. Why did you include networking
22 as an alternative to streaming media in
23 your definition of a PHOSITA?

24 A. I mean streaming media is -- is
25 typically streamed over a network. That

1 HOUH

2 is at least partly why.

3 Q. Well, you are not suggesting
4 someone with a background in networking
5 but not streaming would be a PHOSITA, are
6 you?

7 A. Well, I think there are many
8 ways to meet the qualification of a person
9 with ordinary skill in the art that I have
10 laid out here, and it is as I have laid
11 out here.

12 Q. All right. I asked you some
13 questions about British Telecom products.
14 I think I left one off.

15 Are you aware of any video
16 streaming products by British Telecom in
17 the 2004, 2005 timeframe?

18 A. I mean it is possible that I may
19 be, but I am not aware of a specific
20 product name that I could think of right
21 now.

22 Q. Are you aware of any video
23 streaming product by British Telecom up to
24 say three years ago?

25 A. I am not sure I understand what

1 HOUH

2 you are asking.

3 Q. I am asking you whether or not
4 you are aware of any video streaming
5 products by British Telecom up to, you
6 know, the past up to three years ago,
7 2022?

8 A. I am not sure what part of that
9 question you are asking about is up to
10 three years ago.

11 Q. I see. I am asking for any
12 product that British Telecom offered, made
13 available with video streaming up to three
14 years ago, whether you are aware of
15 anything like that today?

16 A. I mean I -- I recall reading
17 about certain things with respect to
18 British Telecom, but I don't know if any
19 of those qualify, and I don't remember all
20 of them. So it is possible, but I don't
21 remember any specific names or products as
22 I sit here right now.

23 Q. Let's turn back to the Leaning
24 reference.

25 MR. SHENG: In about ten minutes

1 HOUH

2 we are going to need to restart that
3 computer. So if you want to do it
4 now, we can do it now or --

5 MR. GUY: Let's do it now.

6 MR. SHENG: Can we go off the
7 record.

8 MR. GUY:

9 (Recess taken.)

10 Q. Let's turn to the Leaning
11 reference if we can. Back on the record.
12 If you were turn to the pseudo code
13 referring to page 10, you see this is a
14 flow of steps for actual software; is that
15 correct? It is not the software itself, in
16 other words.

17 A. This is an example flow, and I
18 think in conjunction with the
19 specification someone looking at this
20 would understand that there is
21 alternatives in various places described,
22 but this would be an example.

23 Q. Okay. And I think the patent
24 refers to it as a flow chart.

25 A. I do see that on page 9.

1 HOUH

2 Q. But it is your understanding
3 that this was more like pseudo code but
4 not a flow chart or did you view it as a
5 flow chart?

6 MR. SHENG: Objection form.

7 A. I mean the -- at least on page 9
8 we mean the stripes as a flow chart.
9 Whether they are descriptive enough to,
10 you know, this chart as a flow chart that
11 you could -- that could describe some
12 steps, I mean I -- I think maybe you
13 referred to it as pseudo code, but I don't
14 think I have a specific argument with that
15 right now.

16 Q. Was it your understanding that
17 the flow chart or pseudo code that is
18 shown at page 9 through 11 is actually for
19 audio implementation of Leaning?

20 MR. SHENG: Objection to form.

21 A. So the -- some of the numbers in
22 this example flow chart are consistent
23 with the descriptions of, for example,
24 audio and encoded. If you look at page 6
25 around line 21 it talks about encoding

1 HOUH

2 same PCM file several times at different
3 rates and then gives example rates of 8K
4 and 24K, which I think was consistent with
5 some of the numbers I saw in this example
6 flow chart or in some of the descriptions
7 surrounding the flow chart, and that would
8 be consistent with audio, but Leaning
9 itself does teach that its methods -- that
10 video is also a part of what it
11 is -- could be applied to.

12 Q. Okay. Let me go through that.
13 I appreciate that.

14 On page 9 in the left-hand
15 column there is what the user would see,
16 and then the next column is what the
17 terminal would see or do, and then on the
18 right column that is what the server would
19 see or do. Fair enough?

20 A. I mean those are labels at the
21 top and -- to the extent everything
22 underneath is consistent with that I would
23 say at least for now that would be fair
24 just looking at the column headings.

25 Q. And the second item down in the

1 HOUH

2 user column is select item from menu, and
3 it says Bach, correct?

4 A. Yes, the second text item in
5 the -- that is populated in the user
6 column. I see that.

7 Q. And that was an audio file from
8 the prior description?

9 A. This example is consistent with
10 the description of audio.

11 Q. And then in response to the user
12 selecting Bach from the menu, the terminal
13 is then going to menu.htm file, and it
14 actually selects an MP3 file, correct?

15 A. I would phrase it a little
16 differently. I would say that the menu
17 that HTML page is what is being displayed
18 from which the users are selecting an item
19 from menu that is on a menu.html page, and
20 that -- the box in the lower right of the
21 Bach box you were talking about talks
22 about extracting the hyperlink from the
23 menu.htm file that is displayed, and it is
24 determining that what the user selected
25 there is a link associated with it, and

1 HOUH

2 that link is described as being extracted.

3 Q. That link is to extract an audio
4 file, an MP3 file, correct?

5 A. I wouldn't quite agree with that
6 because the link is used in the rest of
7 the flow chart steps listed below where it
8 first shows that link.

9 Q. Well, if you look on page 7 in
10 the directory MP3_BWV565, you would agree
11 that all of those are MP3 audio files,
12 correct?

13 A. Sorry. Where in -- on page 7?

14 Q. The big chart.

15 A. What are you asking, if they are
16 all MP3 files?

17 Q. In other words, all of the
18 sub -- all the files in the subdirectory
19 are MP3 audio files, correct?

20 THE WITNESS: Can you read back
21 the question.

22 (Record read.)

