1 IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

2 PATENT TRIAL AND APPEAL BOARD

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3

4 In re:) U.S. PATENT NO.
) 10,073,960
5 MICROSOFT CORPORATION,) PROCEEDING NO.
) IPR2024-00405
6 PETITIONER,)
) U.S. PATENT NO.
7 V.) 8,646,042
) PROCEEDING NO.
8 PROXENSE LLC,) IPR2024-00573
)
9 PATENT OWNER.) U.S. PATENT NO.
_____) 9,679,289
10 PROCEEDING NO.
IPR2024-00407

11

12

13 ORAL DEPOSITION OF MARKUS JAKOBSSON, PH.D.

14

15 Friday, December 20, 2024

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23 Reported by:

24 SUSAN ASHE, CER
Ref. 42342-0133IP1, 42342-0134IP1 and 42342-0135IP1
25 Job No.: 24-145823

Exhibit 1030
Microsoft v. Proxense
IPR2024-00405

Oral deposition of MARKUS JAKOBSSON, PH.D., taken on behalf of the Petitioner, beginning at 10 a.m., on Friday, December 20, 2024, via Zoom, before Susan Ashe, Certified Electronic Reporter and an eNotary of the State of Delaware.

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THE WITNESS
Markus Jakobsson, Ph.D.

BY MR. KHAN 5

PREVIOUSLY MARKED EXHIBITS

PATENT OWNER

Exhibit No.		Introduced
Exhibit 1001	U.S. Patent 8,646,042	5
Exhibit 1001	U.S. Patent 9,679,289	5
Exhibit 1001	U.S. Patent 10,073,960	5
Exhibit 2014	Declaration of Markus Jakobsson, Ph.D.	5
Exhibit 2016	Declaration of Markus "Jokobsson," Ph.D.	5

FRIDAY, DECEMBER 20, 2024;
10 A.M. EASTERN STANDARD TIME
--o0o--
(Whereupon, Patent Owner Exhibits 1001 in the '042 Proceeding; 1001 in the '289 Proceeding; 1001 in the '960 Proceeding; 2014; 2016, previously marked, were prepared to present to the witness.)
Whereupon,
MARKUS JAKOBSSON, PH.D.
having been first duly sworn, was examined and testified as follows:
EXAMINATION
BY MR. KHAN:
Q. All right. Good morning.
A. Good morning.
Q. I don't want to make any assumptions. If you don't mind, could you please state your name and your pronunciation, your preferred pronunciation.
A. Markus, M-a-r-k-u-s; Jakobsson, J-a-k-o-b-s-s-o-n.
Q. Thank you very much, Dr. Jakobsson, and thanks for joining today.
I will start off with some general questions before getting to some specifics and, in between, be happy to provide any breaks.

If you feel the need to take any break, please, I just request let me know a few minutes ahead so I can finish my line of questioning.

Does that work for you?

A. Yes.

Q. Great. And during the breaks today, do you understand that you're not allowed to discuss the substance of your testimony until your cross-examination has concluded?

A. Yes.

Q. And will you agree to let me know if at any point anyone communicates with you in any manner during the course of your deposition today?

A. Yes.

Q. Do you agree that today we are here to discuss your declarations that were submitted in the following three IPR proceedings -- that is: IPR2024-00573, which relates to the validity challenge to U.S. Patent No. 8,646,042; and IPR2024-00407, which relates to the validity challenge to U.S. Patent No. 9,679,289; and IPR2024-00405, which relates to the validity challenge to U.S. Patent No. 10,073,960?

A. I have not memorized the numbers.

But if you represent to me that these are

the correct numbers, then, yes, I agree.

Q. I do.

And for purposes of brevity, I'll refer to the patents in question as the '042, '289, and '960 patents. Is that okay?

