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

YEALINK (USA) NETWORK TECHNOLOGY CO., LTD., and
YEALINK NETWORK TECHNOLOGY CO., LTD.

Petitioners,

v.

BARCO N. V.,
Patent Owner.

Patent No. 11,966,346 / IPR2025-00597

Patent No. 11,966,347 / IPR2025-00598

REMOTE DEPOSITION OF
MICHAEL BROGIOLI, PH. D.
March 11, 2026 at 10:00 a.m.

Reported by:

Anne E. Vosburgh, CSR-10804, RPR, CRR, CSR-6804,
CCR-25001522

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On March 11, 2026, commencing at approximately 10:00 a.m., the remote videoconference deposition of MICHAEL BROGIOLI, PH.D. was held before and stenographically reported by Anne E. Vosburgh, Certified Shorthand Reporter No. 6804, Registered Professional Reporter, Certified Realtime Reporter, Certified Court Reporter No. 25001522, Notary Public, LiveNote Reporter, and Closed Captioner.

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I N D E X

----- EXAMINATIONS -----

WITNESS: MICHAEL BROGIOLI, PH. D.

Examination by Mr. Greenleaf 7

----- REFERENCED EXHIBITS -----

Exhibit 1004 (previously marked) Office 75
Action response

Exhibit 1005 (previously marked) Beel patent 17

Exhibit 1006 (previously marked) Dinka 98
patent

Exhibit 1007 (previously marked) Van de Laar 83
patent

Exhibit 1008 (previously marked) Kaplan 110
patent

Exhibit 1011 (previously marked) Christison 79
patent

1	EXHIBITS (Continued):	
2		
3	Exhibit 1076 (previously marked) ClickShare	141
4	C-5 document	
5	Exhibit 2001 (previously marked) Brands	10
6	patent	
7	Exhibit 2004 (previously marked) Declaration	8
8	in IPR2025-00597, US Patent	
9	11,966,346	
10	Exhibit 2006 (previously marked) Almeroth	11
11	deposition transcript	
12	Exhibit 2007 (previously marked) Almeroth	11
13	deposition transcript	
14	Exhibit 2008 (previously marked) Almeroth	11
15	deposition transcript	
16	Exhibit 2011 (previously marked) Crestron	11
17	license agreement	
18	Exhibit 2012 (previously marked) Crestron	11
19	license agreement	
20	Exhibit 2018 (previously marked) Crestron	12
21	web page	
22	Exhibit 2023 (previously marked) Excerpts	12
23	from Ludke deposition	
24	(Exhibits retained.)	
25		

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PROCEEDINGS

Remote Videoconference Deposition of
MICHAEL BROGIOLI, PH. D.
March 11, 2026, 10:00 a.m.

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MR. GREENLEAF: Good morning. This is Kevin Greenleaf for petitioner, Yealink, with the Dentons law firm. I'll be taking Dr. Brogioli's deposition.

MR. ANDREWS: And this is Joshua Andrews representing Barco, and I'll be defending Dr. Brogioli's deposition today.

And I'm joined by my colleague, Erik Halverson.

MICHAEL BROGIOLI, PH. D.,
(Having been called to testify, was sworn to tell the truth, the whole truth, and nothing but the truth.)

THE REPORTER: Thank you.
Counsel, you may proceed.

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EXAMINATION

BY MR. GREENLEAF:

Q. Good morning, Dr. Brogioli.

How are you?

A. Good. Good.

Q. Is there anything that would prevent you from giving truthful and accurate testimony today?

A. No, there is not.

Q. And you're aware that we are here for two Inter Partes Review proceedings, one for the patent I'll call the '346 patent and for the '347 patent?

A. That's my understanding, yes.

Q. And do you have electronic copies of all the -- at least most of the relevant papers today that you can refer to?

A. I should. The -- my '346 declaration and '347. And then I should -- I've collected the prior art we'll probably talk about today.

I should have copies of other things, if we need to go look for them.

Q. Of course, I'll supply anything

1 that you need that you don't have already.

2 So I'm going to start with the '346
3 numerically today. And I'd like to direct your
4 attention to your declaration, Exhibit 2004,
5 paragraphs 5 and 6.

6 (Declaration in IPR2025-00597, US
7 Patent 11,966,346, document
8 previously marked as Exhibit 2004.)

9 A. Okay.

10 BY MR. GREENLEAF:

11 Q. I might just -- okay. So it refers
12 to some exhibits you've considered, 1001, 1004,
13 etc., in paragraph 5. And it talks about you
14 having considered those documents and relevant
15 legal standards in paragraph 6.

16 Do you see that?

17 A. Yes, I do.

18 Q. Did you consider any other
19 documents besides those listed here in
20 paragraph 5 when forming your opinions?

21 A. It would probably just be anything
22 else perhaps cited in the declaration. I don't
23 recall exactly what the cites may be.

24 If I remember, Dr. Almeroth may
25 have had references to some other technical

1 material around some of the technology
2 discussed. It should be things referenced in
3 my declaration though.

4 Q. Okay. Did you review the patent
5 owner's response?

6 A. I don't recall.

7 Q. Do you have a copy of the patent
8 owner's response?

9 A. One moment.

10 I'm looking to see if it's in the
11 initial drop of exhibits -- or the initial drop
12 of materials I would have received.

13 I guess I'm not seeing it here.

14 So what I'm looking at here -- I
15 guess the first materials I was provided were
16 in relation to the '346. And I don't see --
17 actually, the decision granting institution,
18 the petition, etc. I'm not seeing a patent
19 owner response in here.

20 Q. Okay. I'm going to share my
21 screen.

22 All right. You should see this
23 document here. We're looking at a table of
24 exhibits.

25 Do you see that?

1 A. I do.

2 Q. And this document is patent owner's
3 response.

4 Have you seen a copy of this
5 document before?

6 A. Going from memory, I don't recall
7 that I did. In some cases or IPRs, I may see a
8 draft of something. I just don't recall if I
9 saw this one or not.

10 Q. I'm looking at the page of
11 exhibits, Roman II.

12 Do you see that?

13 A. Yes.

14 Q. Exhibit 2001 is US publication,
15 first name is "Brands."

16 (Brands patent, document previously
17 marked as Exhibit 2001.)

18 BY MR. GREENLEAF:

19 Q. Have you seen this document before?

20 A. I don't recall talking about it in
21 my '346 declaration. Going from memory, or at
22 least in prep, I don't recall looking at it in
23 prep for today either.

24 As to whether I may have seen it
25 some months ago or something, I don't remember.

1 Q. How about Exhibits 2006 to 2008,
2 transcripts from Dr. Almeroth's depositions.

3 (Almeroth deposition transcripts,
4 document previously marked as
5 Exhibit 2006, 2007, and 2008.)

6 BY MR. GREENLEAF:

7 Q. Have you seen those before?

8 A. I have seen some of Dr. Almeroth's
9 deposition -- well, a number of his various
10 deposition transcripts in this matter.

11 As to whether those were these
12 specific ones, I don't recall, or it may have
13 been a subset of these three.

14 Q. Okay. How about Exhibit 2011, the
15 Crestron license agreement?

16 (Crestron license agreement,
17 document previously marked as
18 Exhibit 2011.)

19 BY MR. GREENLEAF:

20 Q. Have you seen that document before?

21 A. Perhaps in relation to the
22 litigation that happened. I think it was late
23 last year.

24 Q. Okay. And 2012.

25 (Crestron license agreement,

1 document previously marked as
2 Exhibit 2012.)

3 BY MR. GREENLEAF:

4 Q. Do you recall seeing that document?

5 A. Maybe. I don't recall the name
6 specifically, but I recall looking at and
7 discussing some things related to a Crestron
8 licensing agreement.

9 Q. And I guess probably a similar
10 answer for Exhibit 2018, the Crestron web page.

11 (Crestron web page, document
12 previously marked as Exhibit 2018.)

13 BY MR. GREENLEAF:

14 Q. Have you seen that document?

15 A. Probably in relation to maybe trial
16 preparation last year. I just don't recall
17 specifically.

18 Q. And Exhibit 2023, the excerpts from
19 the deposition of Andrew Ludke.

20 (Excerpts from Ludke deposition,
21 previously marked as Exhibit 2023.)

22 BY MR. GREENLEAF:

23 Q. Have you seen that document before?

24 A. The name "Ludke" is familiar. I
25 don't recall if it's in the context of this

1 deposition transcript or something else.

2 Q. Now, I have up on the screen the
3 petition for this proceeding, IPR 2025-00597.

4 Do you see that up on your screen?

5 A. I do, yes.

6 Q. Have you seen this document before?

7 A. I think so. I think I was provided
8 a document. It may have been named a little
9 differently, but it was a -- let me
10 double-check this for you.

11 It was a Yealink IPR petition for
12 '346.

13 Q. Please let me know whether you have
14 a copy of that. And if not, I can supply you
15 with one.

16 A. It looks like the same document,
17 based on what you're showing in the page count.

18 Q. Okay. So on page 3, it mentions
19 the Brands publication, which is the same
20 Exhibit 2001 from the patent owner response.

21 And I will supply you now with a
22 copy of Exhibit 2001.

23 All right. You should have it
24 shortly in the chat. Let me know when you have
25 it up.

1 A. I'm downloading it now.

2 Okay. I have it up.

3 Q. Would you just please confirm it's
4 the same document referred to on page 3 here of
5 the petition?

6 A. That looks to be correct, yes.

7 Q. Have you reviewed this document
8 before, Brands again?

9 A. I may have looked at it some time
10 ago, if it were provided to me in an initial
11 drop of documents. I don't recall discussing
12 it in my declaration, but I may have glanced at
13 it at some point.

14 Q. Okay. I have Brands up on my
15 screen, but please feel free to examine it on
16 your own personal copy.

17 But you see it's assigned to Barco
18 on the cover page, correct?

19 A. I see that, yes.

20 Q. And what's your understanding of
21 the meaning of the figure on the cover sheet of
22 the Brands publication, Exhibit 2001?

23 MR. ANDREWS: Objection, form.

24 A. I don't know that I have an
25 understanding of it sitting here right now. I

1 mean, it looks like it's showing some
2 components, like an app store and what looks
3 like a type of monitor, something like that.

4 BY MR. GREENLEAF:

5 Q. I'm scrolling down to Figure 1A.

6 Have you seen Figure 1A before?

7 A. There are visually similar figures
8 in some of the other references I talked about
9 in my declaration.

10 Q. And the remaining figures through
11 Figure 10, do those look at all familiar to
12 you?

13 A. Figure 3 looks similar to figures
14 I've seen in the past, just at a very high
15 level.

16 Figure 4 may be a little similar
17 perhaps to things I talked about in my other
18 IPR declarations.

19 Figure 10 looks similar to some of
20 the figures I've used in -- at least visually
21 similar to figures in some of the other
22 references for what I've discussed in my
23 declarations.

24 Q. So in paragraph 5 of your
25 declaration, you say you've reviewed the file

1 history, Exhibit 1004 in this proceeding.

2 When is the last time you reviewed
3 the file history, Exhibit 1004?

4 A. It may have been in that window of
5 time leading up to the finalizing of my
6 declaration -- which I can give the date. It's
7 probably at the end.

8 So that would have been the 13th of
9 January. I think it says 2025, but that maybe
10 should say 2026, and -- so perhaps in the
11 couple days leading up to that. If not, maybe
12 before then.

13 Q. Do you recall seeing Brands
14 discussed in the file history?

15 A. I don't remember the file history
16 at that level of detail.

17 Q. All right.

18 I'm going to share my screen again,
19 or maybe it would just be faster if you looked
20 at Brands paragraph 312, please, "Third
21 Embodiments."

22 A. Okay. One moment.

23 Q. Page 32.

24 A. Okay. I'm there.

25 Q. So it says the third embodiment is

1 the "portable application stored on a solid --
2 standard solid state memory, such as a USB
3 stick."

4 Do you see that?

5 A. I do.

6 Q. And you recall the Beel reference,
7 Exhibit 1005, correct?

8 A. I do, yes.

9 (Beel patent, document previously
10 marked as Exhibit 1005.)

11 BY MR. GREENLEAF:

12 Q. Beel also discloses an embodiment
13 "including a portable application stored on a
14 standard solid state memory stick, such as a
15 USB stick," correct?

16 A. There's a number of embodiments in
17 Beel. I could go back and confirm that for
18 you.

19 Q. All right.

20 So I have -- let's see. I'm going
21 to share my screen.

22 All right. On my screen is a copy
23 of Exhibit 1005, the Beel reference.

24 Do you see that?

25 A. I do.

1 Q. Beel also has a third embodiment
2 described as "a portable application stored on
3 standard solid state memory, such as USB
4 stick."

5 Do you see that?

6 A. I do.

7 Q. So both Exhibit 2001 and
8 Exhibit 1005 include a third embodiment
9 described as "a portable application stored on
10 standard solid state memory, such as a USB
11 stick," correct?

12 A. That seems to be what the two
13 references are indicating.

14 Q. And Exhibit 2001, Brands, also
15 discloses a fourth embodiment described as "a
16 software-only client installed on the client
17 processing device."

18 Do you see that?

19 A. I do.

20 Q. And Beel discloses a similar fourth
21 embodiment described in the identical way
22 around paragraph 247, correct?

23 A. It looks like that Beel fourth
24 embodiment is described with the same header,
25 yes.

1 Q. And is it your understanding that
2 the fourth embodiment of Beel does not include
3 a peripheral device?

4 A. One moment. Flipping back to Beel
5 for a moment.

6 MR. GREENLEAF: For the court
7 reporter, Beel is B-e-e-l.

8 A. It looks like the fourth embodiment
9 in Beel is where that client software is copied
10 onto -- or as Beel says, "copied on the client
11 operating device," and mentions in the next
12 sentence -- and I'm in paragraph 247 of Beel --
13 "No plug-and-play port such as the USB port is
14 required on the client operating device."

15 BY MR. GREENLEAF:

16 Q. What client software is
17 paragraph 247 referring to?

18 A. Well, the way that Beel phrases it
19 in 247 is that the third embodiment -- I'll
20 start from the beginning:

21 "This embodiment is similar to the
22 third embodiment with the only
23 difference that the software is copied
24 on the client operating device (Figure
25 9)."

1 So it looks like the client -- the
2 software referenced in embodiment 3 is now
3 local on the client operating device in
4 embodiment 4.

5 Q. So in paragraph 221, which I have
6 up on the screen, it says:

7 "This embodiment of the present
8 invention routes at least screen
9 scraped data presented by client
10 software running on the processing
11 device for transmission to a
12 communication network via a
13 communication [sic] connection of the
14 processing device."

15 Do you see that?

16 A. I do.

17 I think you may have read it a
18 little bit differently. The last phrase is
19 "via a network connection of the processing
20 device."

21 Q. And so the software referred to in
22 paragraph 247 for the fourth embodiment
23 performs the same function, correct, according
24 to Beel?

25 A. I think what it's saying is that

1 this software of the third embodiment is copied
2 onto the client operating device here,
3 Figure 9, as it talks about in 247.

4 So the functionality of that
5 software that would be coming from, I think, a
6 USB device in the embodiment 3 is now
7 installed -- or copied here onto the local
8 machine.

9 Q. All right. I'd like to direct your
10 attention to paragraph 120 of Beel, which I
11 have up on the screen.

12 And the last sentence reads:

13 "Another optional item is a
14 microphone or microphones 38 that can
15 be used to transfer audio, e.g., to the
16 processing devices 31 and to
17 loudspeakers (not shown) attached to
18 the base node 36 or part of the display
19 44. "

20 Do you see that?

21 A. I do.

22 Q. So could you please explain the
23 data flow between the microphones and where the
24 data is going and how it gets there, according
25 to Beel?

1 A. So here it's talking about a
2 microphone 38 and processing device 31. I'm
3 just going to jump back to Beel's figure.

4 And it's talking about transfer of
5 audio --

6 Q. Which --

7 A. I'm sorry?

8 Q. Which figure are you looking at?

9 A. I went back to Figure 1A of Beel,
10 and then -- I'll look at 120 locally here.

11 So the sentence you highlighted was
12 another item -- "another optional item was
13 microphone or microphones 38" that we see in
14 Figure 1A that can be used to transfer audio to
15 the processing device.

16 So that may be a microphone
17 connected directly to the processing device via
18 a cable or other mechanism to that processing
19 device 31 that we see. And that audio can also
20 go to loudspeakers that are attached to the
21 base node 36.