23 A. No, I would not.

24 Q. What are they then?

25 A. Well, the first two files listed

1 HOUH

2 in the first row of the data in the table
3 on column 7, those are HTM files or HTML
4 files, the link at HTM and index at HTM.

5 Q. Are all the other files below
6 that this audio files?

7 A. With respect to the MP3 of the
8 Bach piece BWV565 all of those with .bin
9 extension in this example would be the
10 audio files as described in -- a little
11 earlier in the specification.

12 Q. All right. Let's go back to
13 the flow chart at pages 9 through 11. Is
14 there any reference in pages 9 through 11
15 explicitly referencing a video file?

16 A. So this example flow chart that
17 I am looking at is consistent with
18 the -- that the selections are audio based
19 on the prior description. I don't see any
20 explicit reference to video files or
21 video, but generally Leaning does teach
22 that its methods could be applied to video
23 as well.

24 Q. Okay. Now, do you have an
25 understanding of what happens when the

1 HOUH

2 buffer in the Leaning example in the flow
3 chart at 9 through 11 is empty or becomes
4 empty?

5 MR. SHENG: Objection form.

6 A. One box in this example flow
7 chart on page 10 does refer to buffer
8 fullness equals zero. It is about a
9 little above halfway down, but it is not
10 the only condition that is discussed in
11 that box, and so I don't see anything else
12 that relies on just buffer fullness equals
13 zero alone, as I am looking at this flow
14 chart right now.

15 Q. Okay. I will refer you to the
16 top of page 6, line 3. It says "If during
17 the process the buffer becomes empty, the
18 player program simply ceases playing until
19 further data arrives."

20 Do you see that?

21 A. I do see that statement, which
22 is -- which is good because it shows that
23 the flow chart is really just an example,
24 and there are many alternatives described
25 in the specification as to steps that can

1 HOUH

2 be taken in the context of a flow chart,
3 but I do not see a corresponding box in
4 the flow chart on pages 9 through 11 that
5 only relies on the buffer becoming empty
6 to simply ceasing the flare until further
7 data arrives based on buffer fullness
8 equals zero alone, and as I stated there
9 the specification of Leaning describes
10 many alternatives and different ways that
11 this flow chart would be understood by a
12 PHOSITA to be -- to have different other
13 examples based on descriptions in the
14 specification of Leaning.

15 Q. Is it your understanding that in
16 the audio example if the buffer is empty
17 and has no data to play that you would
18 hear silence?

19 A. So I think if you look at this
20 example description of one thing that is
21 happening as described during the process
22 if the buffer becomes empty the player
23 program ceases playing until further data
24 arrives. So I think it would be
25 understood that that player program would

1 HOUH

2 not be playing -- cease playing. It
3 wouldn't be playing anything. So a user
4 in this example would not hear any audio
5 from the player program.

6 Q. All right. And the box you
7 referred to, if buffer fullness equals
8 zero and M rate less than current rate and
9 buffer low percentage greater than TD go
10 to step down. Do you see that?

11 A. Yes, I wasn't looking there when
12 you started that, but I think I see what
13 you are referring to.

14 Q. Okay. What does step down
15 mean?

16 A. In this flow chart, page 10. So
17 I think a PHOSITA would understand that
18 step down referred to in go to step down
19 refers to a label that is later in the
20 towards the bottom of column 10. So if
21 the conditions are met on the -- if that
22 is within the box that you are referring
23 from, then -- then go to this step down,
24 which is the label in the last row on page
25 10, and that is what the -- a PHOSITA

1 HOUH

2 would understand in this example flow
3 chart where the -- where it goes in the
4 flow.

5 Q. All right. Before we go to
6 the -- to where that is telling you to
7 jump to, if buffer fullness is equal to
8 zero, that alone is not sufficient to jump
9 to step down at least in this flow?

10 MR. SHENG: Objection form.

11 A. In this example flow, there are
12 three conditions that must be each met in
13 the example flow chart in that box to go
14 to the step down box at the bottom.

15 Q. And in this example, the buffer
16 was ten seconds of audio; is that correct?

17 (Pause.)

18 Q. I will refer you to line 20 of
19 page 5.

20 A. Well, I do see that now at line
21 10 at page 5 for the example that is on
22 page 5 of this -- of this overview of the
23 operation of the terminal, but as we saw
24 at step 10 of the same description there
25 isn't a corresponding box in the flow on

1 HOUH

2 page 9 through 11 that corresponds to line
3 10. So it is pretty clear that these are
4 just example parameters, and this flow is
5 just an example flow where there are
6 alternatives described further in the
7 specification that -- that talk about
8 alternatives on the example flow given on
9 pages 9 to 11, and I would say that
10 certainly for the example given of the
11 overview of the terminal given from pages
12 4 through the top of page 6 that that step
13 5 you pointed to -- sorry. Which step?
14 Sorry. Step 6, line 21, that in this
15 example the player time TP is set to be
16 ten seconds, but that doesn't -- that is
17 not the buffer size. That is only the
18 parameter called the playoff time TP.

19 Q. All right. Let's go a step
20 down. So based upon the conditions, if
21 there is a step down condition that is
22 shown on page 10, all three of those
23 things are true, then there is a step
24 down.

25 Do you see right below the word

1 HOUH

2 step down it says "clear buffer"?

3 A. Yes, I do.

4 Q. Okay. And regardless of how
5 long the buffer is or how much time there
6 is in it of audio, it's clear; is that
7 correct?

8 A. In this example flow, that is
9 what this example flow says as the first
10 item under the step down label, but, as I
11 said earlier, there are further
12 descriptions in the specification that are
13 alternatives or modify this flow chart,
14 and it's -- a person having ordinary skill
15 in art would see there is a specific
16 alternative described where it would be
17 unnecessary to perform the clearing under
18 what Leaning is teaching elsewhere.