A. Yes.

Q. And respectively, for the proceedings, I'll refer to them as the '042, '289, '960 proceedings. Is that okay?

A. Yes.

Q. And for our purposes today, do agree that your declarations in the '042 proceedings is Exhibit 2016; in the '289 proceeding it's Exhibit 2014; and in the '960 proceeding, it's Exhibit 2014?

A. I don't know anything about that.

But if you represent to me that that's -- those are the numbers, then, yes.

Q. Just so you can follow, when I refer to your declarations, respectively, it will be: For Exhibit 2016, the '042 proceedings; Exhibit 2014, in the '289 and '960 proceedings.

And you submitted one joint declaration for the '289 and '960 proceedings.

Is that right?

A. That's my recollection, yes.
Q. So your statements in that declaration apply to both equally?
MR. NORRIS: Objection; vague.
A. I don't know what you mean by "equally."
But they apply to both, as described therein -- yeah.
Q. And because this is a consolidated deposition, my questions will generally apply to all three of your declarations unless I specify it's for a particular declaration.
Is that okay?
A. Yes.
Now, I don't have printouts of the declarations. So if there are particulars, would you please share with me.
Q. Okay. Thank you. I can do that.
In front of you, do you have any documents from the case?
A. I can see the realtime. That's all.
Q. Okay. Do you understand that your testimony today is sworn testimony taken under oath?
A. Yes.
Q. Do you understand that the oath you've taken in the deposition today is as solemn as the

oath you would take as if you were testifying at trial?

A. Yes, I do.

Q. Do you understand that your testimony today can be used at trial and subsequent briefs in these proceedings?

A. Yes.

Q. Are you taking any medications that would prevent you from answering the questions completely and truthfully to the best of your ability?

A. No, I don't.

Q. Is there anything else that would prevent you from answering the questions completely and truthfully to the best of your ability?

A. Not that I know of.

Q. Did you write the declarations yourself?

A. All the opinions are mine.

But all the words are not necessarily written by me.

Q. Who wrote those words?

A. Counsel.

I -- under -- I believe. I don't know.

Q. How many hours did you work on your declarations?

A rough estimate is okay.

A. It's very hard without my billing sheet. I would have to give you a rather large range in order to not be wrong.

Q. That's okay.

A. I would say 20 to 50.

Q. And in preparing for the declarations, did you speak --

A. Sorry.

Q. -- did you speak to anyone other than patent owner's counsel?

A. No, I did not.

Q. Have you been deposed before?

A. Yes, I have.

Q. How many times?

A. On the order of 50.

Q. Of these depositions, how many were in IPR proceedings?

A. About half.

Q. And in preparing for your deposition today, did you review your declarations?

A. I did.

Q. Did you review the Board's institution decisions?

A. Portions of it. I don't remember exactly what portions or how large portions I reviewed.

Q. Thank you.

And so, before we get into some of the technical details, I just want to ask a few questions about your background from the CV that was attached to your declarations.

In your CV -- they were provided as an appendix in the declarations -- is it correct that you held professorship positions at various universities between the years 2002 and 2016?

A. Associate professor and adjunct associate professor, yes.

Q. Did that continue after 2016?

A. No.

Q. Was there a reason?

A. I had left Indiana University, physically speaking, years before. And I saw a couple of students through and helped advise a few students. But at that time, there were no additional students from Indiana University that I took on.

I had students from other universities, but it did not have any impact on my relationship with Indiana University.

Q. And after 2016, you continued working, but in the nonacademic space?

A. I remained in the academic space to some

extent, as I had students at New York University at that time until, I think, 2018, when the last student graduated.

So I did academic work, advising those students. And I still have committee involvement, where I sit on program committees, for example.

Q. What's the function of the program committees?

A. To review submissions of White Papers and help identify those that are particularly interesting for publication.

Q. In your years as adjunct associate professor, were you doing research work?

A. Yes, I was.

Q. What type of research were you doing?

A. Over the years, many kinds.

One kind is research related to authentication.

Q. Did you do any research involving Personal Digital Key?

A. "Personal Digital Key" is not a term that is known in the art. So I can't say that I did that.

I did some things that were related, in nature, to what is described in these patents.