22 And so you can transfer this audio,
23 again, from like a lapel microphone with a
24 cable to a processing device or perhaps via
25 Bluetooth or other mechanism.

1 Q. What other ways could the
2 microphone be connected to the system
3 illustrated in Figure 1A?

4 A. I think the wired example and the
5 Bluetooth example are the primary ones I've
6 talked about.

7 There may be other ways to connect
8 a microphone, you know, directly to a laptop,
9 for example.

10 Q. Where does Beel say that the
11 microphone is connected directly to the laptop?

12 A. That it's saying here in
13 paragraph 120:

14 "The microphone or microphones 38
15 can be used to transfer audio, e.g., to
16 the processing device 31. "

17 Q. It doesn't use the word "directly,"
18 does it?

19 A. I don't see the word "directly" in
20 that sentence, but it says "transfer audio to
21 the processing device or devices. "

22 Q. Is the only way to interpret that
23 sentence to include the word "directly"?

24 A. That's how I'm interpreting the
25 sentence in that paragraph, yes. It's not

1 talking about other intermedia components, for
2 example, that may be part of Figure 1A that are
3 in that flow of information.

4 Q. What do you mean by "intermedia
5 components"?

6 A. It's -- I mean, it's specifically
7 denoting two labeled components within
8 Figure 1A, the lapel microphone 38 that can be
9 used to transfer audio to the labeled block
10 processing device 31.

11 And it's not mentioning other
12 elements within Figure 1A that Beel has
13 explicitly labeled and denoted.

14 Q. Must microphone 38 be a lapel
15 microphone?

16 A. I see that it is referenced as
17 "lapel microphone" in 1A. The description in
18 Beel paragraph 120 doesn't use the "lapel"
19 description.

20 Q. What in Figure 1A requires
21 microphone 38 to be lapel microphones?

22 A. I was pointing out that that's the
23 way Beel labels it in Figure 1A. It looks like
24 Beel is also referring to it simply as
25 "microphone" in the context of paragraph 120.

1 Q. How does Figure 1A label microphone
2 38 as lapel microphones?

3 A. I'm basing that on the illustration
4 in Figure 1A where the lower left-hand black
5 dot 38 is labeled as "lapel microphone."

6 Q. So the only interpretation of Beel
7 and the microphones 38 is that they must be
8 lapel microphones, in your opinion?

9 MR. ANDREWS: Objection to form.

10 A. I don't think that's what I was
11 saying. I was pointing out that that lower
12 left-hand-most microphone is -- illustrated in
13 1A of Beel is described as "lapel microphone."

14 When we go back to the paragraph we
15 were just discussing around Item 38, it's not
16 described here as lapel microphone. It's
17 saying, "another optional item is microphone or
18 microphones 38."

19 BY MR. GREENLEAF:

20 Q. Do you have an opinion one way or
21 the other whether the microphone or microphones
22 38 must be lapel microphones, as discussed in
23 paragraph 120?

24 A. It looks like to me paragraph 120
25 is just saying "microphone or microphones"

1 above the "lapel" qualifier.

2 Q. What other types of microphones
3 could microphones 38 be besides lapel
4 microphones?

5 A. I don't know that I performed that
6 analysis, but it probably could be a microphone
7 that sits on a desk or something like that.

8 Q. Could it be a microphone integrated
9 into the ceiling?

10 A. I guess I'd have to go back and
11 look at the spec for you. I don't think
12 I've -- I don't think I have performed an
13 analysis of the different form factors the
14 microphone could or could not be in the context
15 of Beel.

16 Q. So we've established that, in your
17 opinion, it could be a microphone on the desk
18 or a lapel microphone.

19 Do you have any other examples of
20 what would satisfy the microphone disclosure in
21 paragraph 120?

22 A. I haven't done that analysis. I
23 was just giving examples of the lapel
24 microphone that Beel explicitly mentions in
25 Figure 1A and another example of a microphone

1 form factor.

2 Q. So you have no opinion one way or
3 the other whether the microphone 38 could be
4 integrated into the ceiling in the -- for
5 example, in a conference room?

6 A. I guess I haven't -- in the context
7 of the '346, I haven't done that analysis. And
8 I don't think Dr. Almeroth has either offered a
9 list of form factors or -- that he considered
10 within the scope of Beel or not within the
11 scope of Beel.

12 Q. And sitting here today, you're
13 unable to assess whether Beel's disclosure
14 would support microphones integrated into the
15 ceiling of a conference room?

16 MR. ANDREWS: Objection, form.

17 A. I haven't done that analysis. I'd
18 have to go back through the reference and look
19 at that. I don't recall it being something
20 that Dr. Almeroth talked about that I offered
21 opinion on.

22 BY MR. GREENLEAF:

23 Q. You have a copy of Beel. Could you
24 please give me your best answer as to whether
25 Beel's disclosure would, you know, teach the

1 person of ordinary skill in the art that a
2 ceiling microphone — well, let me scratch that
3 question.

4 So Beel was filed in
5 September 2012, correct?

6 A. That's correct.

7 Q. And ceiling microphones were known
8 in the art at that time, correct?

9 A. That sounds correct, yeah, in the
10 sense that you could have a microphone that
11 was, you know, physically placed in a ceiling.

12 Q. Can you perform that analysis now
13 of whether the person of ordinary skill in the
14 art would have understood that the microphones
15 38 could be integrated into the ceiling of a
16 conference room?

17 MR. ANDREWS: Objection to scope.

18 A. I can skim through Beel for you and
19 look at its use of the word "microphone."

20 BY MR. GREENLEAF:

21 Q. I think it's limited to
22 paragraph 120, but please do your own analysis.

23 A. So I'm just doing a quick search on
24 "microphone," and that is correct. It looks
25 like it's only mentioned in paragraph 120. I

1 don't see any mention of the word "ceiling" in
2 Beel.

3 I guess I would have to answer:
4 It's just not something I've considered, as to
5 whether that's something contemplated in
6 Beel's, you know, 26 or so pages or not. It's
7 not something I addressed in my declaration.

8 Q. Let's look at paragraph 118 of
9 Beel.

10 A. Okay.

11 Q. It talks about: "Audio equipment
12 46" -- last sentence -- "may be provided (e. g.,
13 via telephone) which allows other members from
14 the meeting to call in from remote
15 destinations."

16 Do you see that?

17 A. I see that, yes.

18 Q. And if we look back at Figure 1A,
19 the audio equipment 46 is at the center of the
20 table. It's a circle surrounded by dots?

21 A. That looks correct.

22 Q. And those dots are similar to the
23 microphones 38, correct?

24 A. One moment to review here really
25 quick.

1 I guess they look visually similar
2 here in the way that there is that set of eight
3 black dots surrounding audio equipment 46 in
4 1A. They are visually similar, anyway.

5 Q. And the description of audio
6 equipment being a telephone would be consistent
7 with the audio equipment having microphones,
8 correct?

9 A. I'm just rereading 118.
10 So it looks like Beel is describing
11 that audio equipment 46, an example of that
12 being a telephone. Perhaps those are
13 microphones built into the physical form factor
14 of some -- the audio equipment 46.

15 Q. So I have up on the screen again
16 paragraph 247 of Beel where it says that the
17 only difference -- it talks about the
18 "embodiment being similar to the third
19 embodiment with the only difference that the
20 software is copied on the client operating
21 device."

22 And in paragraph 72 of Beel, the
23 penultimate sentence says:

24 "The executable software code can
25 comprise eleventh code for providing a

1 means for receiving, decrypting, and
2 decoding incoming arbitrary media
3 content. "

4 I guess that's the second --
5 third-to-last sentence.

6 Do you see that?

7 A. I see that sentence, yes.

8 Q. And the next sentence says:

9 "The executable software code can
10 comprise twelfth code for scaling of
11 incoming arbitrary media streams. "

12 Do you see that?

13 A. I see that, yes.

14 Q. And this executable code is
15 executed on the processing device of Beel,
16 correct?

17 A. Correct.

18 Q. So if you look at paragraph 71, it
19 states -- I have it up on the screen,
20 highlighting the relevant portion:

21 "A processing device comprising a
22 memory in which executable software
23 code is stored for executing on the
24 processing device said executable
25 software code. "

1 Do you see that?

2 A. I do.

3 Q. And it says:

4 "The executable code is stored for
5 execution on the processing device."

6 Correct?

7 A. That portion of the sentence states
8 that there's a peripheral device that's
9 comprised of a memory, and there's the
10 executable software code stored for executing
11 on the device.

12 Q. And then it lists a first software
13 portion, a second software portion, etc., up to
14 the eleventh and twelfth that we've discussed a
15 second ago, correct?

16 A. Let me take one second to review.

17 It looks like it continues on to
18 talk about -- at least halfway down or almost
19 all the way through paragraph 72 -- eleventh,
20 and twelfth code -- yeah, eleventh code,
21 twelfth code, etc.

22 Q. And each of those executable codes
23 is stored on the peripheral device for
24 execution on the processing device, correct?

25 A. One second. I'm just skipping back

1 a bit here.

2 So in going back to 71,
3 paragraph 71, the -- that first full block of
4 text, the last after the comma, fourth from the
5 bottom, is stating:

6 "A peripheral device comprising a
7 memory, executable software code"...
8 "for execution on the processing
9 device."

10 And then there's a colon, and it
11 talks about first software code portion, a
12 second, a third.

13 And then it looks like the second
14 paragraph -- the next paragraph 72 starts out
15 with "The executable software code can comprise
16 fourth code," and I think it continues through
17 a thirteenth code at the bottom of
18 paragraph 72.

19 So it looks like for this
20 embodiment, that's what it's talking about.

21 Q. So if we go back to paragraph 247,
22 which I have up on the screen again, is there
23 any reason why the eleventh and twelfth
24 executable codes could not be used with the
25 embodiment described in Figure -- I'm sorry,

1 the fourth embodiment?

2 A. One more time before I look back at
3 the spec.

4 Q. So the eleventh and the twelfth
5 software codes that we spoke a second ago, do
6 you recall those?

7 A. Yes.

8 Q. Is there any reason why those
9 executable codes could not be implemented in
10 the fashion of the fourth embodiment where the
11 software-only client is installed on the client
12 processing device?

13 A. And you are asking about tenth and
14 eleventh or eleventh and twelfth codes?

15 Q. Eleventh and twelfth.

16 A. Okay. I don't recall having a
17 discussion of this in my declaration.

18 I'm going back to paragraph 72,
19 talking about the eleventh code performing a
20 functionality and the twelfth code performing a
21 functionality. And I'm not sure whether that
22 function -- which of the embodiments described
23 within the patent that functionality does or
24 does not apply to in relation to those eleventh
25 and twelfth codes.

1 There's -- there are two
2 embodiments within Beel that Dr. Almeroth talks
3 about which do not use a peripheral device that
4 he -- as I talk about in my declaration --
5 mixes and matches with those that do.

6 Q. Can you identify any technical
7 reason why the eleventh and twelfth executable
8 codes could not be implemented using software
9 on the client device, as explained in the
10 fourth embodiment?

11 A. Give me one moment.

12 So as I recall, the third and
13 fourth embodiment of Beel do not have a
14 peripheral device and -- so I guess are you
15 asking in the context of Claim 1, for example,
16 or are you asking whether just a generic piece
17 of software can run on a processing device?

18 I'm not supposed to ask questions.

19 Q. You can ask me questions. That's
20 fine.

21 A. The third and fourth embodiment of
22 Beel don't use the peripheral device, as I
23 recall.

24 Q. I think you're wrong about that.
25 I'm sorry.

1 The third embodiment is a portable
2 application stored on the solid state memory of
3 the USB stick. So that would be a peripheral
4 device of -- I just want to make sure we're
5 clear on that.

6 It's paragraph 215.

7 A. In terms of perhaps where the
8 executable is stored.

9 Q. So embodiment 3 has a peripheral
10 device, correct?

11 A. It has a -- as it reads in
12 paragraph 207 -- one moment. Let me just go
13 back to 207 for you.

14 Maybe I've lost my place a bit.
15 I'm looking at your screen. Are we -- you were
16 asking about paragraph 207 or somewhere else?

17 I'm sorry. You've got it
18 highlighted here, 215.

19 So what 215 is describing in the
20 context of the third embodiment is that a
21 portable application exists, and that's stored
22 in this solid state memory, such as a USB
23 memory stick.

24 Q. And a USB memory stick is an
25 example of a peripheral device, correct?

1 A. There is a definition of
2 "peripheral device" used in -- well, Beel, for
3 example, I don't see that Beel is calling this
4 USB memory stick that seems to be described in
5 215 as simply having a solid state memory as a
6 portable device that Beel is talking about.

7 Q. So embodiment 3 is referring to
8 Figure 7, which I have up on the screen.

9 And if you have your own version of
10 Beel up, you can refer to paragraph 215. It's
11 talking about the third embodiment being
12 illustrated in Figure 7.

13 A. I see that.

14 Q. Do you have an opinion of whether
15 Figure 7 illustrates a peripheral device?

16 A. I think we were just talking about
17 this, that the Figure 7 here, or what Beel is
18 talking about in -- where we started from
19 paragraph 215, is not the peripheral device of
20 the patent -- for example, the peripheral
21 device to communicate between a processing
22 device and a base node, just as Beel is saying
23 here in 215 in the third embodiment:

24 "The portable application is stored
25 on a solid state memory, such as a

1 regular USB memory stick (Figure 7)."

2 And looking at Figure 7, it seems
3 to look like, just as Beel says, a regular USB
4 memory stick.

5 Q. So Figure 7 does not illustrate a
6 peripheral device, in your opinion, correct?

7 A. In the context of the claims of the
8 '346 patent, this Figure 7 just looks to be
9 like a generic USB stick used to store the
10 portable application 7.

11 Q. So none of the claims recite the
12 term "peripheral device" in the '346 patent,
13 correct?

14 A. I'm just jumping back for you.
15 I don't see the phrase "peripheral
16 device" used in the '346 patent Claim 1, for
17 example.

18 Q. I'm still confused about whether
19 you would agree that the person of ordinary
20 skill in the art would have understood Figure 7
21 to illustrate an example of a peripheral
22 device.

23 Can you give a yes-or-no answer to
24 that question about whether Figure 7
25 illustrates a peripheral device as a person of

1 ordinary skill in the art would have understood
2 the term?

3 A. I would say there are embodiments
4 in the Beel reference that talk about a
5 peripheral device in context of the -- one
6 moment, please.

7 Sorry, I was in the wrong place
8 here.

9 Okay. So Beel -- starting with
10 Beel, there is mention of a peripheral device
11 within the claims of Beel, and there are
12 various embodiments within Beel, some of which,
13 as I talk about in my declaration, use a
14 peripheral device.

15 Others, as I recall, perhaps three
16 and four of Beel -- the third and fourth
17 embodiments, do not.

18 As to whether when we go back to
19 Beel's Figure 7 -- I note that in the paragraph
20 we were referring to, Beel does not refer to
21 Figure 7 as a peripheral device in that
22 passage.

23 Q. So it seems that you are unable to
24 give a yes-or-no answer about whether the
25 person of ordinary skill in the art would have

1 understood Figure 7 to be a peripheral device.

2 Is that correct?

3 A. I'm trying to clarify the context
4 in my answer.

5 Q. So can you include the word "yes"
6 or "no" in your answer, please?

7 A. So if I take a person of skill and
8 I bring them to Best Buy in 2012 and put them
9 in front of a Windows laptop and tell them
10 "Here's a USB key" just in the abstract, would
11 they view the USB key as a peripheral to that
12 generic laptop to move, you know, a PDF file
13 around or something like that?

14 In that context, outside of Beel
15 and the patents, they may consider that a
16 peripheral.

17 But Beel, for example, has a
18 specific definition of what the peripheral
19 devices within Beel are.

20 Q. So in the context of the Best Buy
21 example, the person of ordinary skill in the
22 art would consider the USB stick to be a
23 peripheral device; is that correct?

24 A. In terms of if they're -- if
25 they're looking at a laptop computer, is a, you

1 know, Kingston USB stick that I can stick into
2 it, maybe a peripheral, generically speaking?
3 Outside of the context of these prior art
4 references and patents, they may.

5 But as I note, Beel himself doesn't
6 refer to Figure 7 as the peripheral device in
7 the Beel reference.

8 Q. And if I were to show you that Beel
9 refers to Figure 7 as a peripheral device,
10 would that change your opinion about whether
11 Figure 7 illustrates a peripheral device?