19 Q. All right. Can you point to me
20 in the Leaning reference where it says in
21 a specific case not to clear the buffer in
22 a step down condition?

23 (Pause.)

24 A. So I think there are general
25 discussions. If you look at page 14

1 HOUH

2 starting around line 25, it discusses a
3 reason that -- about the conventional
4 sound cards at the time. It says "Changes
5 of sampling rate (and indeed switching
6 between mono and stereo operation) have
7 some practical implications of audio
8 interface 36. Many operation sound card
9 although capable of operation at a range
10 of different settings require resetting in
11 order to change sampling rate and
12 necessarily this causes an interruption in
13 audio output. Thus in a further
14 modification we are propose that sound
15 card could be run continuously at the
16 highest sampling rate envisioned. When a
17 player program is supplied to buffer at a
18 lower sampling rate, this data is then
19 up-sampled to this highest rate before or
20 after the buffer.

21 Similarly if the card is always
22 operated in stereo mode decoded mono
23 signals could be incorporated to feed both
24 the left and right channel because of the
25 sound card input. Again, if the number of

1 HOUH

2 bytes per sample of the decoded signal is
3 lower than expected by the card, the
4 number of bits could be increased by
5 padding with zeros."

6 So I think what a person of
7 ordinary skill in this would recognize
8 part of the reason for clearing the buffer
9 is that the card is being reset, but
10 Leaning is teaching an alternative where
11 if you ran the card at this highest
12 sampling rate and in stereo, and changes
13 in the byte rate are up-sampled, and
14 changes between mono -- stereo to mono are
15 simply duplicating mono on both channels
16 or changes in the sample size are padded
17 as described in -- in this section that it
18 would not be necessary to reset the card
19 or clear the buffer, and so this is
20 describing a general alternative to the
21 flow chart where a person of ordinary
22 skill would recognize that the clear
23 buffer in the example would not be needed.

24 Q. So it is your view that clear
25 buffer on page 10 is to allow for

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2 resetting of the sound card?

3 A. I think generally if you reset a
4 card like that it is kind of teaching that
5 that is kind of what happens. Is that
6 you have to reset the parameters, but the
7 reason to clear the buffer is that if the
8 data in the buffer were at the wrong -- a
9 different sampling rate like say -- and
10 the sampling rate was changed that, you
11 know, you would either get an octave lower
12 or octave higher if you reproduce it at a
13 range -- the rate changed by a factor of
14 two.

15 So if one followed the
16 modification which is explicitly taught in
17 Leaning but running it at the
18 highest -- the highest rate, then it would
19 not be necessary because the reason
20 that -- you know, is that the data in the
21 buffer if they are just raw audio samples,
22 if you reproduce them at a different rate,
23 it would change the way it sounds kind of
24 like when someone breaths helium or when
25 you play a video faster simply by

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2 increasing the rate of playback of the raw
3 audio samples.

4 So with this modification as
5 taught in Leaning a personal of ordinary
6 skill would recognize it is not necessary
7 to clear the buffer with this
8 modification, which is teaching so that
9 resetting the card or clearing the buffer
10 is not necessary for some of the
11 conventional sound cards at the time.

12 Q. Now, this reference that you
13 pointed me to or this quote at the bottom
14 of page 14, there is no suggestion that
15 that could be used for video; is that
16 correct?

17 MR. SHENG: Objection form.

18 A. Well, I think -- I think in
19 video the video drivers would be a
20 different form, but video I think would be
21 understood that -- by a PHOSITA video
22 wouldn't require resetting or
23 clearing -- you know, resetting any card
24 in that situation of changing the frame
25 rates because the video subsystem is

1 HOUH

2 different than this hardware card that is
3 talked about in this conventional sound
4 card. Video was always built in to a
5 computer at the time. Well, I mean to any
6 computer that people wanted to see
7 something on, and it -- the sound cards
8 were -- the advanced sound cards that
9 could reproduce audio were often at that
10 time add on cards that cost extra money,
11 but the video system was already in place,
12 and a person of ordinary skill would
13 recognize the flow for video wouldn't
14 require clearing the buffer in that
15 situation.

16 Q. Is there anywhere in Leaning
17 that expressly states that you don't need
18 to clear the buffer in the case of video?

19 A. Well, the reason this is talking
20 about in that -- the hardware cards need
21 to be reset is that while there is these
22 conventional sound cards although capable
23 of operating at a range of different
24 settings require resetting in order to
25 change a sampling rate, but the video

1 HOUH

2 system is all software based already. So
3 the video system can change resolutions in
4 software already, for example, without
5 having to reset the video card because the
6 video card -- I think if you look at the
7 time, you know, if you had a monitor that
8 requires a different -- being driven at a
9 different rate, like you bought a more
10 expensive monitor that could be driven
11 faster, the driver at that time would
12 have, you know, you -- oftentimes, you
13 know, you included kind of the refresh
14 rate that some cards supported, but
15 regardless of the refresh rates it could
16 still play video at whatever the video was
17 done at. So that the video cards don't
18 have the issue that Leaning describes or
19 that -- the audio the conventional sound
20 cards have, and I think that would have
21 been understood by a PHOSITA because you
22 don't need to change the video driver
23 setting in order to simply display video
24 at different rates. That was not
25 necessary at the time.

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2 Q. Okay. Let me simplify this.
3 Whether we call it a flow chart or pseudo
4 code that is at pages 9 through 11 in the
5 Leaning reference, there is no
6 corresponding pseudo code or flow chart
7 like that for video in this patent; isn't
8 that correct?