Q. Can you expand on that.
A. For example, I studied various forms of authentication, such as computer-to-computer authentication, and identified vulnerabilities in protocols and differences in terms of other features, like speed or usability or general costs to maintain the protocol.
That's in terms of authentication, for example.
Q. In your research, did you come across a Proxense device?
A. I was not aware of it. If I did, I don't know.
Q. Were you aware of Proxense?
A. I was not aware of the name "Proxense."
If they have products that I used, I did not pay attention to the label on the product.
Q. So to the best of your knowledge, your research never involved any technology from Proxense?
MR. NORRIS: Objection; vague.
A. So reviewing the patents in this -- in these two declarations, I did work that related to the same goals and using related techniques.
But I did not use any Proxense products,

as far as I was aware of, during my research or as a consumer.

But I might be wrong there. I simply do not often pay attention to the corporate origin of products that I use.

Q. You mentioned earlier that, in your opinion, "Personal Digital Key" is not a term in the art.

Following up on that, I wanted to ask you: Is it your position that a Personal Digital Key is a term that is only used by the patent owner?

MR. NORRIS: Objection; calls for speculation.

A. I don't know if others use it, but I haven't seen it before.

And if a student of mine were to ask what it means, I would say I don't really know. What -- would you tell me about the context in which you understand this to be used.

Q. Now, is it correct that you're a named inventor in more than 300 patents?

A. That is correct.

Q. And you have served as an expert witness in more than 75 patent litigation cases?

A. That is also correct.

Q. Have you been involved in the prosecution of the patents that you are a named inventor in?

MR. NORRIS: Objection; speculation -- sorry -- objection; vague.

A. When you say "involved in," what do you mean?

Q. Thank you. I should say: Did you offer any opinions or evidence to help obtain a patent for any of your patent applications?

MR. NORRIS: Objection; vague.

A. I'm not sure what you mean by "evidence."

Sometimes I've helped the prosecuting attorney to answer office action by reviewing prior art identified by an examiner and explained my view on what it does relative to the patent that is being prosecuted, for example.

Q. In offering your opinions to the counsel that you were working with for your patents, did you offer opinions on the definiteness of claims?

MR. NORRIS: Objection; vague, calls for a legal conclusion.

A. That's often not the kind of questions that I would be asked.

It might be that the person I work with have "definitive" of claims in mind. But it would

be -- the question would not be phrased as such.

The person -- counsel would then -- would work -- ask me a question that helped them understand the "definitiveness," if that were their concern.

I am not an attorney. So I don't -- I cannot answer legal questions from them.

Q. In your answer, you mentioned that you would help counsel understand the definiteness.

How did you do that?

MR. NORRIS: Objection; vague.

Q. Let me restate for clarity.

In your answer, you mentioned that you would help counsel understand the definiteness of certain claim terms.

My question is: How would you help counsel understand the definiteness of claim terms?

A. I was not very precise.

I tried to explain that nobody would come and tell me a question like, would you explain the "definitiveness" of this?

But if they were interested in that -- and I -- nothing partic- -- no particular instance comes to mind -- but, I would like a question to be asked instead, "Would you explain this to me." "Would you

explain this step" -- is what the examiner -- what the counsel would say to me. Or, "What do you mean when you say this in the specs?"

And then I would explain. And by explaining, I may answer that question.

And if their question is about "definitiveness," they would know how to proceed.

But I'm never asked a question that, in word -- that involves the word "definitiveness," because, as a nonattorney, that is not a meaningful thing to ask me.

I don't know the boundaries of the terms, and I don't know patent law in depth. I know it as a technologist that en- -- that engages with patent attorneys.

Q. Are you familiar with the concept of obviousness and anticipation in patent law?

A. Yes.

Q. Are you familiar with the concepts of patent eligibility in patent law?

MR. NORRIS: Objection; vague.