12 A. I would have to look at that and --
13 in the context of which embodiment Beel may be
14 referring to, excuse me.

15 Q. So when you perform an analysis of
16 whether a reference discloses a certain
17 technical term, you need to see that explicit
18 technical term in the document; is that
19 correct?

20 A. In a general sense. If a reference
21 or a patent were to introduce a technical term,
22 you would look through the claims and the
23 specification to see how that term was used or
24 defined.

25 MR. ANDREWS: We've been going for

1 about a little over an hour.

2 Mike, do you need a break?

3 THE WITNESS: To use the restroom,
4 if that's okay.

5 MR. GREENLEAF: One more question,
6 please, a quick one.

7 BY MR. GREENLEAF:

8 Q. Paragraph 100, Figure 7, shows a
9 peripheral device.

10 Do you see that, Dr. Brogioli?

11 A. It says:

12 "Figure 7 shows a peripheral
13 device, in accordance with an
14 embodiment of the present invention."

15 Q. Now, do you agree that Figure 7
16 shows a peripheral device?

17 A. Just as it says, "in accordance
18 with an embodiment of the present invention."

19 MR. GREENLEAF: Thank you.

20 Let's take a break. Five minutes,
21 please.

22 THE WITNESS: Works for me.

23 (Recess taken from 11:09 a.m. to
24 11:16 a.m.)

25

1 BY MR. GREENLEAF:

2 Q. Hello, Dr. Brogioli.

3 Did you have any conversations with
4 anybody during the break?

5 A. No, I did not.

6 Q. So earlier you said that the third
7 embodiment of Beel did not include a peripheral
8 device, but we established that Figure 7
9 illustrates a peripheral device now; is that
10 correct?

11 A. That in the Beel reference, Beel
12 describes, just as we were looking at before
13 the break, Figure 7 as a peripheral device in
14 an embodiment.

15 And as I talk about in my
16 declaration with regard to the presence of a
17 peripheral device that is -- or as I talk
18 about, there are embodiments within Beel that
19 do not use a peripheral device within my
20 declaration.

21 Q. But the third embodiment of Beel
22 uses a peripheral device, correct?

23 A. Maybe you can point me where you're
24 referring to. I thought we had discussed this.

25 Q. We did discuss this. But you

1 testified that the third embodiment did not use
2 a peripheral device. And now I'm wondering
3 whether you want to correct that testimony.

4 So paragraph 215, for example, is
5 referring to the third embodiment and the
6 peripheral device illustrated in Figure 7. And
7 so I want to understand whether the third
8 embodiment of Beel includes a peripheral
9 device.

10 A. Okay. I'm back at 215. Lost my
11 place for a moment there.

12 The -- here for the third
13 embodiment of Beel, Beel is saying that the
14 portable application is stored, as we are
15 talking about, on a solid state memory such as
16 a regular USB memory stick, which is the
17 illustration we were discussing before the
18 break.

19 And I think we talked about that
20 Beel was saying for an embodiment -- I think it
21 was the description in Figure 7 -- that for an
22 embodiment was referring to -- or using the
23 phrase "peripheral device" in a description of
24 Figure 7. That was in paragraph 100 of Beel.

25 It says, quote: "Shows a

1 peripheral device in accordance with an
2 embodiment of the present invention. "

3 Q. And that portable application
4 discussed in paragraph 215 is the software
5 referred to in paragraph 247 of Beel, correct?

6 A. Going up to 247.

7 So in -- just to frame my answer,
8 215 of the third embodiment describes "the
9 portable application stored on a solid state
10 memory such as a regular USB memory stick. "

11 When we move ahead to
12 paragraph 247, which is under the fourth
13 embodiment, Beel states:

14 "This embodiment is similar to the
15 third embodiment with the only
16 difference, the software copied onto
17 the client operating device
18 (Figure 9). "

19 And then it states:

20 "No plug-and-play port such as a
21 USB port is required on that client
22 operated device. "

23 So it looks like the software,
24 rather than coming from a USB memory stick, is
25 put locally on the client operating device

1 described in paragraph 247.

2 Q. I'm going to share my screen again.

3 I'd like to direct your attention
4 back to Figure 7, which includes a mass storage
5 device 8 in the peripheral device illustrated
6 in Figure 7, correct?

7 A. There is a mass storage device in
8 Figure 7. That's correct.

9 Q. There's also a USB interface 2, a
10 portable application 7, and a database 12,
11 correct?

12 A. That looks correct.

13 Q. And let's look at Figure 4.

14 It includes the same elements from
15 Figure 7, the USB interface 2, mass storage 8,
16 portable application 7, and database 12,
17 correct?

18 A. Among other elements, that's right,
19 yes.

20 Q. And so the portable application
21 illustrated in Figure 7 of Beel's third
22 embodiment could be installed directly on the
23 PC, as per paragraph 247, correct?

24 A. That looks like what is being
25 described in 247, that the -- that software

1 goes on the client operating device, and
2 there's some context in 48 of, you know, maybe
3 a tablet PC, mobile devices, where there's no
4 USB port available.

5 Q. And how does Beel's third
6 embodiment use the portable application 7,
7 stored on the peripheral device?

8 A. I'm not sure I totally heard your
9 question. It might have broken up briefly.
10 Could you repeat it before I look?

11 Q. Could you please explain how the
12 portable application is used in Beel's third
13 embodiment.

14 A. Okay. So if we skip to Beel 221,
15 paragraph 221, the last sentence talks about
16 the client software is launched from the
17 peripheral device such as the USB device as a
18 portable application.

19 So you would stick the USB memory
20 stick in and then you start the portable
21 application on the laptop, for example, or it
22 may run automatically, as Beel states in 224 --
23 or it may run automatically if autorun is used,
24 or the user can run it, it looks like
25 paragraph 224 is saying.

1 Q. What do you mean, you "start the
2 portable application on the laptop"?

3 A. That, just as it says at the end of
4 221, there's this USB device or a USB key and
5 there's software on it that is this portable
6 application. And when I put the USB device
7 into the laptop, that application will then be
8 launched from the USB device.

9 And I would, for example, see it --
10 if there were a GUI on it, I would see a GUI
11 show up on my screen in the laptop or something
12 like that.

13 Q. What do you mean, "launched from
14 the USB device"?

15 A. That the client software is
16 designed as a -- just as it says, a portable
17 application and runs from the USB device.

18 Q. So would the portable application
19 be transferred to the laptop/processing device
20 to be run on the processing device?

21 A. It would not be installed on the
22 processing device.

23 Q. Why did you add that word
24 "installed"?

25 A. Because it's -- the way that 221 of

1 Beel is describing it is that client software
2 is launched from the peripheral device.

3 It doesn't say that I would install
4 it, as I'm reading that sentence.

5 Q. My question was where was the
6 portable application run --

7 A. Maybe you should --

8 Q. -- in the third embodiment of Beel?

9 A. Maybe you should clarify what you
10 mean by "run"?

11 Q. The portable application includes
12 instructions, correct?

13 A. Yes. That's right.

14 Q. And what are software instructions?

15 A. In this context, if I'm on a
16 Microsoft Windows laptop with an Intel
17 processor in it, the execution of the software
18 would ultimately be the execution of
19 instructions on the Intel processor in the --
20 in the Windows laptop, for example.

21 Q. So in the third embodiment of Beel,
22 the instructions of the portable application
23 would be executed on the processor of the
24 processing device, correct?

25 A. As far as I recall, that sounds

1 correct.

2 Q. Let's go back to Figure 4. We
3 have, again, a portable application 7.

4 Is there any reason why those
5 instructions of the portable application 7 of
6 Figure 4 could not be executed on a processor
7 of a processing device?

8 A. I'm going back to find the
9 description or mention of Figure 4.

10 So at 98 of Beel, it says:

11 "Figures 3 to 5 showing a base node
12 in a peripheral device and a client
13 processing device in accordance with
14 embodiments of this invention."

15 So it looks like Figure 3, we've
16 got the base node. Figure 4, we've got the
17 dongle. And Figure 5, we've got what looks
18 like the computer.

19 One second. So I see that the
20 Figure 5 is referenced in paragraph 206, which
21 is in the context of embodiment -- sorry, the
22 second embodiment.

23 And so your question was -- maybe I
24 could hear the question again.

25 Q. Is there any reason why the

1 instructions of the portable application 7 of
2 Figure 4 cannot be executed on a processor of a
3 processing device?

4 A. So Figure 4 is talking about -- I'm
5 sorry.

6 Figure 7 that we were talking about
7 before is talking about this USB solid state
8 memory device. And it looks like figure -- and
9 that's described in the context of
10 embodiment 3.

11 The Figure 4 -- or the conjunction
12 of Figures 3, 4, and 5 are talked about in the
13 second embodiment.

14 Q. I'm sorry. I don't understand why
15 you're talking about these embodiments.

16 The question was simply whether the
17 instructions of the portable application 7
18 illustrated in Figure 4 would be executed on
19 the processor of a processing device.

20 A. So it looks like for the -- maybe I
21 was getting a bit twisted up.

22 It looks like for -- for the
23 Figure 4 you're asking about, the portable
24 application is sitting on this dongle,
25 Figure 4, under the same -- you know, let's say

1 the same scenario of the Windows laptop with
2 the Intel processor.

3 It sounds like that application --
4 or the portable application would run on
5 that -- ultimately run on that Intel processor
6 in the Windows laptop in that example.

7 Q. Let's go back to paragraph 72, and
8 the eleventh software code. It says:

9 "The executable software code can
10 comprise eleventh code for providing
11 means for receiving, decrypting, and
12 decoding incoming arbitrary media
13 content."

14 Do you see that?

15 A. I do.

16 Q. What does that mean, "receiving,
17 decrypting, and decoding arbitrary media
18 content"?

19 MR. ANDREWS: Objection, form.

20 A. It looks like for the eleventh
21 code, that there can be an eleventh code in the
22 context of Beel and the way that Beel's system
23 works, in that the execution of that eleventh
24 code can provide a means for Beel's
25 receiving -- Beel's decrypting, for example, if

1 something were encrypted, it can be decrypted
2 by this code.

3 And similarly, if something were
4 encoded, the decoding can be done by this
5 eleventh code.

6 BY MR. GREENLEAF:

7 Q. Can you explain what decrypting and
8 decoding is?

9 MR. ANDREWS: Objection, scope.

10 A. It looks like Beel has a couple
11 places where he mentions things, for example,
12 in 67, about encoding, compressing, and
13 optionally encrypting screen scraped data.

14 I haven't performed -- I haven't
15 offered an opinion on what -- in response to
16 Dr. Almeroth's statements around what the
17 universe of decrypting and decoding may or may
18 not be.

19 BY MR. GREENLEAF:

20 Q. You understand the term
21 "decrypting," correct?

22 A. In a generic sense in the field of
23 computing, that's right.

24 Q. Please explain your understanding
25 of that word.

1 A. It could be something like using a
2 type of security encryption so that someone,
3 perhaps, in the middle of a digital
4 transmission over a computer network can't
5 see -- or at least the idea is they can't see
6 the content of the packets moving through the
7 network, but somebody on the other end can have
8 a mechanism to perhaps reverse that process and
9 then see the content of the packets.

10 Q. When you say "see the content of
11 the packets," you're referring to the decrypted
12 form of the packets, not the contents of the
13 packets per se, correct?

14 A. I was referring to the content of
15 the packets before the encrypting occurred. So
16 after the decrypting occurred in this generic
17 example.

18 You know, if my credit card
19 information is what we're trying to transmit,
20 after someone performs the decryption process,
21 they could read my 16-digit credit card number
22 or something like that.

23 Q. But the man in the middle could
24 view the contents of the packet in their
25 encrypted state, correct?

1 A. That may be possible if you're
2 monitoring packets over the network kind of
3 thing.

4 Q. So on the transmit end, the packet
5 is encrypted, correct?

6 A. In this generic example, I have
7 computer A sending to computer B. There may be
8 my text-based credit card number coming into
9 computer A, and computer A could elect to
10 perform some kind of encryption on that before
11 transmitting over the wire.

12 Q. And then computer B would decrypt
13 that data on the receiving end, correct?

14 A. It could in this scenario. And
15 then after that, you know, presumably then see
16 my credit card number again.

17 Q. And then in that same example of
18 computer A transmitting and computer B
19 receiving, but using media content, for
20 example, a video stream, computer A could
21 encrypt the video stream and send the encrypted
22 video stream to computer B, correct?

23 A. As a -- yes, as a generic example,
24 yes. You could send in a video stream and
25 perform some type of encryption on it and then

1 transmit it.

2 Q. And then computer B would decrypt
3 that video stream, correct?

4 A. In this example, the decryption
5 could occur. I would get the bits and bytes
6 that comprise the original video stream.

7 Q. Okay. And similarly, in the
8 context of encoding and decoding, computer A
9 would encode the video stream into some
10 computer-readable format and transmit that
11 encoded video stream to computer B, correct?

12 A. There -- yes. There are ways -- we
13 also do the encoding in the case of video.
14 I can run an encoder on my machine for a stream
15 of video frames. And then -- you know, to
16 maybe reduce the footprint or something like
17 that, the total number of bytes I need to send,
18 and then transmit to computer B, and a decoder
19 can be run to get back video frames to render.

20 Q. And these examples we've been
21 talking about with reference to computers A
22 and B are similar to what's referred to in 72,
23 software code comprising means for receiving,
24 decrypting, and decoding incoming arbitrary
25 media content, correct?

1 A. It looks like Beel is saying here
2 in 72 in that sentence about eight lines from
3 the bottom that there's some software code
4 here, and it can receive, decrypt, and decode
5 arbitrary media content from its, you know,
6 vantage point in the system.

7 Q. And the eleventh software code is
8 on the peripheral device, as explained in
9 paragraph -- I believe it's 71, correct?

10 A. That there is -- I was just getting
11 there. That there is a peripheral device that
12 comprises -- or comprising a memory, and in the
13 memory is executable software code. And that
14 code is going to run over on the processing
15 device and perform functionality that starts to
16 be described right below that colon.

17 Q. So in Beel's third embodiment,
18 which includes Figure 7, it discusses using a
19 transmitter on the processing device, correct?

20 A. One moment.

21 Q. I'll just help you out here. Let's
22 go to paragraph 216, which is the third
23 embodiment.

24 And it states that:

25 "With a solid state memory such as

1 a regular USB memory stick, there is no
2 input device, visual indicator, or
3 transmitter of the kinds described
4 above for the connection unit. This
5 means that the system needs to use the
6 transmitter/receiver from the client
7 processing device."

8 Correct?

9 A. I see that, yes. That is what I
10 was just reading before you jumped us there.

11 Q. Okay. Sorry to cut you off.

12 But in other embodiments, Beel
13 teaches using the transmitter of the peripheral
14 device, such as in Figure 4, it includes a
15 wireless WiFi interface 3, correct?

16 A. Well, the third embodiment starting
17 at paragraph 216 is talking about the memory
18 stick and the problem that there is no input
19 device. And so you're using the client
20 processing device transmitter/receiver.

21 And then in 218, talking about, you
22 know, using things like a key on a keyboard.

23 When we skip back to Figure 4, that
24 figure is showing a dongle, as we talked about
25 earlier. Still has that portable application.

1 I note that -- I think you were
2 asking about a WiFi interface. There is a WiFi
3 interface 3 included on the dongle.

4 Q. So Beel teaches two embodiments,
5 one using the WiFi interface of the dongle to
6 communicate with the base unit. And then
7 second, using the WiFi interface of the
8 processing device to communicate with the base
9 unit, correct?

10 A. At a high level, yes. There are a
11 number of embodiments throughout the Beel
12 reference.

13 And as I recall, the dongle is not
14 present in I think the third and fourth
15 embodiment in Beel.

16 Q. What are the considerations of the
17 person of ordinary skill in the art about
18 whether to include a wireless transmitter in a
19 dongle versus the processing device?

20 A. I haven't offered an opinion on
21 that in response to Dr. Almeroth around what
22 may, might, or could be the engineering
23 decisions that might drive that, or product
24 market decisions, or cost decisions or those
25 types of variables. Not that I recall, anyway.

1 Q. Can you identify any technical
2 obstacles for choosing one over the other?

3 MR. ANDREWS: Objection, scope.

4 A. I guess it would depend on the type
5 of market you're looking at or the type of
6 resources you're putting on the project or even
7 what your definition of obstacles is.