9 A. Well, just like the audio
10 example that you pointed out earlier where
11 there was a different condition ongoing on
12 step ten, you know, the -- the flow chart
13 is simply an example flow chart, and the
14 specification describes other alternatives
15 that are different than what is laid out
16 in the flow chart. Like in column 6 at
17 line 3 you pointed this out earlier about
18 the buffer becomes empty the player simply
19 ceases playing until further data arrives,
20 and, as I said earlier, there was no
21 single condition on the buffer becoming
22 empty that I saw in the flow chart.

23 So it is clear that Leaning is
24 teaching lots of different alternatives
25 including that its system can be applied

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2 on video to video as well including this
3 modification to the flow chart as in step
4 10 at the top of column 6 including that
5 passage at the bottom of column 14 that
6 talks about how if you ran the card in a
7 certain way it wouldn't require resetting
8 it, and a person with ordinary scope would
9 recognize you wouldn't need to clear the
10 buffer in those cases. So it is clear
11 that the flow chart is just an example,
12 and there are different parts of the
13 specification that allowed different
14 operation including with video and the
15 other ramifications the PHOSITA would
16 understand when you are running video in
17 the system.

18 Q. Well, I am asking you whether
19 there is anything in the Leaning reference
20 that explicitly said for video I don't
21 have to clear the buffer in those words?

22 MR. SHENG: Objection to form.

23 A. Well, I would want to
24 review -- you want me to review all of
25 Leaning to look to see if that is or is

1 HOUH

2 not present?

3 Q. Sure.

4 (Pause.)

5 A. So looking through the
6 specification just now I didn't see that
7 exact phrase you asked about using clear
8 -- with respect to video clearing the
9 buffer with respect to video, but I don't
10 think that the specification has to use
11 those exact words for a person of ordinary
12 skill to understand that it is
13 teaching -- to understand the situations
14 in which the video buffer or the buffer
15 would not need to be cleared when
16 rendering video just like the description
17 of even using conventional sound cards
18 that require resetting that the situation
19 under which you could run the sound card
20 that Leaning is explicitly teaching that
21 you don't need to reset the card or clear
22 the buffer.

23 MR. GUY: Lunch.

24 MR. SHENG: Sure.

25 MR. GUY: Let's go off the

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record.
(Luncheon recess: 12:10 p.m.)

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

3 1:00 p.m.

4 DR. H E N R Y H O U H,

5 having been previously duly sworn,

6 testified further as follows:

7 CONTINUED EXAMINATION

8 BY MR. GUY:

9 Q. Dr. Houh, did you discuss this
10 case with anyone during the lunch break?

11 A. No.

12 Q. If you will turn to again the
13 Leaning reference, in all of the IPRs it
14 is Exhibit 1004. If you turn to page 16,
15 do you see there about midway down
16 about line 17 on page 16 "Delivery of
17 video recordings does have further
18 implication for file partitions in
19 switching or jumps to be permitted."

20 Do you see that?

21 A. Yes.

22 Q. And this is an indication to you
23 or a person of ordinary skill in the art
24 that video recordings are going to have
25 "Further implications" in order to do rate

1 HOUH

2 switching; isn't that correct?

3 A. Well, the first sentence simply
4 says further implications for file
5 partition or switching or jumps are to be
6 permitted, and I think that switching -- I
7 wouldn't dispute that it is referring to
8 the rate switching.

9 Q. That is what I was after.
10 Thank you.

11 Now, if you go down to the next
12 paragraph, there is a -- some discussion
13 on MPEG standard, about I frames, and P
14 frames. Is that fair?

15 A. I wouldn't say so. The next
16 paragraph starting on line 24 is talking
17 about the ITUH 261 standard. The previous
18 paragraph is talking about MPEG. For
19 example, in line 21 where it says "Some
20 such systems, for example, the MPEG
21 standards generate a mixture of
22 independently coded frames, interframes
23 and predictor coded frames in this case.
24 Each subfile should be perfectly paired
25 with intraframe." That is teaching that

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2 subfiles in Leaning should preferably
3 start with IPEG, and that is MPEG, but the
4 next paragraph 24, which I think you are
5 referring to in your question, is about
6 the H.261 standard.

7 Q. Okay. All right. Let's take
8 the MPEG situation. What happens if
9 there is a rates change, and there is a
10 subfile from a -- from one rate, and then
11 you either go up or down to a next rate,
12 and the I frame is not the very first
13 frame of the switched subfile?

14 MR. SHENG: Objection form.

15 A. Well, I mean in that case, a few
16 things might occur that you -- you
17 actually can't decode a frame until you
18 actually get to an I frame. If you do not
19 have access to previous frames that could
20 be I or one of the other B or P, I
21 don't -- I think P that a frame in the new
22 file refers to, but Leaning is actually
23 teaching that each subfile should
24 preferably begin within I frame
25 intraframe. So I don't think that issue

1 HOUH

2 is really a challenge with respect to the
3 teaching that Leaning says right here
4 where each subfile for a video recording
5 should begin with an I frame or
6 intraframe. In that case you could
7 always decode a subfile starting from
8 right at the first frame in the subfile.

9 Q. And my question really is what
10 happens if it doesn't? What happens if the
11 first frame of a switched subfile is not
12 an I frame?

13 A. So the coding wouldn't -- the
14 accurate decoding wouldn't -- I mean it
15 depends on the system that is implemented,
16 which is one way -- one example way to
17 deal with it would be that you could
18 simply skip passed any frames dependent on
19 other frames until you reach the next I
20 frame, and in the case of broadcast
21 digital TV and absent any other method to
22 make up the data that is what -- that is
23 when you could start decoding next which
24 is when when you get to the next I frame,
25 for example.

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2 Q. Then we will call it
3 nonpreferred. What would that look like?
4 Would you have a jump with discontinuity
5 or would you have -- I don't know. Would
6 it go to blank? What would it do?