A. When you say "patent eligibility," what do you mean?

Q. Are you familiar with the concept of patentable subject matter in patent law?

MR. NORRIS: Objection; calls for a legal conclusion.

A. I know some things -- like, you cannot patent what a person does. But you could patent something that a device does.

But I don't necessarily know the boundaries or all the details.

So I have familiarity with some aspects of it, if that is what you mean.

Q. How did you determine the boundaries of what is obvious and what is not obvious?

A. Are you speaking in general?

Q. Yes.

MR. NORRIS: Objection; vague.

A. I've never been asked to, in general, do that, as far as I remember.

There has been a context where I have been asked to consider whether something is obvious, for example, or not.

Q. In the context of the three patents at issue here, how did you determine what is obvious?

MR. NORRIS: Objection; it goes beyond the scope of his declaration.

A. So that was not one of the things that I was asked to opine on.

I would be capable of opining on it, but I haven't rendered an opinion at this point.

Q. You mentioned that you've been involved in a number of IPR proceedings.

In any of the past IPR proceedings, did you deal with issues related to written description and enablement?

A. That is often part of it.

But I would -- in many of these cases, I would have to go back to the specifications to understand what a term would mean.

I have been involved in claim construction, for example.

Is that what you're asking about?

Q. Maybe let me rephrase.

Did you offer opinions addressing 112 -- 35 U.S.C. 112 grounds in IPR proceedings?

A. I am not an attorney, so I don't really know all the numbers.

Sometimes I render opinions that become the foundation for counsel's arguments, without me referring to the individual numbers of the grounds.

Q. So, my apologies, I should maybe be a little clearer. I'll restate that question.

Have you in the past, in the IPR

proceedings that you were involved in, offered opinions addressing indefiniteness grounds in IPR proceedings?

MR. NORRIS: Objection; vague.

A. I would have to review the cases to see.

But I have been involved in "definitiveness" and "indefinitiveness" analysis. And I have been involved in IPRs.

But I don't remember now whether the "definitive-" and "indefinitiveness" was in the context of IPRs.

Q. Are you aware that there is a parallel district court proceeding going on with respect to these three patents?

A. I don't know about the details of it. But that seems often to be the case in an IPR, that there is that.

So I suspected that there would be.

Q. Are you familiar with any claim construction positions taken in those district court proceedings?

A. I cannot remember being asked about that.

And if I do mention it in my declarations, I would have to ask you to draw my attention to where.

Q. In preparing for your declarations, did you review any papers from the district court proceedings?

MR. NORRIS: Objection; vague.

A. When you're saying "in preparing for my declarations," what do you mean?

Q. In generating the opinions that you offered in your declaration, did you review any documents from the district court proceedings?

A. If I did, it would be listed in the list of materials. I don't remember, sitting here right now, whether I did or not.

Q. So if it is not listed in your declaration, is it a fair assumption that you did not review those documents from the district court proceedings?

A. It's a fair assumption I did not review it in preparation to opine as I did in the declaration.

If I were provided those afterwards, of course, I would not list it in the materials. And I can't recall at this point whether I have seen it.

I was given a bunch of material to review prior to the declaration, and it might have been part of that. I don't recall, one way or the other.

(Pause.)

THE WITNESS: I'm sorry. I did not say, I think, "prior to the declaration" but "prior to the deposition" -- and if I said "declaration," I meant "deposition."

Q. Thank you for the clarification.

In your declaration, you offered opinions regarding what a person of ordinary skill in the art would know.

Is that right?

MR. NORRIS: Objection; vague.

A. I don't know exactly if I used that phrase. But I would -- I remember offering opinions about how a person of ordinary skill in the art would have understood these terms, which is that they would not have unless they reviewed the context of the specification.

Q. Who is a person of ordinary skill in the art?

A. I don't recall now what I wrote in the declaration.

If you could bring that up to refresh my recollection, that would be helpful.

(Pause.)