8 BY MR. GREENLEAF:

9 Q. Is it technically difficult for
10 the -- first, let's start off...

11 So in the petition, the definition
12 of a person of ordinary skill in the art is:

13 "A person with a master's degree in
14 electrical engineering or computer
15 science and five years of work
16 experience in a related field.
17 Additional educational experience could
18 substitute for some of the work
19 experience."

20 Do you agree with that definition
21 of a person of ordinary skill in the art?

22 A. Looking back at my declaration, and
23 I am agreeing with Dr. Almeroth's definition.
24 I'm trying to track what you were saying, if
25 there might be a slight difference between

1 maybe what was in the petition versus what
2 Dr. Almeroth had said.

3 Q. Okay. Could you please point me to
4 the paragraph of your declaration that states
5 that?

6 A. Yeah. I'm at my '346 declaration
7 in paragraph 44 and 45.

8 Q. Okay. All right. So we'll just
9 refer to that then. That's your definition of
10 a person of ordinary skill in the art.

11 So this person with the master's
12 degree and the five years of work experience,
13 what technical challenges would they have when
14 deciding whether to use the WiFi interface on a
15 dongle versus a WiFi interface on a laptop?

16 A. In either case, there would be
17 challenges relating to things like the design
18 of a dongle and what the architecture might be
19 and how to access certain functionality and
20 components within there versus using an
21 interface that's built into the -- the client
22 computer or the laptop in some of our earlier
23 examples, and supporting functionality across
24 different OEMs and things like that, or
25 different -- different vendor providers or

1 different operating systems or things like
2 that.

3 There are probably a lot of
4 different variables in there that someone might
5 consider from a technical vantage point.

6 Q. So the WiFi interface 3 in Figure 4
7 of Beel is accessed via a pre-installed generic
8 driver, correct?

9 For example, in paragraph 41 —
10 I'll just try to speed this up.

11 A. You're referring to 41 of Beel?

12 Q. Yes. So it says:

13 "The processing device having a
14 memory, a display, and an operating
15 system with pre-installed generic
16 drivers providing a generic
17 communications protocol for
18 communication between the processing
19 device and a standard class of
20 peripheral devices."

21 So that's saying that the
22 processing device uses pre-installed generic
23 drivers to communicate with the peripheral
24 device, correct?

25 A. That looks to be what Beel is

1 saying in 41, that those generic --
2 pre-installed generic drivers are used for the
3 communication with this standard class of
4 peripheral devices.

5 Q. Okay. So the person of ordinary
6 skill in the art would have been aware of these
7 pre-installed generic drivers to communicate
8 with the wireless interface of the dongle in
9 Figure 4, correct?

10 A. It looks like in the sense of using
11 those for the communication between the
12 processing device and the peripheral devices.

13 I don't know that this paragraph is
14 necessarily saying those same drivers are used
15 or not used for, for instance, the WiFi
16 interface, but the person of skill in the art
17 would be aware of the use of these types of
18 drivers in a -- in this type of environment at
19 the time.

20 Q. And it was well-known to have USB
21 WiFi interfaces at the priority date of the
22 Beel reference, correct?

23 A. There were different flavors of, as
24 I recall, USB WiFi kind of devices you could --
25 you could get.

1 Q. And for Beel's fourth embodiment
2 and third embodiment which use the transmitter
3 of the processing device, that too would use
4 pre-installed generic drivers -- well, let me
5 scratch that question.

6 At the priority date of Beel in
7 2012, there existed pre-installed generic
8 drivers for communicating with an integrated
9 WiFi interface in a laptop, correct?

10 A. That sounds accurate, yes. There
11 would have been drivers you could use for a
12 built-in -- or a set of built-in -- physically
13 built-in WiFi components in a laptop, for
14 example.

15 Q. So going back again to Figure 4 of
16 Beel and the portable application 7, is there
17 any reason why the person of ordinary skill in
18 the art would not or could not install the
19 portable application 7 onto the processing
20 device?

21 A. I would say that if they had an
22 application that was designed as a portable
23 application, they could -- a person of skill
24 could take a portable application and make it
25 something that instead was installed locally

1 on, you know, the hard drive of a laptop. It
2 might require certain types of changes.

3 Q. What are those types of changes?

4 A. It might be to, you know, interact
5 with the Windows registry and things like that.
6 And you would have to maybe have a -- if you
7 recall, or we've probably all seen where there
8 are Windows installers of different types that
9 could be used.

10 And the contents of the program
11 itself would need to reside on the disk of the
12 computer, just as a generic example of taking
13 something that's a portable application and
14 trying to make it not portable -- or installed
15 locally maybe is a better phrasing.

16 MR. GREENLEAF: I'm okay to keep
17 going. Does anybody want a break? It's
18 been about an hour.

19 THE WITNESS: I'm fine for a quick
20 break, if others are.

21 MR. GREENLEAF: Okay. Let's take a
22 five-minute break.

23 (Recess taken, 12:04 p.m. to 12:12
24 p.m.)

25

1 BY MR. GREENLEAF:

2 Q. All right. So Dr. Almeroth [sic],
3 let's refer back to Beel and paragraph 43. And
4 it's talking about a virtual sound card
5 interface.

6 What is a virtual sound card
7 interface?

8 A. Up here, it's talking about --
9 yeah. So at 43, it's talking about different
10 flavors of USB sound drivers. And there's UAC1
11 and 2 -- I forget which one is the higher
12 quality, if I remember correctly as to the
13 difference.

14 And the driver talks to this
15 virtual sound card, so it's not a physical
16 sound card you might buy to physically install
17 on your machine, but it's represented, as I
18 recall, logically here, and that driver can
19 communicate with it.

20 Q. And how does Beel use the virtual
21 sound card interface?

22 A. Let me get to how Beel refers to
23 that.

24 It looks like Beel describes -- in
25 paragraph 43 or so where we were talking, and I

1 also see Beel mentions in paragraph 50, there's
2 an audio device that acts as a virtual sound
3 card to a client PC over USB, and then talks
4 about generic drivers again.

5 Q. What is a virtual audio device?

6 A. As I recall, it can be an audio
7 device that shows up on your machine to be used
8 by a driver that isn't a physical -- you know,
9 physical implementation of the audio device
10 that you might physically connect into the
11 computer.

12 Q. Is the UAC device driver an example
13 of a pre-installed generic driver?

14 A. I note that, for instance, in Beel,
15 Beel is describing the UAC1 and UAC2 as generic
16 drivers, and I forget the details on that.
17 I think one of them is a higher fidelity than
18 the other for audio, something like that.

19 As to whether one or both of them
20 might be pre-installed, I don't remember. We'd
21 have to -- maybe I mentioned that in my
22 declaration. I just don't recall if they're
23 pre-installed or not from memory. I see that
24 they're referred to in Beel as "generic."

25 Q. Is a virtual speaker an example of

1 a virtual audio device?

2 A. I guess I'd have to go back and
3 look at a specific example for you -- unless
4 that's somewhere in my declaration -- as to
5 whether a speaker or a given implementation of
6 a speaker, if it were, you know, modeled in
7 software would be a virtual audio device.

8 Q. Earlier you testified that a
9 virtual audio device can be an audio device
10 that shows up on your machine to be used with a
11 driver.

12 What is an example of a virtual
13 audio device?

14 A. It may be something that you see
15 connected to the computer that does I/O or, you
16 know, a certain sampling rate, a certain
17 fidelity with various features.

18 Q. In layman's terms, what would an
19 example I/O device be?

20 A. It could be a FireWire audio device
21 or something where I can connect an audio cable
22 or drive audio out or bring audio in for
23 recording, things like that.

24 Q. Can you dumb it down for me a bit,
25 such as using an audio USB speaker or a

1 microphone?

2 A. I think generically, yes, you can
3 have a speaker or a microphone as a type of
4 audio device for -- if I want to send audio out
5 from a laptop, for example, to a speaker, or if
6 I want to bring audio in from a microphone.

7 Q. Okay. Let's look at Beel's
8 Figure 11, which I have -- I don't have up on
9 the screen, but I'll put it there.

10 All right. Do you see Figure 11 on
11 your screen, Dr. Brogioli?

12 A. I do.

13 Q. And let's see here. Beel describes
14 Figure 11 as:

15 "A representation of a
16 communication system for presentations
17 in which audio has been integrated in
18 accordance with an embodiment of the
19 present invention."

20 Does that sound correct to you?

21 A. I'm trying to find where he would
22 say that, but it seems like --

23 Q. It's paragraph 104. I just read
24 it.

25 A. Yes. Sorry. The description in

1 paragraph 104 is that Figure 11, "communication
2 system for presentations in which audio has
3 been integrated in accordance with an
4 embodiment of the present invention."

5 Q. Okay. And the video encoder 3.
6 What is a video encoder?

7 A. Here, the video encoder is -- it
8 looks like something taking in a stream of
9 video from that scraper on a client PC and
10 performing a flavor of encoding on it to be
11 used by the subsequent blocks.

12 So encoding it in the format that
13 somebody downstream -- for example, in this
14 figure, the block 28, I think it is, on the
15 base unit would do the decoding to then render
16 the video content or show the video content.

17 Q. Can you give me an example of a
18 video codec that video encoder 3 could use?

19 A. I can give generic examples, I
20 guess, like H.263 or 4 or 5 -- each have
21 different tradeoffs that have advanced over the
22 years -- are flavors of video codecs.

23 I don't recall from memory,
24 I think, what Beel says on the codecs at this
25 time -- point in time. But those are the kinds

1 of things that are flavors of video encoders,
2 for example.

3 Q. And H.264 does not encode audio,
4 correct?

5 A. I generally thought of it as a
6 video encoder.

7 Q. So --

8 A. I don't recall -- I don't recall
9 from memory if there's a way to do audio in
10 there along with video as well.

11 Q. So one way to transmit a stream of
12 video and audio is to encode them separately,
13 correct?

14 A. That can be a way to do it, yes.

15 Q. Okay. And the encoded data that's
16 encoded in PC 31 would be transmitted in the
17 embodiment of Figure 11 to the external USB
18 dongle via the USB port 8 and 11, correct?

19 A. The flow of Figure 11 in Beel shows
20 that our discussion of video encoder 3 on the
21 client PC, close to a number of intermedia
22 blocks here on the client PC ultimately goes to
23 the USB port 8 and to USB port 11 on the
24 external dongle.

25 Q. And the data is transmitted from

1 the dongle to the base unit via the wireless
2 transceiver 31 to the WiFi AP 22, correct?

3 A. I think it -- there was maybe a
4 little error in there. The inbound data from
5 USB port 8, inbound to USB port 11 goes --
6 there is a flow to the WiFi transceiver 21.
7 I think you may have said 31.

8 Q. Yes. My apologies.

9 And then from wireless transceiver
10 21 to the WiFi AP 22, correct?

11 A. That's correct.

12 Q. And then what happens after the
13 WiFi AP 22?

14 A. There are two subsequent paths, one
15 for video unpack and one for audio unpack.

16 And then we see, I think it's video
17 decode block 26, where the video decoding would
18 happen, audio decoding. And there's a
19 synchronizer block and then a composer and a
20 mixer.

21 Q. Can you explain please what the
22 video decode 28 element does?

23 A. I'm just looking for this in Beel
24 for you.

25 It looks like in Beel 322, it

1 describes the reading from the communications
2 interface, such as the WiFi access point 22,
3 unpacked in an unpacker 25, and decoded in
4 decoder 26. And then there's the composition
5 that happens after that.

6 And so I'm -- it sounds like Beel
7 is describing a decoding process in that 26
8 that may be the inverse of the encoding
9 process.

10 Q. Yeah. I said video decode 28, but,
11 yeah, it's 26. So it's a little unclear there.
12 The audio mixer is 28.

13 So what is a data transformation?

14 A. I'll go back to my declaration for
15 you and see if it's something I talked about.

16 I'm jumping roughly to paragraph, I
17 guess, 110 onward from my declaration.

18 So here I'm just, in paragraph 111,
19 responding to statements from -- I believe from
20 Dr. Almeroth around different types of data
21 that can be encoded differently or can be
22 encoded the same way.

23 I haven't provided a definition in
24 response to Dr. Almeroth of what data
25 transformations may be.

1 Q. Is encoding an example of
2 transforming data?

3 A. In the context -- it sounds like
4 I'm saying -- what I'm saying in 111 is that is
5 not the case here.

6 Beel talks about audio encoding in
7 the -- there's actually a typo here. It should
8 be Ogg Vorbis without the R, but that's not --
9 that type of encoding is not the data
10 transformation on this functional data.

11 Q. Yeah. That confused me too.
12 I think that typo is in the document itself, so
13 it was not a typo.

14 Do you agree that transformations
15 can include encoding, decoding, mixing, and
16 demultiplexing?

17 A. I guess I'd have to look at a more
18 specific example.

19 What I'm talking about in my
20 declaration is the disclosure of either a video
21 encoder as described in Beel or the audio
22 encoding for the ogg vorbis, again in Beel, are
23 not the data transformations based on a
24 functional -- sorry, based on a functional --
25 based on a type of functional data that's being

1 talked about in the patent.

2 Q. All right.

3 I'm going to show you Exhibit 1004
4 here on the screen.

5 (Office Action response, document
6 previously marked as Exhibit 1004.)

7 BY MR. GREENLEAF:

8 Q. Do you see this page, 1038,
9 Dr. Brogioli?

10 A. Yes, I do.

11 Q. So 1038 is an Office Action
12 response in the file history, Exhibit 1004,
13 which you reviewed, correct?

14 A. That's correct.

15 Q. So let's go to page 1038. And it
16 states that:

17 "Transformations can include
18 encoding, decoding, mixing, and
19 demultiplexing."

20 Do you agree with that statement?

21 A. Give me one moment.

22 So it looks like -- I don't think
23 I discussed this paragraph in my declaration,
24 but it looks like what it's saying is that
25 there are no teachings in Brands that data

1 transformations are provided based on a type of
2 functional data -- this is what I was talking
3 about earlier.

4 And then it continues on the fourth
5 line down:

6 "In the present application, the
7 data transformations are related to the
8 functional data of the functional
9 devices" -- "in which the
10 transformations can include encoding,
11 decoding, mixing, demultiplexing."

12 So there are the transformations,
13 the data transformations, and then there's the
14 data transformations provided based on the
15 type of the functional data.

16 Q. Encoding is an example of data
17 transformation, correct?

18 A. It seems to be that's what the
19 examiner is stating here.

20 Q. To clarify, this is Barco's
21 response to an Office Action.

22 A. Okay. That, similarly, looks like
23 what's being stated here.

24 Q. So Barco defined transformations as
25 including encoding, correct?

1 A. The transformations can include the
2 encoding/decoding, yes. That looks like what
3 it's saying here.

4 Q. Okay. And Beel illustrates
5 encoding in Figure 11, Element 3, correct?

6 A. Video encoding, yes.

7 Q. And that video encoder can encode
8 video data using a video codec, and audio data
9 using an audio codec, correct?

10 A. It shows here the video encoder. I
11 think it's Beel that may reference -- let me go
12 back really quickly -- the encoding of audio
13 data via the ogg vorbis encoder.

14 I don't see the audio -- unless I'm
15 missing something, I don't see an audio encoder
16 block on the left-hand side, but perhaps that's
17 the block 16 to 17 flow in this figure.

18 Q. The client PC here would have the
19 capability of encoding audio data separately
20 from the video data, correct?

21 A. In the sense of at this point in
22 time, I could run an audio encoder on the
23 client -- on a client PC if I, you know, wanted
24 to create ogg vorbis files or similar, encode a
25 .wav file to mp3 of some flavor.

1 Q. Can you provide an example of an
2 operating system that presents devices to
3 application software without using a driver?

4 A. I haven't looked at that in this --
5 in my declaration.

6 Let me hear your question one more
7 time.

8 Q. Can you identify an operating
9 system that presents a device to the operating
10 system without using a device driver?

11 A. I don't think I looked at that -- I
12 don't think I looked at that in my declaration.

13 As I recall, many years ago,
14 I think, or in my career, I did some of that.

15 Q. When a USB device is connected to a
16 Windows computer, the operating system loads a
17 device driver to interface with that device,
18 correct?

19 A. My recollection is that's how -- in
20 Microsoft Windows systems of the relevant time
21 period, that's how it was supposed to work.

22 Q. And earlier we talked about how the
23 virtual audio device would show up on the
24 processing device.

25 Would the device that showed up on

1 the processing device be -- let me reask the
2 question.

3 So earlier we talked about the
4 virtual audio device of Beel being presented to
5 the operating system so that it would appear on
6 the processing device; is that correct?