7 A. I suppose it depends on
8 implementation, but Leaning is teaching
9 that the situation where each subfile
10 begins with an I frame, and I pointed to
11 that in my declaration -- declarations, I
12 would refer you to those, but Leaning in
13 this teaching where each subfile begins
14 with an intraframe doesn't have that
15 issue.

16 Q. And with MPEG one, how is it that
17 you force MPEG to encode each subfile
18 initially with an I frame? Is that taught
19 by Leaning?

20 A. Yes. I mean Leaning is teaching
21 here someone with ordinary skill in the
22 art, for example, when using a system
23 according to MPEG standard for video that
24 you would -- you would start -- it is
25 teaching that in this case each subfile

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2 should preferably begin with intraframe,
3 so it is teaching that. With respect to
4 creating the subfiles and other -- you
5 know, teaching in the overall context of
6 Leaning. So in the context of Leaning it
7 is teaching an embodiment where each file
8 starts with an I frame.

9 Q. Let's go down to the section on
10 H.261. At the end, it concludes the
11 serious mistracking of the decoder will
12 occur. What is that mistracking?

13 A. So this mistracking is in the
14 context of first H.261, which
15 says -- which is different than the
16 teaching in the previous paragraph about
17 the MPEG standard, but in this case there
18 is an example for rate switching in the
19 context of H.261 if one were to request
20 subfile N of a higher byte rate recording
21 followed by a subfile M plus one of a
22 lower byte rate. The first rate of the
23 lower byte subfile would have been coded
24 on an intraframe basis using the last
25 decoded frame of subfile M of the lower

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2 rate recording, which of course the
3 terminal does not have at its disposal.
4 It has the last decoded frame of the
5 subfile of the higher rate recording, and
6 what it is saying is that the frame relied
7 on the lower recording since it is
8 not -- since it is dependent on another
9 frame, which I frames are not, that you
10 actually don't have -- the terminal
11 doesn't have the lower resolution frame
12 from which this first frame of a lower
13 byte rate subfile was encoded on, and so
14 it is saying that there is something -- it
15 is calling it serious mistracking, but
16 something not good would occur there with
17 serious mistracking, but that
18 again -- that is not the issue when every
19 subfile begins with an intraframe. Then
20 in that case the subfile itself can always
21 be decoded starting with the first frame.

22 Q. Do you know what that -- what
23 that would look like, the serious
24 mistracking of the decoder?

25 A. I think it would depend on how

1 HOUH

2 it is implemented.

3 Q. And in your career have you ever
4 seen mistracking that they are referring
5 to here?

6 A. I've seen error artifacts.
7 I -- you know, it is -- you can't really
8 tell just from watching what the artifact
9 is as a result of whether it is this kind
10 of mistracking or something else, but I
11 have seen decoding error artifacts in
12 watching digital programs before.

13 Q. What does it look like?

14 A. Well, again unless you
15 know -- unless you have access to more
16 than what you visually can see it -- I
17 don't know that you could tell like what
18 specifically is the issue, but
19 certain -- certain things may be -- there
20 are lots of square blocks that just
21 obviously appear wrong that might pop up.
22 Sometimes the whole frame might be like a
23 scrambled -- I don't want to say totally
24 random, but it is obviously not the actual
25 video, and that might occur for a period

1 HOUH

2 of time until -- until then the video gets
3 corrected presumably because an I frame
4 was hit at some point.

5 Q. And how long do these
6 disruptions or mistracking last in terms
7 of a casual observer watching the display?

8 A. Well, typically they last until
9 the next I frame is encountered, and that
10 depends on the specific way the picture is
11 set up at the encoder because generally
12 speaking that -- that is an issue that can
13 be configured at the encoder.

14 Q. Okay. Let's go to page 18.
15 This has to do with what they refer to I
16 believe as a bridging file or bridging
17 subfile at the bottom. What is your
18 understanding of what a bridging subfile
19 is?

20 A. So Leaning for this example,
21 which is really about the switch from a
22 normal playback rate to a fast playback
23 rate and then back to a normal playback
24 rate that there are potentially some
25 issues. When it says, for example, at the

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2 top of column 17 at line 4 "However when
3 reverting to normal play, the missed
4 tracking problem again occurs because a
5 terminal is then presented with a
6 predictively coded frame for which it does
7 not have the proceeding frame."

8 So it is talking about this
9 issue that may occur, and then it talks
10 about about how the problem can be solved
11 by using the principal described in
12 another patent application, which is also
13 a U.S. patent, which involves the encoding
14 of an intermediate sequence of frames,
15 which bridges the gap between the last
16 frame of the preceding sequence and the
17 first frame of the new sequence."

18 So, again, the mistracking
19 problem there occurring is when a terminal
20 gets a predictively coded frame for which
21 it does not have the preceding frame, and
22 in the teaching Learning where every
23 subfile starts with an I frame that would
24 not be -- not ever be the case, but
25 certainly here it is a really very

1 HOUH

2 specific implementation that Leaning is
3 describing in this part of the
4 specification, which is going from normal
5 play I think of -- which is regular speed
6 or just one X speed going to a five X
7 speed, and the way it is described here
8 there is actually a different file that is
9 encoded at five times the speed.

10 So effectively, you know,
11 disseminating and dropping, you know,
12 four-fifths of the frames, but then when
13 you switch back from 5X playback to normal
14 playback there could be the problem where
15 there is a dependent frame, a frame
16 dependency in this very specific situation
17 described in this implementation, this
18 example implementation where the
19 predictive frame depends on a frame, which
20 is -- is not available to the player, but
21 again if the -- every subfile begins with
22 an I frame that is -- that would not be
23 problematic.

24 Q. All right. Go to the bottom of
25 18 where it says, "Exactly the same

1 HOUH

2 process could be used for rate switching."