MR. KHAN: So for the court

reporter, we are looking at Exhibit 2014.
This was submitted for the '960 and '289 patents in IPR2024-00405 and IPR2024-00407.

Q. Dr. Jakobsson, can you see this?

A. Yes, I can.

Q. Do you recall if there's any particular section that I should turn to?

A. There's typically a section that speaks of the definition of the POSITA. I will look out for it.

Q. Okay. So I'll scroll down, and please let me know when I should stop.

(Counsel scrolling.)

A. I think you're looking at it here -- oh, no. That's from the legal explanation.
That's not what you're asking me about, right?

Q. No. My question was: Who is a person of ordinary skill in the art?

A. Right. Then we'd have to continue scrolling.

(Counsel scrolling.)

A. So here it says:
A bachelor of science,

with a degree in computer science, computer engineering or a related discipline, and two years of experience in designing, developing, implementing, and/or deploying systems or applications on portable computing devices such as mobile phones and laptops, including programming of software and/or firmware for such devices.

Q. Now, how did you come up with this definition?

A. I don't recall. I don't remember.

I might have been asked if I agree with this, and I do.

Q. So why do you think two years of experience is sufficient and not three years?

A. I can't really say what the boundaries would be.

I take two years as sufficient time to get warm in the job.

This is really an estimate of what a POSITA would be.

Some people might need less, and some people might need more.

This is an estimate saying what, approximately, would be a meaningful description of a POSITA.

So I think when it says "and two years of experience," it means sufficient exposure to know the basics.

Q. And what would that exposure look like?

A. So they give examp- -- there are examples given here:

> ...to design, develop, implement, or deploying systems....

And this -- the text here describes that it could involve programming of software and/or firmware.

So in other words, it's something that exposes the person to how these devices work and the problems that consumers might face in the context of these devices.

Q. All right. So, Dr. Jakobsson, you have a Ph.D. and you have several decades of experience.

How would you understand what a POSITA, with only two years of experience -- how would you

understand the thinking of a POSITA who only has two years of experience?

MR. NORRIS: Objection; vague.

A. So, for example, I have supervised many students who have a similar background to what a POSITA is described as.

I've also supervised junior colleagues in industry with a similar educational background and exposure.

So I'm basing it on interacting with people who have a background like this.

When I describe what a POSITA would do or understand, I look at people I have known and interacted with who might have read the specifications here and what they would have understood.

(Simultaneous speaking.)

Q. Sorry. Go ahead.

A. I have also taught a lot of classes.

So I know, for example, how much would an undergraduate student know of general terms, how much would a doctoral student know, and what does somebody know who does not have any exposure to industry versus somebody who has been there for a few years.

So this is based on my understanding of what people of various backgrounds would understand.

Q. And as of what time frame would this POSITA have to have had these two years of experience and a bachelor's degree?

MR. NORRIS: Objection; vague.

A. The time frame here is the approximate dates of the priority dates. So I don't recall that right now, what those are. But we could scroll further and look at that.

So it's in the context of the history of the patents, yes.

So December 6, 2007 -- it's the effective filing date. So at that time, I had worked at Indiana University for either two or three years. And prior to that, I had worked at New York University for, I think, two years.

And I had also -- and in doing so, I had taught classes. And I had also supervised students -- some of whom were bachelor students, some of whom were master students, and some of whom were doctoral students.

I had also worked with junior colleagues in industry -- for example, at my work at RSA Labs, where I was prior to Indiana University, where I

would have seen what the typical understanding of people of various extents of education and industrial exposure would know.

Q. All right. You included a "Claim Construction" section in your declaration.

Is that right?

A. Yes. We're looking at it right now.

Q. This is -- for purposes of record keeping, this is -- we're looking at, again, Exhibit 2014.

And from the -- it's the '960 and '289 proceedings. And we are looking at Paragraph 20 with the heading "Claim Construction" right above it.