7 A. That it would appear to the
8 processing device or the OS there.

9 Q. And would the virtual audio device
10 appear as a native device to the operating
11 system?

12 A. It would appear to the operating
13 system. I don't recall from memory what
14 differences there may or may not be there from
15 the operating system vantage point or perhaps a
16 driver vantage point.

17 MR. GREENLEAF: I have here
18 Exhibit 1011, Christison.
19 (Christison patent, document
20 previously marked as Exhibit 1011.)

21 BY MR. GREENLEAF:

22 Q. Do you see that?

23 A. Yes, I do.

24 Q. And in the abstract, it uses the
25 term "Native Wireless USB Enabled Device."

1 Do you see that?

2 A. I see that, yes.

3 Q. What is a native wireless
4 USB-enabled device?

5 A. Let me go back.

6 So it looks like, if we look at
7 Figure 2 or so in, I think, some of the
8 detailed description, what it's talking about
9 is -- what Christison is talking about is from
10 the vantage point of the host system making --
11 in the context of the wireless USB devices,
12 making this thing look like it's native to
13 wireless USB in the context of Figure 2
14 mentioning that it's directly attached to the
15 wireless USB host.

16 Q. So does "native" mean that the
17 computer interprets it as a wired USB device
18 even though it's wireless?

19 A. As I recall, the reference is
20 talking about the mix of wireless and wired.
21 And I think it's striving to improve --
22 performance improvements for these wired USB
23 devices.

24 So I'm trying to parse out the
25 language of which of the wired and wireless are

1 being described in which place.

2 In Figure -- Column 6, line 13 or
3 so, talks about the wireless USB hub and the
4 wire adapter protocols, the relatively
5 inefficient one. WUSB is -- for native, WUSB
6 devices are relatively efficient.

7 And so, as I recall, some of the
8 embodiments are trying to achieve that more
9 efficient throughput in this implementation.

10 Q. I think Figure 10, where you're
11 talking about the relatively inefficient, is
12 just a different embodiment.

13 I'm still trying to understand what
14 Christison means, in your opinion, by "native
15 wireless USB enabled device."

16 A. I guess I can go back to the
17 reference for you.

18 I mean, I talk about select aspects
19 of Christison in response to what Dr. Almeroth
20 is talking about in his declaration.

21 It's -- generally, there are
22 aspects of these having wired USB devices and
23 also -- going back, the use of a wireless USB
24 hub and trying to improve this -- the
25 throughput for these USB systems where you've

1 got both wired and wireless devices in the mix,
2 as I recall.

3 Q. My understanding of "native" is
4 that the wireless device will just appear as a
5 generic USB device. So the operating system
6 would have no idea that it's wireless.

7 Do you disagree with my
8 understanding of Christison?

9 A. I'm going to go back to that for
10 you just to confirm it.

11 So I guess I was looking at
12 sections in -- where am I -- Column 2 of
13 Christison in the detailed description saying
14 that the WUSB is a proxy for the wired USB
15 devices and presenting them to this host as if
16 they were native WUSB devices.

17 It continues on about the WUSB hub
18 presents the attached wired USB device as a
19 unique WUSB device, and it has its own address
20 and so forth.

21 Q. So referring to Figure 2, the -- do
22 you see the device driver 202?

23 A. Yes.

24 Q. Device driver 202 is software
25 running on the host device 200, correct?

1 A. I would say it's driver software
2 that's running on the host 200.

3 Q. And what does the driver software
4 202 do?

5 A. The driver within Christison -- so
6 I'm looking in Column 3 in the description of
7 Figure 2, roughly starting at 34. I don't see
8 that it's saying anything explicitly about the
9 driver.

10 I guess it's just intended to
11 describe it in the context of Figure 2 as a
12 driver for the host to use to communicate with
13 that hardware block in Figure 2.

14 Q. So looking at Figure 2, USB device
15 210, would you call that a virtual USB device?

16 A. I don't think that's -- I don't
17 recall that being something I discussed as to
18 being a virtual USB device.

19 Q. Do you have an opinion one way or
20 the other whether a person of ordinary skill in
21 the art would have understood USB device 210 to
22 be a virtual USB device?

23 A. I don't think I've offered an
24 opinion on that, no.

25 MR. GREENLEAF: Let's look at

1 Exhibit 1007, which is Van de Laar.

2 (Van de Laar patent, document
3 previously marked as Exhibit 1007.)

4 BY MR. GREENLEAF:

5 Q. Do you see that on your screen?

6 A. Yes.

7 Q. And Van de Laar discloses primary
8 and secondary dockees.

9 Do you recall that?

10 A. I do, yes.

11 Q. What is a primary dockee?

12 A. So there's two flavors in
13 Van de Laar: The primary and the secondary.
14 And as I recall, they have different
15 functionality or access levels here.

16 The primary is used -- and I'm
17 roughly in my paragraph 66. The primary has
18 control -- or when a dockee is a primary -- to
19 control a peripheral or at least one.

20 And the secondary dockee is really
21 just receiving the AV data. It is not in a
22 state of control or a state of being able to
23 control.

24 Q. So another way of looking at it,
25 the primary dockee can have write access, and

1 the secondary dockee can have read access?

2 A. I guess I would say write or
3 control access.

4 And then the secondary would be
5 just receiving, in that type of analogy.

6 Q. Can the primary dockee of
7 Van de Laar also have read or receive access?

8 A. I think I would need to go back and
9 look at Van de Laar for you on that.

10 Q. Paragraph 93. I'll bring that up
11 on the screen.

12 A. Trying to scroll on your window is
13 not working.

14 Give me a second to read the
15 paragraph.

16 Q. Yes.

17 A. So I see that when Van de Laar is
18 talking about this lecture room use case, there
19 is the sentence here in 93, five lines down:

20 "Primary dockees may have read and
21 write access to a display screen and/or
22 audio."

23 Q. What is read access?

24 A. I don't see that this paragraph is
25 describing the read access scenario of the

1 prime -- or, sorry, the primary.

2 Q. I'll direct you to paragraph 56.

3 It says here, and I'm highlighting:

4 "The read access may be to the
5 original full resolution AV data or to
6 a modified (e.g., scaled and/or
7 transcoded) representation of the
8 primary AV data."

9 Do you see that?

10 A. I do.

11 Q. What does that mean?

12 A. So it looks like in this paragraph,
13 a little bit above, it's talking about
14 providing read access to at least one
15 peripheral.

16 Wait. Give me one moment. I'll
17 start over.

18 So it's talking about, fourth line
19 down:

20 "The AV data may be rendered and
21 for providing to the secondary dockee
22 read access to at least one
23 peripheral."

24 And then it talks about that maybe
25 to the full resolution AV, so maybe the

1 high-res, high frame rate audio/video data, or
2 to -- it uses the word "transcoded," maybe
3 something that's lower resolution, lower frame
4 rate, lower quality audio, or something like
5 that.

6 Q. Go back to paragraph 93.

7 The read access talked about here
8 in 93 is the same as we were just discussing
9 with the prior paragraph, correct?

10 A. I see that it's using the phrase
11 "read access." I -- as to whether they're all
12 talking about the same embodiment, I'm not
13 sure.

14 Q. So what is the read access here
15 referring to if it's different than
16 paragraph 57?

17 A. I don't think I performed that
18 analysis. What I'm saying is the phrase "read
19 access" is used here in paragraph 93.

20 Q. So you don't know whether read
21 access is referring to receiving an audio
22 stream at the primary or secondary dockees; is
23 that correct?

24 A. We see that, in 93, the
25 secondary -- it states that "the secondary

1 dockees may only have read access."

2 And then read access is described
3 some paragraphs earlier in the specification we
4 just talked about.

5 Q. At the end of paragraph 93, it
6 says:

7 "The AV output may be offered to a
8 secondary dockee through a simulated
9 peripheral (e.g., simulated webcam)
10 that would appear to the dockee as if
11 it were a normal peripheral."

12 Do you see that?

13 A. I do.

14 Q. What does that mean?

15 A. It looks like it's talking about,
16 halfway down this paragraph, sharing some kind
17 of peripheral and differing access to the
18 peripheral and subdividing the capability.

19 And that sentence is talking about
20 the AV output may be offered to the secondary
21 in this case through a simulated webcam or some
22 subset of secondary dockees may get access to
23 that data.

24 Q. For example, if the primary dockee
25 was displaying video content to a display, the

1 secondary dockee could receive that same video
2 content and view it on its display, correct?

3 A. I think that's what the paragraph
4 is saying in the fifth line down:

5 "Where the primary dockees may have
6 the read/write access to a display
7 screen, the secondary may only have
8 read access."

9 Q. Is there any difference between the
10 read access of the primary dockee and the
11 secondary dockee?

12 A. I haven't -- I don't think I've
13 done that analysis for the Van de Laar
14 reference.

15 Q. So you have no opinion one way or
16 the other about whether the read access of the
17 primary dockee differs from the read access of
18 the secondary dockee; is that correct?

19 A. I would say beyond what's in my
20 declaration, no.

21 Q. Can primary dockees be switched to
22 the secondary dockees in Van de Laar?

23 A. I talk about this in my
24 declaration, that there's a means in
25 Van de Laar, I believe, to change the state

1 from a primary dockee to a secondary dockee and
2 the relevant -- for the related
3 functionality -- supported functionality
4 changes.

5 Q. So you said Van de Laar can change
6 the state from a primary dockee to a secondary
7 dockee.

8 Is the opposite true, that
9 Van de Laar teaches changing the secondary
10 dockee to a primary dockee?

11 A. I'm trying to go back to this
12 paragraph in my declaration for you.

13 Maybe you could point me there.

14 Q. Well, I'd just direct you to
15 Claim 8 of Van de Laar.

16 A. Okay.

17 Q. It states:

18 "Transforming a secondary dockee
19 into a primary dockee device, or a
20 primary dockee device into a secondary
21 dockee device."

22 Do you see that?

23 A. I see that language, yes.

24 Q. So the dockee devices can switch
25 roles between primary and secondary and vice

1 versa, correct?

2 A. As I -- as I discussed in my
3 declaration, you can be in a primary dockee
4 state or a secondary dockee state, or go from a
5 secondary dockee state, as I recall, to a
6 primary dockee state.

7 Q. So all dockees have the ability to
8 have read or write access, correct?

9 A. No.

10 Q. Why not?

11 A. The primary dockee, as we
12 discussed, has the read and write access.

13 Q. And the secondary dockee, according
14 to paragraph 93, only has read access, correct?

15 A. The -- that's correct. I'm trying
16 to -- without jumping back to the paragraph
17 explicitly, I think we talked about that a
18 moment ago.

19 Q. Yeah. I have it up for your ease.

20 But the secondary dockee could be
21 changed into a primary dockee, and then it
22 would have write access, correct?

23 A. The way we've been describing it,
24 the secondary dockee would become the primary
25 dockee. And then the primary dockee would have

1 the read and write access.

2 Q. When you say "the primary dockee,"
3 Van de Laar supports the ability to have
4 multiple primary dockees at once, correct?

5 A. I'd have to go back and look at
6 that for you.

7 Q. I'll help you out. Paragraph 59.

8 A. I see that first sentence:
9 "Optionally, the docking processor
10 is arranged for docking multiple
11 primary docking devices."

12 Q. So Van de Laar teaches that there
13 could be multiple primary dockees with write
14 access and read access such that they could
15 share their screens to a screen and between
16 each other, correct?

17 A. So it looks like 59 is talking
18 about the docking processor and having multiple
19 primary dockees. And it talks about things
20 like shared control over a peripheral in 59,
21 and statements at the bottom, shared control
22 may, for example, enable multiple primary
23 dockees to control a shared AV output
24 peripheral, such as a TV.

25 MR. GREENLEAF: All right. I'd

1 like to take a break. Let's go off the
2 record.

3 (Lunch recess taken from 1:18 p.m.
4 to 2:00 p.m.)

5 -----

6 AFTERNOON SESSION

7 -----

8 BY MR. GREENLEAF:

9 Q. Did you have a good lunch,
10 Dr. Brogioli?

11 A. It was okay. Yeah.

12 Q. Did you speak to anybody during
13 lunch break?

14 A. I did not.

15 Q. All right.

16 I'd like to direct your attention
17 again to Figure 11 of Beel, which I can put up
18 on the screen.

19 So we talked about this base
20 unit 33 and the video decoder and audio
21 decoder.

22 Do you recall that discussion?

23 A. Yes.

24 Q. And can you tell me what happens
25 after the video decode and audio decode,

1 according to Beel?

2 A. It looks like there is a
3 synchronization block 27 and then there's a
4 mixer and composer block after that.

5 Q. And then what happens after that?

6 A. One moment.

7 They may be -- I'm trying to find
8 where this is described. I see the mixer
9 talked about in paragraph 323. It talks about
10 a number of blocks here for mixing rate.

11 Presumably they're outbound from
12 here. I don't know if they go -- I don't see
13 that the figure is denoting where they go from
14 here.

15 Q. What would the person of ordinary
16 skill in the art have understood would happen
17 after the composer and mixer steps?

18 A. I think it's -- at some point that
19 information is -- for example, the composed
20 video may be sent somewhere for display, and
21 the mixer ultimately may go out for audio.

22 Q. When you say "out for audio," what
23 type of device would receive that audio data?

24 A. I think one example might be, if
25 you have a video display with a speaker in it

1 that would play audio, that may be an example
2 of where the information from these blocks is
3 headed ultimately.

4 Q. Do you agree that Figure 4
5 illustrates a number of standard endpoints?

6 A. Figure 4 within Beel?

7 Q. I'm sorry. Figure 11. Figure 11.
8 Does Figure 11 illustrate a number
9 of standard endpoints?

10 A. I think we may have discussed this
11 at some point previously.

12 I don't see that Figure 11 of Beel
13 is talking about endpoints.

14 Q. So here's a copy of the '346
15 patent. And Figure 4 of the '346 patent is the
16 same as Figure 11 in the -- in Beel, correct?

17 A. In terms of the visualization of
18 the two or the way that they're drawn, I recall
19 that being correct.

20 Q. And I'm looking at Column 17,
21 line 65, which reads:

22 "These are fixed and are a
23 combination of vendor-specific
24 endpoints and a number of standard
25 endpoints that can be interpreted or

1 understood as a custom driver, a
2 default OS driver, and/or a host
3 application as has been described with
4 reference to Figure 4 due to screen
5 sharing and audio."

6 Do you see that?

7 A. I do.

8 Q. So you agree that Figure 4 of the
9 '346 patent illustrates a number of standard
10 endpoints, correct?

11 A. I'm skipping ahead in the patent to
12 where you're at, Column 17.

13 I see that this passage or
14 paragraph within '346 talks about endpoints,
15 yes.

16 Q. And Figure 4 includes endpoints,
17 correct?

18 A. They're saying vendor-specific
19 endpoints, standard endpoints, understood as
20 custom driver, OS driver, host-application in
21 the context of -- in reference to Figure 4.

22 Q. So I have Figure 4 up here on the
23 screen.

24 Can you point to the elements of
25 Figure 4 that constitute an endpoint?

1 A. I'm going back to this section of
2 my declaration for you.

3 I don't think I -- in the context
4 of my '346 declaration, I don't think -- I
5 don't recall Dr. Almeroth pointing to specific
6 endpoints in this figure. And as such, I don't
7 think I have a discussion of what may or may
8 not be an endpoint in this figure in response
9 to his statements.

10 Q. The mass storage device 12 can be a
11 USB endpoint, correct?

12 MR. ANDREWS: Objection, scope.

13 A. In the USB specification or the USB
14 standard, there are discussions of USB
15 endpoints.

16 BY MR. GREENLEAF:

17 Q. And a mass storage device endpoint
18 is an example of one, correct?

19 A. In the context of the USB
20 specification, I recall there being mass
21 storage devices.

22 Q. Mass storage devices that are
23 endpoints, correct?

24 A. Going from recollection, there are
25 endpoints associated with the USB spec for a

1 mass storage device.

2 Q. Is there any difference between a
3 mass storage device 12 of Figure 11 of Beel and
4 a mass storage device 12 of Figure 4 of the
5 '346 patent?

6 A. That -- I don't believe that's an
7 analysis I performed.

8 MR. GREENLEAF: I'm going to pull
9 up Exhibit 1006, Dinka.

10 THE WITNESS: Okay.

11 (Dinka patent, document previously
12 marked as Exhibit 1006.)