3 Do you see that?

4 A. What line are you on?

5 Q. About 18 I guess.

6 A. On page - -

7 Q. 18.

8 A. Page 18.

9 Q. "Exactly the same process could
10 be used for rate switching but now
11 subfiles are required in both directions."

12 A. I think the word there - - the
13 first word in parentheses is "Albeit."
14 Maybe you said that. It is not what I
15 heard.

16 Q. Albeit. Yes.

17 A. Yes, I see that.

18 Q. So in this situation they are
19 using the bridging subfile as part of a
20 rate switching not going from normal to
21 fast play or fast forward, correct?

22 A. Well, this is an example option,
23 but I think it would be recognized that if
24 you started every subfile with an
25 intraframe as Leaning does teach earlier

1 HOUH

2 that that -- the specific bridging
3 subfiles, which are to address the problem
4 of having a frame that you need to decode
5 that is dependent on a frame, you don't
6 have that. That would not be the issue,
7 but in this example where it appears that
8 the -- you could have those for rate
9 switching where there is a frame that
10 depends on another frame that is not
11 available. Then you could use a bridging
12 subfile, but I think it would be
13 recognized that using the -- each subfile
14 starting with an intraframe would
15 basically eliminate the problem and the
16 necessity to use bridging subfiles as
17 described in this section, and this is
18 just an option as described in Leaning.

19 Q. Well, it says "However will be
20 observed that as described the bridging
21 subfile results in a freezing of the
22 picture for a period of four frames at 25
23 frames per second 160 milliseconds."

24 Do you see that?

25 A. I do see that.

1 HOUH

2 Q. Have you ever seen that artifact
3 displayed freezing something for four
4 frames?

5 A. Well, I am pretty sure if I saw
6 some freezing I wouldn't know how many
7 frames it froze for, if any, other than
8 that, you know, I oftentimes see a
9 spinning circle on watching my streaming
10 video, maybe Netflix, and it freezes, but
11 I -- it often freezes for seconds though,
12 and I don't think it is actually
13 displaying four of the same -- I don't
14 think there are four frames somehow.
15 Well, I don't want -- but again this is
16 for the rate switching, and the reason it
17 is for four frames in rate switching when
18 you go from 5 X to 1one X. The four
19 frames apparently are related to, you
20 know, the -- that difference, but again a
21 person with ordinary skill would recognize
22 that this is describing a situation where
23 it is -- what it is describing is when you
24 are trying to decode a frame say in a rate
25 switched -- well, not in this case. It

1 HOUH

2 could be rate switching, but it is
3 describing the situation of the fast
4 forward versus going back to normal play
5 where the first frame is a dependent
6 frame, dependent on another frame that is
7 not available to the player, but if you
8 look at this teaching in Leaning where
9 every subfile starts with the intraframe,
10 that situation, you would never have this
11 problem of trying to decode a new file
12 that was retrieved at a different rate
13 that had a dependency on a pre or prior
14 frame because I frames are -- intraframes
15 are encoded without any dependency on a
16 prior frame.

17 So the teaching of Leaning has
18 another option where every subfile begins
19 with an I frame, and a person with
20 ordinary skill would see that teaching and
21 recognize that you don't need any bridge
22 frames or any of what this section is
23 describing in that case.

24 Q. What is your understanding of
25 what is meant by "it may or may not be

1 HOUH

2 subjectively acceptable on rate
3 switching"?

4 A. So in the context of this
5 description, this option, where this is
6 describing a situation going from a normal
7 playback rate to a 5X playback rate where
8 the 5X playback rate is actually encoded
9 as separate files, and in this situation
10 where the switching new file of a switched
11 rate going back from I think, for example,
12 the 5X back to normal, there is a
13 dependency on the normal playback frame to
14 the prior frames that as encoded would
15 really need to be the normal playback
16 rates, but as was played out with the 5X
17 playback rates that I guess would be a
18 matter of -- to the viewer seeing that
19 under the very specific conditions
20 described in this example whether it would
21 be acceptable on this kind of -- on rate
22 switching, but again a person of ordinary
23 skill would understand that if every
24 subfile started with an I frame this
25 situation that is being described here

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2 would not occur because you would never
3 have a case where a new subfile had
4 a -- started with a frame that was
5 dependent on another prior subfile, a
6 frame within another prior subfile of the
7 same encoding level because if every
8 subfile started with an intraframe then
9 every subfile would immediately be decoded
10 on its own starting from the first frame.

11 Q. All right. Can you turn to
12 figure 4 in the Leaning patent, leading
13 reference?

14 A. Okay.

15 Q. Now, you understand figure 4 to
16 be describing the audio example?

17 MR. SHEUNG: Objection form.

18 A. If you look at page 13 at line
19 23, it does say -- it talks about figure 4
20 there, and this says "Figure 4 shows
21 diagrammatically a sequence of audio
22 samples upon which successive four-second
23 sessions are delineated in boundary marks
24 in figure B1, B2, et cetera."

25 So I think the description here

1 HOUH

2 of this example given figure 4 is
3 indicating that the samples are audio.

4 Q. And with respect to that
5 example, the subfiles are overlapping; is
6 that correct?

7 MR. SHENG: Objection form.

8 Q. Referring to figure 4, I think
9 it says in page 13, line 3 it does talk
10 about the overlapping nature of the set of
11 subfiles.

12 Q. Do you mean line 32? I don't
13 mean to interrupt.

14 A. Yes, I -- I did mean line 32.
15 Thank you. It says "repeat starting each
16 time at a four-second boundary, so in this
17 way a set of overlapping subfiles is
18 generated for the whole audio sequence to
19 be coded," and it talks about how the last
20 segment doesn't have to have anything
21 following it, and it can padded with
22 zeros, and I think that this is -- this is
23 a very specific -- very specific for audio
24 in an example where there is a very
25 specific frame size compared to the sample

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2 size where four seconds represents a
3 nonnumber of frames, and it says in line
4 28 that is 3.3 frames, but I think in the
5 video situation it describes how -- I
6 believe Leaning talks about video frames,
7 and I when you start every subfile with an
8 intraframe you don't have a problem that
9 frames are split between subfiles because
10 every subfile starts with an intraframe,
11 which is a full frame that can be
12 independently decoded without reference to
13 any other prior frame in the video.