So over here in Paragraph 20, you said that:

> I understand that claim terms should be accorded the plain and ordinary meaning....

Did I read that correctly?

A. That's a part of what it says in that paragraph, yes.

Q. Do you know if this is the same standard that is used when you are obtaining a patent?

MR. NORRIS: Objection; calls for a legal conclusion.

A. These are things that I always ask, if necessary.

I don't have a legal degree. So I don't know.

Q. I'm sorry. The question was: Do you know if this is the same claim construction -- sorry.

Do you know if the plain and ordinary meaning "claim construction standard" that you have noted here is the same when you are obtaining a patent or what we call in patent prosecution?

MR. NORRIS: Objection; asked and answered.

A. I think you're asking --

Q. Just to be clear, I wasn't sure -- I didn't understand your answer, which is why I'm asking you again.

MR. NORRIS: Same objection.

A. I'm not sure I understand your question.

The way I understand your question, you're asking me about the law. And I cannot answer questions about the law. I mean, I'm not a lawyer.

I could answer what my impression is.

But here, in this context, I think if I had a question about this I would ask counsel in order to understand it.

Q. Turning to the patents -- the '042, '289, '960 patents -- do you agree that the three patents have the same figures and the same specification?

A. That's my recollection.

Q. So for the purposes of efficiency, if I ask you questions about one of the figures or specification, would you agree that it applies to all three patents?

A. If I don't think so or I'm not sure, I would ask you to please clarify.

Q. Okay. The title of the three patents begins with the word "hybrid device."

What is a "hybrid device"?

MR. NORRIS: Objection; vague.

A. I think you're asking me to define a boundary. So -- is that correct?

Q. I'm not sure what you mean by "defining a boundary."

I just asked you about the title of the patents. It includes the word "hybrid device."

A. So I haven't been asked to opine about that. But as far as I know, it's not a term of the art.

But I would have to look at the context of the specification in order to determine what the

inventors intend by that.

I understand the individual words, of course. But it doesn't -- as far as I know, it's not something you find in a dictionary.

But then, again, I haven't checked this and I haven't been asked to opine about it. So I may be mistaken.

Q. In the context of the '042, '289, and '960 patents, what is a "hybrid device"?

MR. NORRIS: Objection; calls for speculation. It goes beyond the scope of his declaration.

A. I would have to look at the specifications and analyze it to be able to render an opinion about that.

Q. Dr. Jakobsson, you used the words "hybrid device" in your declaration.

Is that correct?

A. I do. I believe that.

Q. So I'm asking you to explain the words that you use in your declaration.

So when you refer to the "hybrid device" in your declaration, what do you mean by "hybrid device"?

A. I have no --

MR. NORRIS: Objection; misstates his declaration.

A. I would have to look again at my declaration to refresh my recollection based on the context there.

I don't think I ever define what a "hybrid device" is, but I use it in the same context as in the underlying patents.

Q. So if you had defined it or maybe state it clearly, I wouldn't have to ask this question.

Part of the reason I'm asking this question is because you used those words, and I'd like to understand how you used it and what you mean by it.

So if you'd like, I can go through the various recitations of "hybrid device" in your patent. You've used them numerous -- sorry, in your declarations -- you've used them numerous times.

And so, my question really is: These two words that you have used throughout your declarations, what do you mean by them?

A. We can go through this --

MR. NORRIS: Hold on. Let me get this objection in.

Objection; misstates his

declaration.

A. We can go through this. But what I believe you're asking me is to define the boundaries of the term, which is not something I have done. And that would require me to think carefully before I render an opinion.

If you're asking me how I used it in the context, we could look at the specification and we could look at my declaration, and I could attempt to answer your question what exactly is meant.

But this is not something that I have specifically tried to clarify what it is, other than as in the context of the patent.

Q. Well, I am asking you, within the context of the patent. And that was what I -- you know, part of my question was: Within the context of these three patents, what is a "hybrid device"?

So if it's easier for you, I can point to one of the instances in your declarations where you use the words "hybrid device."