13 BY MR. GREENLEAF:

14 Q. Do you see Dinka on your screen?

15 A. I do.

16 Q. And you reviewed Dinka, correct?

17 A. That's correct.

18 Q. And it's your opinion that Dinka
19 teaches away from a combination with Beel,
20 correct?

21 A. That -- that is correct. I think
22 it's discussed in one of the first points that
23 I think the ground -- to the ground one at
24 least.

25 Q. And Dinka teaches that it was

1 well-known to allow personal computers to
2 communicate using Skype, correct?

3 A. Dinka is a reference that's
4 assigned to -- as I recall, it's assigned to
5 Skype, and I think in the background mentions
6 issues with -- high-level issues with people
7 using a personal computer for some of these
8 types of communications -- or issues that Dinka
9 wants to overcome with some of the difficulties
10 of people using a personal computer.

11 Q. Does Dinka ever state that having a
12 VoIP call between multiple personal computers
13 would not work?

14 A. I don't recall specifically that
15 Dinka is making the statement that a VoIP call
16 would be nonfunctional between two laptops, for
17 example.

18 Q. But it's your opinion that pointing
19 out some problems constitutes a teaching away,
20 correct?

21 A. No. It's not pointing out some
22 problems. The -- the idea behind Dinka and the
23 idea behind Beel are different.

24 Q. So identifying problems of VoIP
25 communication between laptop computers is not a

1 teaching away, in your opinion?

2 A. I think it's related. However, the
3 idea of Dinka is -- is different. Dinka is
4 using a television device without the need for
5 these processing devices, without the need for
6 these peripheral devices. It's giving you an
7 all-in-one-type solution using a
8 television-type device.

9 Q. I think Dinka also discloses "a
10 plurality of computer terminals connected to
11 each other via the internet for VoIP
12 communication."

13 Correct?

14 A. I don't recall specifically where
15 that may be in Dinka.

16 Where are you referring to?

17 Q. So, for example, at Column 5,
18 lines 45 on down refers to a plurality of
19 computer terminals 102 that are for
20 communicating over the internet.

21 A. I see that it says that, yes.

22 Q. So the person of ordinary skill in
23 the art would have understood that Dinka
24 discloses a plurality of computer terminals
25 coupled to the internet to be used for VoIP

1 communication, correct?

2 A. It's pointing out to the computer
3 terminal here labeled in Figure 1.

4 On the lower left, it's got the
5 little stick figure that says "Steven," but
6 that may be connected to the internet.

7 And then it also talks about the, I
8 guess, Mary and Joe. But I think that's just
9 stating that there are computers connected to
10 the internet.

11 The sentence at 48 states "a
12 plurality of television sets."

13 103 are also shown coupled to the
14 internet.

15 Q. So the person of ordinary skill in
16 the art reading Dinka would not understand it
17 to be disclosing a plurality of computer
18 terminals connected to each other for VoIP
19 communication, correct?

20 A. I would state that a person of
21 skill would understand that there are computer
22 terminals connected to the internet outside the
23 scope of what Dinka is -- is claiming, and some
24 of those may use a VoIP communication.

25 And Dinka is providing this

1 solution of what's 103 in this integrated
2 solution that affords the benefit that Dinka
3 describes.

4 Q. Do you have an opinion of whether
5 Dinka contemplates a plurality of computer
6 terminals connected to each other for VoIP
7 communication?

8 A. Dinka talks about in the background
9 VoIP connections, then talks about also the
10 notion that there are computers connected—
11 or, as Dinka says at line 19 of Column 1, "such
12 as a personal computer to conduct voice or
13 video calls over a packet-based computer
14 network such as the internet," in the
15 background description.

16 Q. Do you have a copy of the '346
17 patent handy?

18 Is that a yes?

19 A. Yes.

20 Q. Okay. Can you identify in any
21 figure a fixed endpoint?

22 MR. ANDREWS: I'm going to object
23 to the scope.

24 A. I was going to say, I don't think
25 I went through an exercise of going through the

1 figures of the '346 and looking for fixed
2 endpoints. And I don't think Dr. Almeroth did
3 either that I would have been responding to.

4 BY MR. GREENLEAF:

5 Q. So Column 14, line 12 of the '346
6 patent states:

7 "Webcam video coming from webcam 91
8 of base unit 100 is decrypted in block
9 30 and exposed to processing device 160
10 through a USB video endpoint via USB
11 video and drivers such as H264 drivers
12 31."

13 Do you see that?

14 A. Yes.

15 Q. Is USB video endpoint a fixed
16 endpoint?

17 A. I don't see that this passage in
18 Column 14 is saying one way or the other.

19 Q. And is USB video endpoint as
20 disclosed in that passage a configurable
21 endpoint?

22 A. Same answer. I don't see that it
23 says "fixed" or "configurable."

24 Q. If it's not fixed or configurable,
25 what type of endpoint is it?

1 A. I don't see that it's saying -- I
2 don't recall discussing this passage in my
3 declaration either.

4 Q. A moment ago you stated something
5 along the lines that Dr. Almeroth's testimony
6 never discussed this issue.

7 Here is Dr. Almeroth's declaration
8 citing that specific passage, stating that this
9 endpoint must be either fixed or configurable.

10 Do you agree with that or disagree
11 with that?

12 A. It looks like this statement is
13 from Dr. Almeroth talking about Beel. And I
14 believe your question was in reference to --
15 unless I mixed up my references, in the context
16 of what the '346 was saying.

17 Q. Yes. I was talking about the
18 '346 -- well, he's citing Exhibit 1001 --

19 A. Got it.

20 Q. -- as an example of an endpoint.

21 A. Right. And I see that at least the
22 passages you had up I don't think were
23 referring to this language in Column 14.

24 Q. Column 14, lines 12 to 28.

25 A. Okay. Okay. I don't have his

1 declaration in front of me.

2 Q. Would you like a copy of it?

3 A. If I could take a moment to pull it
4 up on my end.

5 Okay. So I see -- I'm a bit
6 confused. What -- so he's quoting Beel here in
7 the first couple of lines, it looks like, and
8 then citing to the '346 patent?

9 Q. Yes, because they talk about the
10 same type of issues and define what -- it's
11 unclear what "fixed" or "configurable" means,
12 and that's what I'm trying to get -- understand
13 from you, is whether endpoints are fixed or
14 configurable.

15 How does a person of ordinary skill
16 in the art determine the scope of the claims of
17 the '346 patent which recite "fixed or
18 configurable endpoint"?

19 So I need you to tell me what your
20 opinion is regarding the scope of the fixed or
21 configurable endpoint limitation.

22 A. I haven't, I don't believe, gone
23 through the scope -- I'm sorry, the spec of the
24 '346 and done that exercise. I think that's an
25 exercise that Dr. Almeroth would have done, and

1 I would have possibly offered opinions in
2 response to his statements.

3 Q. You said in paragraph 117 of your
4 declaration that it's your opinion that the
5 combination of Beel, Dinka, Christison does not
6 disclose at least one fixed or configurable
7 endpoint.

8 And I don't understand how you've
9 reached that conclusion because it's unclear
10 what a fixed or configurable endpoint is.

11 So how do you define "fixed or
12 configurable endpoint" to conclude what you've
13 concluded in paragraph 117?

14 A. In that Beel, as I recall, does not
15 mention endpoints at all.

16 Q. I thought we established earlier
17 that Beel disclosed an endpoint, for example,
18 at least a mass storage device endpoint?

19 A. I don't believe that was my answer.

20 My answer was there may be mass
21 storage devices within the context of the USB
22 specification. That may be a type listed
23 within there.

24 Q. So the mass storage device 12 of
25 Figure 11 of Beel is not an end point, in your

1 opinion?

2 A. Beel does not mention endpoints at
3 all, and I don't recall -- perhaps I addressed
4 statements of Dr. Almeroth on that in my
5 declaration. I'd be happy to go there.

6 Q. Well, I'm still confused, because
7 I thought we had established that Figure 4 of
8 the '346 patent illustrated an example of a
9 mass storage device USB endpoint; is that
10 correct?

11 A. The '346 patent talked about
12 endpoints. And there is Figure 4, which shows
13 a number of different components within the --
14 the client PC, the USB dongle, and the base
15 unit, one of which I think you were asking
16 about as a mass storage device.

17 Q. So earlier I asked you a question:
18 "Mass storage devices are
19 endpoints, correct?"

20 And you answered:

21 "Going from recollection, there are
22 endpoints associated with the USB spec
23 for a mass storage device."

24 So I'm confused, Dr. Brogioli. Is
25 mass storage device 12 of Figure 4 of the '346

1 patent an endpoint? Yes or no?

2 A. I think in the context of the '346
3 patent, maybe that's possible. I don't recall
4 Dr. Almeroth pointing out the mass storage
5 device specifically. Perhaps he did.

6 Q. But it's your opinion that the mass
7 storage device 12 of Figure 11 of Beel is not
8 an endpoint, correct?

9 A. That Beel makes no mention of
10 endpoints. And the figure -- the component 12
11 within Figure 11 of Beel is a different
12 description and of different use than that
13 figure -- than the Figure 4 and description
14 within the '346 patent.

15 Q. The mass storage device 12 of Beel
16 is a USB mass storage device, correct?

17 A. I can check for you.

18 Q. I have it up on the screen.

19 A. That's a block 12 in the figure of
20 Beel that talks about mass storage -- or is
21 labeled "mass storage," I should say.

22 Q. And that's a USB mass storage
23 device, correct?

24 A. I don't see the Beel reference as
25 using that language around 12.

1 Q. So the prior art reference must use
2 the word "endpoint" to disclose an endpoint.

3 Is that your opinion?

4 A. My opinion is that I don't see that
5 Beel is talking about endpoints at all in terms
6 of that language.

7 Q. That does not answer my question,
8 Dr. Brogioli.

9 Would you like me to repeat it?

10 A. Sure.

11 Q. Must the prior art reference use
12 the word "endpoint" to disclose an endpoint?

13 A. My understanding is it could
14 describe such things, maybe with a different
15 choice of words.

16 The word "endpoint" is something
17 that's present in -- if you're asking in the
18 context of USB, something that is present in
19 the USB specification and is present in the
20 '346 reference.

21 Q. What other words could be used in
22 lieu of "endpoint" to convey an endpoint?

23 A. I don't recall performing that
24 analysis in the context of Beel or otherwise.

25 Q. Is it true that every USB device

1 must provide at least one control endpoint?

2 A. That within the USB specification,
3 devices have typically had endpoint -- at least
4 one endpoint associated with them.

5 I don't recall the full
6 specification or version of the specification,
7 if there are corner cases outside of that.

8 Q. I'd like to talk to you about
9 Kaplan, Exhibit 1008, which should be up on the
10 screen shortly.

11 (Kaplan patent, document previously
12 marked as Exhibit 1008.)

13 BY MR. GREENLEAF:

14 Q. Here we go.

15 So one criticism you have of Kaplan
16 is use of this term "walled garden approach."

17 Do you recall that argument?

18 A. I do.

19 Q. Looking at paragraph 21 of Kaplan,
20 that says:

21 "Embodiments of the present
22 invention provide a 'walled garden'
23 approach."

24 Do you see that?

25 A. In paragraph 21 of Kaplan?

1 Q. Yes. I have it up on the screen.

2 A. I'm not seeing it on your screen.

3 Yep. There it is. Yeah, sometimes
4 there's technical hiccups.

5 Q. All right. So, again, that
6 paragraph 21 includes this sentence:

7 "However, embodiments of the
8 present invention provide a 'walled
9 garden' approach, etc."

10 Do you see that?

11 A. Yes, I do.

12 Q. And you interpret that as requiring
13 all embodiments of Kaplan require a walled
14 garden approach; is that correct?

15 A. That there are statements in Kaplan
16 around this about the transmitter and the
17 receiver -- yeah, that's right, that are paired
18 to each other -- I think the language is "prior
19 to shipment" of the solution, or use by the
20 customer.

21 And so Kaplan isn't
22 contemplating -- amongst other things, isn't
23 contemplating adding or subtracting different
24 types of transmitters and things like that, or
25 having the user have to pair those types of

1 additional devices.

2 Q. Again, I'm -- that doesn't answer
3 my question.

4 Do you interpret Kaplan as
5 requiring all embodiments to require a "walled
6 garden" approach?

7 A. I think to the extent I talk about
8 Kaplan in my declaration, as I'm recalling from
9 my '346 declaration, they are the "walled
10 garden" applications.

11 Q. So all implementations of Kaplan
12 require a "walled garden" approach, in your
13 opinion, correct?

14 A. I don't recall analyzing perhaps
15 embodiments in Kaplan that may be outside of
16 that.

17 I think my recollection is in
18 responding to Dr. Almeroth, they were largely
19 those that fell within this "walled garden"
20 approach that Kaplan talks about. And the --
21 the transmitter and the receiver being paired
22 to each other and the user not having to manage
23 that.

24 Q. So Kaplan contemplates embodiments
25 that do not require a "walled garden" approach

1 then?

2 A. I -- I think that's what I was just
3 answering, is I-- I don't recall that being
4 something I'm discussing in my declaration, to
5 the extent that's within Kaplan.

6 Q. So you have no opinion one way or
7 the other whether Kaplan includes embodiments
8 that do not require a "walled garden" approach;
9 is that correct?

10 A. I would say that within the points
11 I raise in response to Dr. Almeroth's
12 statements, I don't recall a specific
13 embodiment in there being outside the scope of
14 this "walled garden" approach.

15 Perhaps that's in my declaration,
16 but I don't recall that being the case from
17 memory.

18 Q. So you have no opinion one way or
19 the other whether Kaplan includes embodiments
20 that do not require a "walled garden" approach,
21 correct?

22 A. I would say that Kaplan -- the
23 inventors talk about the advantageous nature of
24 this "walled garden" approach.

25 To the extent there may be an

1 embodiment that is not the "walled garden"
2 approach, I don't recall offering opinions on
3 that one way or the other -- or, as I recall,
4 analyzing a statement about that that
5 Dr. Almeroth may have made.

6 MR. GREENLEAF: Okay. Let's take a
7 ten-minute break, please, come back a little
8 bit after the top of the hour.

9 (Recess taken, 2:53 p.m. to
10 3:03 p.m.)

11 BY MR. GREENLEAF:

12 Q. Dr. Brogioli, I'd like to go back
13 to the fixed or configurable endpoint idea.

14 USB endpoints -- you're aware of
15 USB endpoints, correct?

16 A. That's correct.

17 Q. And you're aware of mass storage
18 device USB endpoints, correct?

19 A. That's correct. As I recall, that
20 is one of the types of devices in the USB
21 specification.

22 Q. Is a USB mass storage device a
23 fixed endpoint?

24 A. I would have to go back and look
25 within the USB specification to the way the

1 endpoints are described for it.

2 Q. Is a USB mass storage device
3 endpoint a configurable endpoint?

4 A. I would give the same answer, as to
5 how, for a given version of the USB
6 specification for the mass storage device, how
7 those different things are handled.

8 Q. What's the difference between a
9 fixed and configurable endpoint?

10 A. As I remember, there can be fixed
11 endpoints that are used for sort of the basic
12 communication. And then there are, I think,
13 other USB endpoint types that can vary,
14 depending on device and classification and
15 things like that.

16 Q. Is there a third type of endpoint
17 between fixed or configurable?

18 A. I would need to go back and look at
19 the USB specification in terms of the -- well,
20 one, how the words "fixed" and "configurable"
21 are or are not used, and also if there may be
22 other permutations either within those or
23 outside of those.

24 Q. So you have no opinion one way or
25 the other whether an endpoint can be not fixed

1 and not configurable but could be something
2 else?

3 A. In the context of USB endpoints, I
4 don't recall offering an opinion on that.

5 Q. Dr. Almeroth testified that he
6 understands that endpoints must be either fixed
7 or configurable.

8 Do you agree or disagree with his
9 opinion?

10 A. From -- from recollection, I don't
11 recall addressing that opinion of his. And I
12 guess I would -- to the extent it's in my
13 declaration, I'd be happy to look at it.
14 Otherwise, that's something I would have to, at
15 minimum, go back to look at USB endpoints in
16 the lengthy specification.

17 Q. So sitting here today, you have no
18 basis to either agree or disagree with
19 Dr. Almeroth's opinion that endpoints must be
20 either fixed or configurable; is that correct?

21 A. I would say beyond what's in my
22 declaration, no, I don't have an additional
23 opinion on that one way or the other.