14 MR. GUY: Let's mark that as
15 2202.

16 (Exhibit 2202 marked for
17 identification.)

18 (Document handed to witness.)

19 Q. Handing you what has been marked
20 as exhibit 2202 of your deposition, so it
21 would be Houh Exhibit 2202, it is a U.S.
22 patent application publication to Leaning
23 et al., publication number USA
24 2004/00030547.

25 Have you ever seen this document

1 HOUH

2 before?

3 A. I think it is possible that I
4 have, but I -- I don't remember every
5 document I have ever seen before.

6 Q. Well, I am asking about this
7 one. Do you recall seeing this one or
8 not?

9 A. Yeah. I mean I think it is
10 possible that I have, but I am not totally
11 sure.

12 Q. Have you done anything to
13 compare Exhibit 2202 to Leaning reference
14 Exhibit 2004? I'm sorry. 1004.

15 A. I don't think I -- I don't -- I
16 don't think I have with respect to what I
17 did for my declaration in terms of my
18 opinions.

19 Q. Well, have you done it for any
20 other reason?

21 A. Well, I mean I can look at it
22 right now, and the title is about encoding
23 audio signals, and that is all it is
24 discussing whereas the -- the Exhibit 1004
25 is about transmission and reception of

1 HOUH

2 audio and/or video material. So it
3 appears from the face that Houh 2202 is
4 really just about encoding audio based on
5 the title.

6 Q. Well, why don't you look at the
7 drawings and the figures in the Leaning
8 reference, and let's compare them.
9 Figure 1 figures are the same, aren't
10 they, between the Leaning reference,
11 Exhibit 1004 and Exhibit 2202?

12 A. Sure. While the figures
13 are -- appear to be identical, the patent
14 publication is titled encoding audio
15 signals. So it appears from its face it
16 is really just about audio encoding.

17 Q. Have you ever done a comparison
18 of these two documents?

19 MR. SHENG: Objection form.

20 A. I mean we are -- we are just
21 doing that right now.

22 Q. Have you ever done it before
23 today?

24 A. I don't think I've -- well, I
25 don't think I have a written an opinion in

1 HOUH

2 this set of IPRs about it, and I don't --

3 Q. That wasn't my question. Have
4 you ever compared these two documents
5 before today?

6 A. I mean I don't recall doing so,
7 but I -- and I don't recall having
8 opinions about that in any -- in this set
9 of declarations, and I certainly wouldn't
10 remember all my opinions from other
11 declarations.

12 Q. And you are not offering any
13 opinion on whether they are the same or
14 similar or different?

15 MR. SHENG: Objection form.

16 A. Well, I think they are
17 certainly -- you know, the title is
18 certainly different. This patent
19 application is really directed based on
20 its title to encoding of audio signals.
21 So --

22 Q. All right.

23 A. Just looking at the face, it is
24 really about just encoding audio as the
25 title suggests.

1 HOUH

2 Q. Look at the five drawings and
3 five figures in both of them and see if
4 there are any differences.

5 MR. SHENG: Objection to form
6 and scope.

7 A. Okay. I did look at them.

8 Q. Any difference in the drawings?

9 A. Well, the publication titled
10 "Encoding Audio Signals" appears to have
11 the same figures at least on first glance
12 as the Leaning reference. But looking at
13 the title, it is -- it would appear that
14 it is about encoding audio signals.

15 Q. Let's look at Exhibit 2202
16 again, the U.S. publication with respect
17 to the Leaning reference. Beginning at
18 paragraph 10 in the U.S. publication have
19 you done anything to compare that block of
20 text all the way to the point just before
21 the claims, which I believe is paragraph
22 135, so approximately 125 paragraphs?
23 Have you done anything to compare those
24 paragraphs to the Leaning reference?

25 MR. SHENG: Objection form and

1 HOUH

2 scope.

3 A. I don't recall having anything
4 in my -- this set of declarations about
5 that issue or about this comparison or
6 even referring to Houh 2202 as something I
7 relied on.

8 Q. Are you aware of any PTAB
9 decision in which the similarities between
10 the Leaning reference and the Leaning U.S.
11 application were found to be substantially
12 the same?

13 MR. SHENG: Objection form and
14 scope.

15 A. No, I don't think I am aware of
16 that, and certainly the titles are very
17 different or different enough. They are
18 different.

19 Q. All right. Let's go off the
20 record for a second.

21 (Recess taken.)

22 MR. GUY: Back on the record.
23 Can I have this marked as the next
24 Exhibit 2203.

25 (Exhibit 2203 marked for

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1 HOUH

2 identification.)

3 (Document handed to witness.)

4 Q. Dr. Houh, have you ever seen
5 what has been marked as Exhibit 2203,
6 which is a decision denying interparties
7 review with respect to the '772 patent?

8 A. I don't have a firm recollection
9 of reviewing this, as I sit here right
10 now.

11 Q. If you would turn to page 13.

12 A. Okay.

13 Q. In opposing this petition, the
14 the patent owner pointed out the
15 similarities between Leaning and Leaning
16 U.S. and the PTAB board in its decision
17 indicated in the paragraph there. If you
18 could read that to yourself, the first
19 full paragraph of page 13 of Exhibit 2203.

20 (Pause.)