And would that -- would it be okay, then, if you explain to me what you mean by "hybrid device" when I do that? Would that be okay?

A. We could try and see if that is helpful.

Q. Okay. So this is again Exhibit 2014 from

the '289 and '960 proceedings. We are looking at Paragraph 61.

In Paragraph 61, you state:

> A similar description is provided with respect to the cell phone 1202 including the hybrid device 1102, depicted in Figure 12 (reproduced below).

And I'll turn to -- there's -- so there's no Figure 12 that's reproduced below. It just says that it is, but I don't see one here.

A. My apologies.

Q. That's okay.

Would it help if I turn to Figure 12?

A. Yeah -- yes, that would very much help.

(Pause.)

Q. Can you see Figure 12 now?

A. Yes, I can.

Q. Okay. So again, in Exhibit 2014, Paragraph 61, you mention:

> A similar description is provided with respect to the cell phone 1202 including the hybrid device 1102, depicted in Figure 12....

Now we're turning to Figure 12.

Do you see Figure 12 on your screen?

A. I do.

Q. Can you tell me what the "hybrid device" is?

A. I would have to look at the other figures too.

I know they -- several of the figures relate to each other. And I saw that there was a brief snippet from the specification in the paragraph you referred to.

I would have to review those in order to answer.

Q. So what do you mean by "hybrid device" when you use it here in Paragraph 61?

A. What I'd like to ask you to do is to show me the other figures and to give me a moment to review my declaration that relates to this.

Q. Okay. You'll have to guide me --

A. Okay.

Q. -- because I don't know what you want to look at.

So if it's easier for you, if you have a clean copy of these patents and declarations, you can use them. I wouldn't object to that.

But if you'd like me to, you know, go through, then I can also do that.

A. I don't just think that I have a clean copy of it, because I've annotated it. So it's better if we go through yours.

Q. Okay. So where would you like me to....

A. I don't know, but we could start at Figure 1.

(Counsel scrolling.)

A. Okay. Would you scroll to Figure 2, please.

(Counsel scrolling.)

A. Okay. We'll take 3.

(Counsel scrolling.)

A. 4.

(Counsel scrolling.)

A. 5, please.

(Counsel scrolling.)

A. Would you show me 6.

(Counsel scrolling.)

A. And 7, please.

(Counsel scrolling.)

A. I think I'm ready for 8.

(Counsel scrolling.)

A. And 9, please -- oh, 9 is here too -- 10

is -- I'm sorry, they were both there.

(Counsel scrolling.)

A. Okay. I'm ready for the next one.

(Counsel scrolling.)

A. So this identifies the "hybrid device."

I would have to see how it's used in the other figures as well.

So let me look.

We've looked at 12 already. So how about if you skip to 13.

(Counsel scrolling.)

A. So this shows another hybrid device -- actually, the same hybrid device, but with different connections.

So let's look at 14.

(Counsel scrolling.)

A. Yet another.

And is there a 15? I don't remember where it ends.

(Counsel scrolling.)

A. So this isn't -- yet another instance with the same hybrid device 1102.

And here's another one.

So I refer to the hybrid devices in these figures and to this specification where these

figures are cited.

Would you show me -- is there Figure 17?

(Counsel scrolling.)

A. No. So this is 16.

So these are clearly labeled as examples of "hybrid devices."

These are examples only, of course. And there might be more hybrid devices.

But the specification also clarifies what these would do and give example of how.

Q. So what is a "hybrid device"?

A. Well, I mean, a roundabout way of answering it is: It's a device such as depicted here in Figure 16.

So this one shows various components, like a PDK and an RDC, which....

You know, it also shows the -- it's called a "service inheritance 1612" box that describes information.

So this information may be present in some, but not in others. So this is just an example.

Many of the components described in the specification would be understood by the -- by reading the specification and see how they would

operate.

And so, the hybrid device is one of those.