24 Q. All right. I would like to turn
25 your attention to paragraph 71 of Beel.

1 I guess you can see it on your
2 screen?

3 A. In two seconds, I can.

4 Q. I think I'm sharing it.

5 A. Okay. I've got it up.

6 Q. So, again, we're talking about the
7 software code portions of the peripheral
8 device, correct?

9 A. That's -- those are discussed at
10 least in part in this paragraph 71, correct.

11 Q. And the peripheral device has a
12 third software code portion for receiving media
13 content from the network, correct?

14 A. One second. (Reading)

15 "A third software code portion for
16 receiving media content from the
17 network and for displaying the media
18 content on the display... in accordance
19 with a set of rules."

20 Q. Why does Beel's peripheral device
21 include a third software code portion for
22 receiving media content from the network?

23 A. This was a bit unclear to me.
24 I don't know if I have addressed this
25 specifically in my declaration. Let me go back

1 for you.

2 I mean, is there a specific portion
3 of my declaration, either for '346 or '347,
4 you're asking about?

5 As I recall --

6 Q. No.

7 A. -- in the context of '347, I think
8 I discussed this paragraph and some of the
9 ambiguity around the display.

10 Q. So you have no opinion one way or
11 the other of what the media content is
12 referring to in that portion of paragraph 71;
13 is that correct?

14 A. Let me go to my '347 declaration
15 for you.

16 Going from memory, I think in the
17 '347 declaration I talk about this in that it
18 seems there is this media content described in
19 71 and it being displayed on a display of the
20 base node.

21 Q. Where does it say that the media
22 content is displayed on the display of the base
23 node?

24 A. When looking at Beel and the
25 language around the rules that it's talking

1 about in this paragraph -- let me find it for
2 you.

3 Example being in, excuse me,
4 paragraph 75, "Receiving media content from the
5 communications network at the base node and
6 displaying media content on a display."

7 This rule's language is throughout
8 the Beel reference talking about displaying of
9 content at the base node.

10 And that appears to be what is also
11 being referred to here in this paragraph 71
12 when you're asked -- when you were asking about
13 the receiving media content.

14 Q. So -- yeah, paragraph 75 is talking
15 about transferring media content between the
16 processing device and the peripheral device,
17 and transmitting media content from the
18 peripheral device to the communication network.

19 But I'm talking about the media
20 content, the "third software code portion for
21 receiving media content from the network and
22 for displaying the media content on the
23 display."

24 So why is the peripheral device
25 receiving media content in paragraph 71?

1 A. I think what this paragraph is
2 pointing to -- or, sorry, this portion of the
3 paragraph is that this media content -- excuse
4 me -- is received from the network -- receiving
5 media content from the network and displaying
6 that content on a display at the base station,
7 which is in line with this set of rules that
8 are discussed elsewhere in the Beel reference.

9 And the paragraph is a bit
10 confusing about -- the paragraph 71 as a whole,
11 about with memory, and then -- and then
12 continuing on; give me one moment -- saying
13 things like "with memory" in line 3, and then
14 "a peripheral device comprising a memory."

15 It also says "a display" in the
16 third line down from 71.

17 And so it's a bit unclear here in
18 terms of the -- I guess the antecedent basis as
19 to exactly what's being referred to.

20 When I look at this paragraph in
21 the context of the broader specification, it
22 seems to me that this display in the bottom
23 portion here, starting "a third software code
24 portion" is talking about displaying on a
25 display at the base station -- the base node.

1 Q. And how about the "receiving media
2 content from the network"? That's the base
3 station receiving the media content then?

4 A. In the sense of the media content,
5 I think it's referring to being used by with
6 display at a base node.

7 Q. So the third software code portion,
8 is that on the base node or is that on the
9 peripheral device?

10 A. It may be on the base node.
11 The language of this paragraph as a
12 whole is unclear.

13 Q. May the third software code portion
14 be on the peripheral device?

15 A. It seems to me it's saying that
16 that third software code portion is for
17 receiving media content from the network and
18 would be displaying at the base node, so coming
19 from the laptop out to the base node to which
20 the display is attached, which is in line with
21 the way in Beel the Figure 11 is illustrated.

22 Q. But again, it's -- the third --
23 let's just take a step back for a second.

24 Paragraph 71, as you see up on the
25 screen, says, "the peripheral device comprising

1 a memory."

2 Does that make sense to you?

3 A. It says -- at the third -- I'm
4 actually going to look at your screen.

5 It says in that portion, "the
6 peripheral device comprising a memory."

7 It also says earlier, starting on
8 the first line: A peripheral device is
9 provided for providing communication
10 connectivity, which is provided with memory
11 display, etc.

12 But, yes, that section says, "the
13 peripheral device comprising a memory."

14 Q. Okay. And the memory has
15 executable software code, correct?

16 A. Stored in the memory, that's
17 correct.

18 Q. And the third software code portion
19 is stored on the memory of the peripheral
20 device, correct?

21 A. That looks like what that portion
22 of the sentence is describing.

23 Q. I'd like to turn your attention to
24 paragraph 120 -- actually, I have it up on the
25 screen.

1 And it states: "These cameras can
2 be linked by a network 51."

3 Do you see that?

4 A. Yes.

5 Q. -- "e.g., a cable network to the
6 router 42 and/or the base node 36."

7 Correct?

8 A. That's correct.

9 Q. So the cameras can be connected to
10 the network, to the base node, or both,
11 correct?

12 A. To the network 51, it goes to the
13 router and/or the base node 36. So and/or.

14 Q. All right.

15 So let's look at Figure 11 of Beel
16 again.

17 And earlier we talked about the
18 video unpacking and decoding, the audio
19 unpacking and decoding.

20 Do you recall that conversation?

21 A. I do.

22 Q. And unpacking and decoding require
23 processing, correct?

24 A. I would say in some form. If
25 there's a digital stream coming in, some type

1 of computation seems like it would be required.

2 Q. All right.

3 MR. GREENLEAF: I think we're
4 coming towards the end. Let's take a
5 five-minute break.

6 (Recess taken, 3:28 p.m. to
7 3:41 p.m.)

8 BY MR. GREENLEAF:

9 Q. Dr. Brogioli, do you have a copy of
10 the '347 patent with you?

11 A. Yes. One moment. Okay.

12 Q. Claim 11 recites "translating the
13 electronic signals."

14 Do you see that?

15 A. One moment.

16 "Translating the electronic
17 signals." I see that, yes.

18 Q. What does "translating the
19 electronic signals" mean?

20 A. I don't believe I've offered --

21 MR. ANDREWS: Objection to form.
22 Apologies. Go on.

23 A. I don't believe I've offered an
24 analysis within the '347 -- within my
25 declaration, on what encompasses or doesn't

1 encompass the translating work.

2 I was just responding to arguments,
3 I think, of Dr. Almeroth's within my
4 declaration.

5 BY MR. GREENLEAF:

6 Q. So you don't have any opinion on
7 what "translating the electronic signals"
8 means?

9 A. Beyond what I talk about in my
10 declaration, I don't. Nothing beyond that.
11 And I don't recall specifically discussing that
12 word.

13 Q. How would a person of ordinary
14 skill in the art have understood this term
15 "translating"?

16 MR. ANDREWS: Objection, scope.

17 A. Same answer. I didn't perform an
18 analysis of that word in response to statements
19 that Dr. Almeroth had made.

20 BY MR. GREENLEAF:

21 Q. So you have no opinion one way or
22 the other of what "translating" means in the
23 context of the '347 patent; is that correct?

24 A. That sounds correct. I don't
25 recall offering a definition of that word.

1 Q. In Claim 2 of the '347 patent, it
2 recites that "video data is interpreted and/or
3 encoded. "

4 What does "interpreted" mean?

5 MR. ANDREWS: Objection, scope.

6 A. I'm visiting my declaration
7 briefly.

8 It looks like I would -- in a
9 similar answer, I haven't offered a definition
10 of "interpreted" in the context of the '347.

11 I'm just doing another quick search
12 for you.

13 Similar answer for "encode" or
14 "encoded. "

15 BY MR. GREENLEAF:

16 Q. All right. Let's look at
17 paragraph 155 of Beel.

18 All right. Are you there?

19 A. Yes.

20 Q. So paragraph 147 says:

21 "The base node software has one or
22 more of the following features:"

23 Paragraph 155 says:

24 "Eighth code for providing means or
25 a method step for receiving,

1 decrypting, and decoding incoming
2 arbitrary media content. "

3 Do you see that?

4 A. Yes.

5 Q. It's your opinion that that does
6 not disclose interpreting data, correct?

7 A. I don't believe I have said that
8 statement includes interpreting data.

9 Q. Let's look at paragraph 119 of your
10 declaration.

11 At the end, it says:

12 "Dr. Almeroth identifies that the
13 base node receives, decrypts, and
14 decodes incoming content rather than
15 interpret and/or encoding the first
16 video data. "

17 A. I see that.

18 Q. What does "interpret" mean here, in
19 your opinion, in this paragraph?

20 A. What I'm stating here is that
21 Dr. Almeroth is pointing to base node, or
22 statements about the base node receiving and
23 decrypting rather than the interpreting or
24 encoding of that first video data.

25 Q. What does "interpreting" mean?

1 A. I haven't offered a definition of
2 "interpreting."

3 Q. Well, then how do you know --

4 A. Rather than I'm pointing to that
5 Dr. Almeroth is pointing to things on the base
6 node around decryption and decoding, rather
7 than what is that first video data.

8 Q. So you have no opinion on the
9 difference between "interpreting" and
10 "decoding"?

11 A. Let me just read the claims for a
12 moment.

13 MR. GREENLEAF: Okay. Why don't we
14 take a five-minute break and then you can
15 come back and answer the question.

16 I'm sorry. I've got to go check on
17 something.

18 (Recess taken from 3:53 p.m. to
19 4:16 p.m.)

20 BY MR. GREENLEAF:

21 Q. All right. Dr. Brogioli, thank you
22 for your patience on the break.

23 We were discussing paragraph 119 of
24 your declaration, and your analysis of the
25 claim limitation that uses the word

1 "interpret."

2 And I was wondering what the
3 difference between encoding and interpreting
4 is -- sorry, the question is: What's the
5 difference between decoding and interpreting?

6 A. So in this paragraph, I'm talking
7 about Dr. Almeroth's statements, part of which
8 involve either encoding, interpreting, or
9 decoding -- I'm sorry -- encoding, encrypting,
10 or decoding, decrypting.

11 I haven't offered an opinion on the
12 difference between interpreting and encoding,
13 if that is the question, but I'm talking about
14 where these components lie within the prior
15 art, the first video data, and aspects of the
16 encoding -- or, I'm sorry, encoding or
17 decoding, like we talked about earlier today,
18 for example, with respect to a video codec.

19 Q. What is the basis for your opinion
20 that paragraph 115 of Beel does not disclose
21 interpreting data?

22 A. Did you say 115?

23 Q. I'm sorry, 155 of Beel.

24 What is the basis of your opinion
25 that paragraph 155 of Beel does not disclose

1 interpreting data?

2 A. What I am saying in the last
3 paragraph -- sorry -- the last sentence of my
4 paragraph 119 is that Dr. Almeroth is talking
5 about the base node doing a receiving, decrypt,
6 decode on incoming content, rather than an
7 interpret or encoding of that first video data.

8 Q. Yes. I understand that you're
9 saying that Dr. Almeroth is talking about
10 receiving, decrypting, encoding incoming
11 content rather than interpreting or encoding.

12 But how is decoding different from
13 interpreting?

14 A. I guess I haven't offered a
15 definition about decode may differ from
16 interpret taken in isolation. The sentence I
17 have here is a bit broader in terms of what
18 Dr. Almeroth points to and the directionality
19 of where it may be in the system and what it's
20 operating on.

21 Q. Well, it's your opinion that
22 decoding is not interpreting, correct?

23 A. I don't know that I've stated that
24 decoding is itself different than interpreting,
25 if that's what you're asking.

1 Q. Well, which is it? Is decoding the
2 same as interpreting or different than
3 interpreting?

4 A. I would say that paragraph 155 of
5 Beel talks about the receiving, decrypting, and
6 decoding.

7 And what I am getting at in my last
8 sentence of 119 is that's different than
9 interpreting and/or encoding.

10 Q. How?

11 A. Well, the encoding or interpreting
12 data in this context, this first video data,
13 and performing an encoding of that to go
14 elsewhere in the system.

15 Q. How is encoding different from
16 interpreting?

17 A. I don't think I've offered a
18 delineation on the two -- or on the definitions
19 of the two.

20 It looks like the "interpret and/or
21 encode" is at least part of what is mentioned
22 in Claim 13 here.

23 So, again, my paragraph 119 that
24 we're talking about is about Dr. Almeroth
25 pointing to things on the peripheral device

1 versus the base node, as well as what is, at
2 least in part, things such as decrypting and
3 decoding versus the encoding on that first
4 video data.

5 Q. So I'm thoroughly confused about
6 what "interpret" means.

7 And it's my understanding that you
8 have no opinion one way or the other of what
9 "interpreting" means.

10 Do I understand that correctly?

11 MR. ANDREWS: Objection to form.

12 A. I would say I have not -- in
13 response to Dr. Almeroth's arguments, I don't
14 recall offering a definition or addressing his
15 definition of the word "interpret"
16 specifically, it looks like, as used in
17 Claim 13.

18 BY MR. GREENLEAF:

19 Q. If you don't know what the word
20 "interpreting" means, how do you determine that
21 Beel does not mean disclose interpreting?

22 A. I don't think I've -- I don't think
23 I've addressed Beel and the specific word
24 "interpret."

25 What I'm talking about in

1 Claim 119 -- I'm sorry, paragraph 119, is more
2 broadly Dr. Almeroth's being incorrect about
3 when he talks about the prior art, where some
4 of these things reside in terms of a peripheral
5 device or a base node, as well as what is the
6 decoding versus encoding process, and where
7 that data is going in the system.

8 Q. So your problem with Dr. Almeroth's
9 analysis is that it's incorrect in terms of
10 where the data is going in the system; is that
11 correct?

12 A. That's part of what I talk about at
13 least in my paragraph 119.

14 Q. And you do not have an opinion on
15 whether decoding constitutes interpreting; is
16 that correct?

17 A. I don't recall offering an opinion
18 on Dr. Almeroth's characterization of decoding
19 versus interpreting, those two words
20 specifically.

21 Q. Let's look at Van de Laar.
22 76, "The dockee device 120."
23 Do you understand what a dockee
24 device is?

25 A. I'm getting there. One moment.

1 Q. I have it -- well, I should have it
2 up on the screen.

3 A. Yes, you do.

4 Q. The question is --

5 A. Yes, the dockee device is this
6 unit 120, I think, in paragraph 76, that
7 Van de Laar talks about in various places.

8 Q. What is a dockee device?

9 A. I believe it is one of these
10 dockees that has a communication that we were
11 talking about earlier today. And there is, I
12 believe, the primary and the secondary that are
13 talked about.

14 Q. Paragraph 73 here says:

15 "Possible wireless dockees include,
16 but are not limited to phones, laptops,
17 tablets," etc.

18 Do you see that?

19 A. I see that, yes.

20 Q. So paragraph 36 says "The dockee
21 device," which is the phone, the laptop, etc.,
22 "has a communication unit 121."

23 Do you see that?

24 A. Yes.

25 Q. And then it says:

1 "In practice, there may be multiple
2 communication units for that purpose,
3 for example, Bluetooth, WiFi, and 60
4 GHz. "

5 Do you see that?

6 A. I do.

7 Q. So Van de Laar provides many
8 examples of the communication unit that the
9 dockee has, correct?

10 A. That sounds right. Van de Laar is
11 talking about multiple types of -- multiple
12 communications in different flavors, it looks
13 like.

14 Q. And it's your opinion that the
15 communication unit 121 must be integrated into
16 the dockee; is that correct?

17 A. As I recall, yes, that's what
18 Van de Laar is contemplating.

19 Q. And a person of ordinary skill in
20 the art would not have understood that the
21 dockee communication unit 121 could be, for
22 example, a USB WiFi transmitter; is that
23 correct?

24 A. In the context of Van de Laar,
25 that's right. That's not something that

1 Van de Laar is talking about and goes against a
2 number of the benefits Van de Laar is trying to
3 teach.

4 Q. And what would prohibit the person
5 of ordinary skill in the art using a peripheral
6 device as the communication unit 121?

7 A. In the context of Van de Laar, it's
8 in this lecture hall setting, where many people
9 are part of the lecture hall session, if you
10 will.