21 MR. SHENG: I am just going to
22 lodge a scope objection.

23 MR. GUY: Noted.

24 Q. Have you finished reading the
25 paragraph on page 13 going over to 14?

1 HOUH

2 A. Yes, I have.

3 Q. So the board had to address
4 whether or not the petitioner I believe it
5 was Aylo in this case should have known of
6 Leaning given the citation of the Leaning
7 U.S. reference. Do you understand that?

8 MR. SHENG: Objection form,
9 scope, speculation, foundation.

10 A. I mean I see a statement in this
11 decision that says this supports patent
12 owner's arguments that petitioners should
13 have known of Leaning at the time it filed
14 the petition in IPR 2024/00048.

15 Q. And do you see that the board
16 found that patent owner had shown
17 substantial similarities between Leaning
18 and Leaning U.S., which is cited in the
19 '772 patent?

20 MR. SHENG: Same objections.

21 A. I'm just looking at what page 13
22 says. I see in the third line of this
23 paragraph the words "In particular patent
24 owner has shown substantial similarities
25 between Leaning and Leaning U.S., which is

1 HOUH

2 cited on the '772 patent."

3 Q. Now, you haven't done a
4 comparison to figure out whether there are
5 substantial similarities between Leaning
6 and Leaning U.S., have you?

7 MR. SHENG: Form.

8 A. I don't think I provided an
9 opinion in these declarations to that
10 affect.

11 Q. You provided a declaration in
12 certain IPRs based on Ogden that Aylo
13 filed, correct?

14 A. In a prior case I believe I have
15 submitted declarations based on a
16 reference called Ogden.

17 Q. All right. And did you review
18 the cited prior art as part of your
19 declaration?

20 MR. SHENG: Objection to form.

21 Q. For the '772 patent.

22 A. With respect to that Ogden IPR
23 declaration I submitted, I don't recall
24 everything I did.

25 Q. Okay. Do you have any

1 HOUH

2 recollection of reviewing the cited prior
3 art for the '772 patent as part of the
4 '772 declaration?

5 MR. SHENG: Objection form and
6 scope.

7 A. I mean I don't remember things
8 to that level of detail that I would have
9 done over a year ago probably, and I don't
10 even remember what timeframe that was.

11 Q. Did the Leaning reference
12 Exhibit 1004, did that come to your
13 attention after you had submitted your
14 declaration regarding Ogden?

15 MR. SHENG: Objection form.

16 A. I can't remember the exact
17 timeframe, but I think it probably did.

18 Q. Are you considering or have you
19 been asked to render any opinion that
20 Leaning, the reference exhibit -- I mean
21 1004 is not cumulative of Leaning U.S.?

22 MR. SHENG: Objection as
23 phrased. Calls for privileged
24 communications. Don't answer.

25 Q. Are you going to take your

1 HOUH

2 counsel's instruction?

3 A. Yes.

4 Q. And you refuse to answer?

5 A. Based on counsel's instruction.

6 Q. All right. We have made a
7 request for your billing records, and
8 you've had an opportunity to search for
9 them, and you are not going to do that
10 based on your counsel's instruction; is
11 that correct?

12 A. I was here for the exchange
13 between the attorneys, and I - -

14 MR. SHENG: I can answer that.

15 Yes. He is not going to do it.

16 Q. Okay. All right. We would ask
17 that you to preserve your billing records,
18 that you don't delete any of the records,
19 and we will seek discovery of them.
20 Okay.

21 MR. SHENG: On what basis?

22 MR. GUY: Well it goes to an
23 issue in the case, and we will be
24 asking them based on the real party in
25 interest here. The overlap between

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the parties and the extent that he has
done most of his work for Aylo and
very little for Fubo, we believe we
have a right to investigate that.

MR. SHENG: Noted.

MR. GUY: I will pass the
witness. I think that our procedure
was to do the '234 patent first, but I
think I've covered just about
everything.. so in light of time
hopefully we can all cover it with one
throw. How about that.

MR. SHENG: Yes. We will take
ten minutes. Off the record.

(Recess taken.)

(Continued on next page.)

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2 MR. SHENG: Back on the record.

3 So counsel for Aylo confirmed with
4 counsel for Fubo and Master Class, and
5 we have nothing for Dr. Houh. So, Dr.
6 Houh, I think you are free to go.

7 THE WITNESS: Thank you very
8 much effect.

9 MR. PETERS: We will order a
10 copy.

11 MR. SHENG: We will order an
12 expedited copy.

13 (Time noted: 2:05 p.m.)

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20 DR. HENRY HOUH

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22 Subscribed and sworn to before me

23 this day of , 2025

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H O U H
C E R T I F I C A T I O N

I, DEBBIE ZAROMATIDIS, a Shorthand
Reporter and a Notary Public, do hereby
certify that the foregoing witness, DR.
HENRY HOUGH was duly sworn on the date
indicated, and that the foregoing is a
true and accurate transcription of my
stenographic notes.

I further certify that I am not
employed by nor related to any party to
this action.



DEBBIE ZAROMATIDIS

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Federal Rules of Civil Procedure

Rule 30

(e) Review By the Witness; Changes.

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

(A) to review the transcript or recording; and

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

(2) Changes Indicated in the Officer's Certificate.

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

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DEPOSITION ERRATA SHEET

Deposition of: Henry Houh, Ph.D. Date of Deposition: February 6, 2025

Case Name: *Aylo Freesites Ltd. v. Dish Technologies L.L.C.;*
FuboTV Media Inc. and Yanka Industries, Inc. v. Dish Technologies
L.L.C.

Case Number: IPR2024-00940 (Aylo), PTAB Cases IPR2024-00918 (FuboTV),
IPR2024-00917 (FuboTV),, IPR2024-00919 (FuboTV),

Reporter: Debbie Zaromatidis

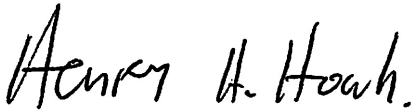
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