11 So there would be multiple of these
12 peripherals, issues with what they're paired to
13 or communicating with, and a bunch of other
14 problems that arise, versus the integrated
15 dockee -- you know, primary and secondary
16 dockee solution that Van de Laar is talking
17 about.

18 Q. So plugging in a WiFi transmitter
19 into a laptop would be -- would require undue
20 experimentation for the person of ordinary
21 skill in the art?

22 A. In the context of modifying
23 Van de Laar in some way with the other
24 references that Dr. Almeroth has cited, it's
25 unclear how that solution would work.

1 Q. So I have Kaplan Figure 2 up, which
2 has a WiFi USB transmitter 120.

3 Do you see that?

4 A. I do.

5 Q. And you're telling me that the
6 person of ordinary skill in the art would find
7 it too difficult to plug in the transmitter 120
8 into the dockee laptop of Van de Laar?

9 A. In the context of Van de Laar and
10 the wireless display hub in this lecture hall
11 setting and having a primary and secondary
12 dockee solution, this goes against what
13 Van de Laar is achieving.

14 Also, Van de Laar already has the
15 integrated solution that it talks about, so the
16 idea of having some kind of dongle is -- as I
17 say in my paragraph 135, is superfluous. You
18 wouldn't go and implement something including
19 the dongle when you already have a solution
20 here that works.

21 The Kaplan reference, too, which
22 you have up, is -- is this device, the device
23 220, displaying content onto this other screen,
24 210. Many fewer components involved.

25 Q. What is the invention of the '347

1 patent?

2 MR. ANDREWS: Objection, form.

3 A. So the '347, at least in part, is
4 talking about having the base unit of these
5 participants participating in a
6 conference-style environment with the use of --
7 as the claims talk about -- the various sharing
8 of these functional devices is one thing it's
9 contemplating.

10 BY MR. GREENLEAF:

11 Q. What is the invention of the '346
12 patent?

13 A. I would say at a high level, it's
14 conceptually similar, having multiple of the
15 participants in the conferencing-type
16 environment where users are on different
17 devices. There are functional devices in base
18 node in the way that this overall system works.

19 Q. It's your opinion that the Barco
20 ClickShare system implements the claimed
21 features of the '347 patent, correct?

22 A. That sounds like you're describing
23 what I have in my section titled -- give me one
24 moment -- the Section C of my report at
25 page 74.

1 The Barco system embodies the
2 claims of the '347.

3 Q. Does the Barco system include
4 features that are not recited by the claims of
5 the '347 patent?

6 A. I haven't performed that analysis.

7 Q. Do the claims of the '347 patent
8 require that the systems be compatible with the
9 Teams Microsoft software?

10 A. I don't think that was something I
11 was asked to address.

12 Q. Do you know whether Barco's
13 ClickShare product is compatible with Teams?

14 A. I'd have to go back and look. I
15 don't think I talk about Microsoft Teams in my
16 declaration. I would have to go back and look
17 at the -- look at the product literature, at
18 least, for you.

19 Q. Do you know whether Barco's base
20 unit works without a peripheral device?

21 A. I'm not sure what you mean by
22 "works without." I don't -- in my Section C,
23 as you can see in the various pictures, the
24 laptop there has a peripheral device. And
25 that's the use case that I've addressed in this

1 section.

2 Q. Do the claims of the '346 patent
3 require a peripheral device?

4 A. I need to go back and look for you.
5 But generally I recall the claims of the '346,
6 at least in some of them, not having the
7 peripheral device.

8 Q. And it's your opinion that the
9 Barco ClickShare product is co-extensive --
10 well, let me reask the question.

11 Barco's ClickShare product
12 implements the claimed invention of the '346
13 patent, correct?

14 A. I did -- I was not asked to perform
15 a similar analysis to my Section C for the '347
16 patent with regard to the '346 patent.

17 Q. So you have no opinion on whether
18 the Barco ClickShare product implements the
19 claimed invention of the '346 patent?

20 A. I did not perform that analysis, if
21 I'm understanding you -- or I did not offer an
22 opinion on that.

23 Q. I'm attaching an Exhibit 1076 --

24 A. All right.

25 Q. -- to the chat. I'm going to open

1 it up on the screen.

2 Would you please confirm that you
3 have that document?

4 (ClickShare C-5 document, document
5 previously marked as Exhibit 1076.)

6 A. One moment.

7 Yes, the 1076 exhibit, I have it.

8 BY MR. GREENLEAF:

9 Q. What is this document?

10 A. It looks like a Barco document from
11 September 9, 2025. I think I was actually
12 deposed on that day, my birthday. And it looks
13 like it's talking about the ClickShare CX-5,
14 maybe a marketing document, something like
15 that, product features.

16 Q. And one of the features is, on
17 page 2, that there's a smooth experience with
18 Microsoft Teams Resume.

19 Do you see that?

20 A. It looks like that line -- sorry,
21 that row is instructing for the CX-5 system
22 requirements if you want the smooth experience
23 with Microsoft Teams Resume.

24 Q. So does this change your opinion on
25 whether the ClickShare product supports Teams

1 or Zoom?

2 A. It looks like -- I haven't really
3 performed that analysis, but it looks like it's
4 mentioning if you want to use Teams or Zoom and
5 you want a smooth experience, these are the
6 types of hardware and software -- or computer
7 and version of Windows or Mac OS that you need
8 for the CX -- sorry, the C5 device.

9 Q. It also says in the authentication
10 protocol that there's a standalone mode.

11 Do you see that?

12 A. I see that there's a mention of
13 standalone mode.

14 Q. And then there's also
15 authentication protocol using the ClickShare
16 button in network integration mode.

17 Do you see that?

18 A. I see that language, yes.

19 Q. Does this change your opinion on
20 whether the Barco ClickShare base unit can work
21 in a standalone mode without a ClickShare
22 button?

23 A. I haven't analyzed what this
24 language means in the context of this document
25 or other literature related to the C-5.

1 Q. So you haven't done any analysis as
2 to what additional features might be driving
3 the commercial success of the Barco ClickShare
4 base unit; is that correct?

5 A. That sounds correct. I've not done
6 a breakdown of features driving commercial
7 success in my declaration, I think, for the
8 '346 or '347. I don't talk about commercial
9 success either, as I recall.

10 Q. I'm looking at paragraph 190 of
11 your declaration. So bottom of page 77, it
12 says:

13 "For example, in the images below,
14 when in use, the ClickShare button
15 exposes configurable endpoints of a
16 webcam or speakerphone that emits
17 data. "

18 Do you see that?

19 A. I do.

20 Q. How does the ClickShare button
21 expose the configurable endpoint?

22 I'm going to stop sharing for a
23 minute, but you have a copy of that?

24 A. Yes.

25 As I say in this section, they

1 are -- they are exposed over the USB
2 connection. And if we jump ahead to 191, it's
3 the USB connection of the button, the
4 ClickShare button.

5 And I show how under this USBD --
6 DEV viewer, Devview, the different devices that
7 are presented to -- I'm just using the precise
8 language -- to that host processing device.

9 Q. How do you know that the webcam is
10 an endpoint?

11 A. I believe this was part of the
12 information that may have been shown in the
13 USBDevview viewer when run on this Windows
14 testing machine.

15 Q. I don't see the word "endpoint" in
16 the USBDevviewer.

17 You're saying you forgot to include
18 that in your declaration?

19 A. No. I don't see that the graphical
20 screen cap here with the subset of columns from
21 USBDevview includes the phrase "endpoint."

22 Q. Then how do you know that it's an
23 endpoint?

24 A. I guess I would need to go back to
25 the description of -- or the description of the

1 possible viewer fields in this USB viewing
2 tool.

3 I know that it shows things like
4 USB composite device and so forth. I may need
5 to go back and look at that, the technical
6 literature on that tool.

7 Q. Is a USB composite device a USB
8 endpoint?

9 A. I'd have to go back to the USB
10 specification for that as well for you.

11 I see what I'm using here is to
12 show the device names that are shown. There's
13 a description that it's, in this case, a camera
14 or a speakerphone, and the driver being used.

15 Q. What is your best analysis for why
16 the USB webcam is an endpoint?

17 And let me reask the question.

18 In paragraph 190 of your
19 declaration, you state that:

20 "The ClickShare button exposes a
21 configurable endpoint of a webcam or a
22 speakerphone that emits data."

23 What is your strongest analysis for
24 why the webcam or the speakerphone in that
25 sentence constitutes a configurable endpoint?

1 A. I would say webcam and speakerphone
2 here are an endpoint that are exposed via a
3 USB, as we were talking about.

4 I don't have an opinion on best or
5 strongest opinions or something like that that
6 you were asking about.

7 Q. So the webcam of the ClickShare
8 product is an endpoint, correct?

9 A. That looks like -- what you're
10 asking is what I'm addressing at least in the
11 top -- the first part of the sentence on the
12 top of PDF page 83.

13 Q. But the camera 35 of Beel is not an
14 endpoint, correct?

15 A. What I said with regard to Beel was
16 Beel doesn't talk about endpoints.

17 Just focusing specifically on the
18 word "endpoint," Beel doesn't use the language
19 about endpoints within its reference.

20 Q. Well, I don't see specifically the
21 ClickShare product using the word "endpoint"
22 either. So why is the ClickShare webcam an
23 endpoint and the Beel webcam is not?

24 A. Beel doesn't talk about endpoints.

25 When I look at the product and go

1 into the USB device viewer, we see these
2 various USB devices here with their relative --
3 respective, I should say, driver file names and
4 descriptions.

5 Q. The only basis you have that Beel
6 does not disclose endpoints is that it does not
7 use the word "endpoint"?

8 A. I think there -- the discussion of
9 endpoints with regard to the claim language was
10 Dr. Almeroth's combinations of Beel and other
11 references not showing endpoints as they were
12 described in the claims, as I recall.

13 Q. What is a simulated peripheral?

14 A. Let me turn to my declaration for
15 you.

16 It looks like the simulated
17 peripheral language was, I believe, something
18 that's mentioned in Van de Laar. And let me go
19 to the reference.

20 So it looks like Van de Laar talks
21 about the phrase -- or includes the phrase
22 "simulated peripherals" in paragraph 54 and 93.

23 And it mentions the statement:

24 "To make the AV output for the
25 secondary dockee available as a

1 peripheral for docking, a simulated
2 webcam" --

3 And it continues on to say:

4 "The host may offer one set of
5 peripherals to a primary dockee and
6 another set of peripherals, which may
7 include such simulated peripherals, for
8 secondary dockee."

9 So just jogging back up to about
10 the third -- sorry, second line down in 54 of
11 Van de Laar, it talks about for docking in
12 regard to secondary dockee being a simulated
13 webcam, it appears to the dockee as a real
14 peripheral or, e.g., a USB webcam.

15 Q. And Van de Laar's webcam is also
16 not an endpoint because it does not use the
17 word "endpoint," correct?

18 A. I don't think I've addressed
19 Van de Laar. Maybe you can point me back to my
20 declaration -- one of my two declarations with
21 regard to endpoints or something that
22 Van de Laar seems to be talking about.

23 Q. Well, sitting here right now, do
24 you have an opinion on whether Van de Laar's
25 webcam is an endpoint, just like ClickShare's

1 webcam is an endpoint?

2 MR. ANDREWS: Objection, scope.

3 A. I haven't done an analysis of
4 Van de Laar with regard to the different
5 mentions of webcam, for example, and whether
6 they are endpoints or not endpoints within the
7 scope of the USB specification reference, I
8 would say, beyond what's in my declaration.

9 BY MR. GREENLEAF:

10 Q. So I'm going to put up on the
11 screen your declaration from the '346 IPR. And
12 at the end of it, you say:

13 "It is my understanding that
14 operating a simulated peripheral does
15 not necessarily require a driver."

16 Do you see that?

17 A. Yes.

18 Q. Can you identify any real-world
19 operating systems where a simulated peripheral
20 is presented to an application without any
21 driver involvement?

22 A. I don't think I've performed that
23 analysis from the OS level, but that -- or from
24 a driver vantage point, but you can simulate
25 any number of things in software for access

1 that may not require a driver.

2 Q. So if you implement a webcam in
3 software, the simulated peripheral device would
4 not require a driver, in your opinion, correct?

5 A. I would say I could simulate a
6 peripheral device within a system and not
7 necessarily have a driver.

8 Q. And when you say "simulate," you're
9 talking about sort of like a made-up system
10 within a computer that just has no connection
11 to any external peripheral devices.

12 Is that what you're talking about?

13 A. I'm talking about more if you -- if
14 there's a peripheral that you want to simulate
15 for use by something else, that can be done and
16 not necessarily require a driver within the
17 operating system to interface to.

18 Q. So we were talking about
19 Van de Laar's simulated peripheral devices in
20 the context of, say, an external webcam.

21 You're saying that Van de Laar
22 could be implemented to communicate with that
23 external webcam without using a driver; is that
24 correct?

25 A. It looks like in my paragraph 152,

1 I'm pointing out that Dr. Almeroth hasn't
2 pointed to anything within the cited reference
3 that discloses a driver.

4 And I'm responding to that
5 statement of his that you can operate -- my
6 understanding is you can operate a simulated
7 peripheral and not necessarily require the
8 driver.

9 Q. Yeah. How would you implement
10 Van de Laar's simulated peripheral without a
11 driver?

12 A. There are probably other constructs
13 that could be used, a file system or sockets or
14 something like that. I'm not -- I haven't gone
15 through an exhaustive exercise of that.

16 What I'm pointing out is
17 Dr. Almeroth's failure to point to the driver.

18 Q. Let's turn to Dr. Almeroth's
19 paragraph 199.

20 He talks about similar prior art,
21 such as Kaplan, that "expressly teach computers
22 that run operating systems such as Windows."

23 You agree that Kaplan discloses
24 using Windows, correct?

25 A. One second.

1 It looks like Kaplan does mention,
2 at least in paragraph 47, Windows operating
3 system.

4 Q. And you agree that Windows includes
5 drivers, correct?

6 A. As we've talked about earlier,
7 modern versions of Windows include drivers.

8 Q. And Dr. Almeroth also testified
9 that the '346 patent acknowledges that a driver
10 is standard for operating systems and can drive
11 a standard class of peripheral devices.

12 Do you agree with that statement?

13 A. That the driver can be used for the
14 OS to drive a standard class of peripheral
15 devices, yes.

16 Q. But it's your opinion that it would
17 not be obvious that Van de Laar would use a
18 driver because he does not use the word
19 "driver"; is that correct?

20 A. In the context of the simulated
21 peripherals within Van de Laar.

22 Q. It would not be obvious to use a
23 driver, in your opinion?

24 A. That that would be something
25 that -- the driver would not necessarily be

1 required, and Dr. Almeroth hasn't pointed to
2 the fact that it's there.

3 Q. Well, I don't think that he's
4 saying that it would be required. He's saying
5 that it would at least be obvious to use a
6 driver.

7 And you disagree with that opinion,
8 correct?

9 A. For something that's simulated, it
10 may or may not -- yeah. It may or may not be
11 obvious for the simulation of these
12 peripherals.

13 I'm trying to remember. I may have
14 just said "may or may not be obvious." I was
15 saying it would not necessarily be obvious in
16 the simulated peripheral of Van de Laar that
17 we're talking about.

18 MR. GREENLEAF: Okay. Five-minute
19 break and I think we might be done.

20 (Recess taken, 5:04 p.m. to
21 5:11 p.m.)

22 MR. GREENLEAF: Thank you,
23 Dr. Brogioli, for your testimony today. I
24 know it was a long day, and thank you again
25 for your patience.

1 I have no further questions.

2 MR. ANDREWS: And we have no
3 further questions -- or no questions on
4 redirect. But we would like to read and
5 sign.

6 (Proceeding concluded;
7 read and sign requested.)

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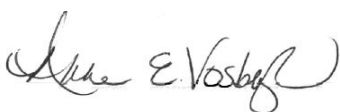
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C E R T I F I C A T E

I, ANNE E. VOSBURGH, Certified
Shorthand Reporter, Registered Professional
Reporter, Certified Realtime Reporter hereby
certify:

That MICHAEL BROGIOLI, PH.D., via
remote videoconference, agreed to testify
truthfully, under penalty of perjury; that all
counsel stipulated to the remote swearing and
waive objection, notwithstanding the location
of reporter or witness during testimony; and
that this transcript is a true and correct
record of testimony given.

I further certify that I am not
related to any of the parties and am in no way
financially interested in the outcome of this
matter.



ANNE E. VOSBURGH, CSR, RPR, CRR
Notary Public – Exp. July 20, 2029