MR. KHAN: We just hit the one-hour mark. So if it's okay, could we take a 10-minute break and come back at 11:10?

MR. NORRIS: That works.

(Whereupon, a recess was taken from 10:59 a.m. until 11:11 a.m.)

BY MR. KHAN:

Q. So, Dr. Jakobsson, before the break we were discussing what a "hybrid device" is and we were looking at Figure 16 of the patents.

Would you like me to put that back up for your reference, because I have a few questions.

A. Okay.

(Counsel scrolling.)

Q. So before we left for the break, you had mentioned that this Figure 16 shows one example of a "hybrid device."

Is that correct?

MR. NORRIS: Objection; misstates prior testimony.

A. Well, I'm not saying anything about the claim construction in the case -- I don't think I

know what the claim construction is.

So I don't know whether this is the claim construction hybrid device we're looking at now.

But this is something that is identified in the patent as a "hybrid device."

So to the extent that that corresponds with the claim construction, I cannot tell.

Q. Well, just to be clear, we started off with Paragraph 61 of your declaration and your recitation of "hybrid device."

And I'm trying to ask you what you mean by "hybrid device" so I can better understand the scope of your statement.

So now with the benefit of having looked at Figure 16 of the "hybrid device" that was referenced -- or actually I think in your declaration you had referenced Figure 12, right?

So let's go to Figure 12.

(Counsel scrolling.)

Q. Now, having looked at Figure 12, can you tell me what you mean by -- when you say a "hybrid device"?

MR. NORRIS: Objection; vague.

A. So I know that if you look, for example, for a moment at Figure 13, it identifies "hybrid

device 1102."

And now if you scroll back, you could see that 1102 here is the rounded corner square inside the cell phone 1202 entity.

So in this particular example, that is what the "hybrid device" corresponds to.

Q. But does a hybrid device include a PDK?

MR. NORRIS: Objection; calls for speculation.

A. Are you talking in general?

Q. I'm talking about what your understanding of a "hybrid device" is. So that's what I'm trying to understand.

I don't know. So I'm trying to understand, when you use "hybrid device" in your declaration, does a hybrid device include a PDK?

MR. NORRIS: Same objection.

A. So I don't have the benefit of having seen the claimed construction, if there is one. I haven't seen claim construction proposals either, I think.

So I don't know what the considered hybrid devices are.

When I recite the "hybrid device" in my declaration, it's as an example based on the

specification and figures that -- for example, as we're looking at.

But without opining about what is a necessary component of this or not, which I wasn't asked to do -- I believe myself to be competent to opine on it, but I haven't done so at this point.

Q. I'd like to get an answer -- because I'm not asking about the claim construction. I'm asking about your understanding of a "hybrid device" when you use it in Paragraph 61 of your declaration, whether, when you say "hybrid device," in that instance, that that hybrid device includes a PDK.

So my question is: Does that "hybrid device" that you recite in Paragraph 61 include a PDK?

MR. NORRIS: Objection; asked and answered.

A. Would you please bring up Paragraph 61 for me.

Q. Yes.

(Witness reading.)

A. I'd like to read Paragraph 60 as well, since 61 refers to a similar description.

Would you go down a little, please.

(Witness reading.)

A. So it's my understanding that the context here is the discussion of the enable signal.

I don't think I opine about the necessary components in this hybrid device, and I don't think that is necessary in order to render the opinion about the enable signal -- or at least I haven't been asked to opine about whether it is or not.

Q. So, Dr. Jakobsson, that didn't answer my question.

My answer wasn't related to the enablement signal. It was related to the hybrid device.

And again, I'll repeat: When you mention "hybrid device" in your declaration, does the hybrid device include a PDK?

MR. NORRIS: Objection; it goes beyond the scope of his declaration, and asked and answered.

A. So I wasn't asked to opine about what exactly a "hybrid device" is.

If instead of "hybrid device" it said "Device ABC," if that's what they chose to call it, I would have to say here only when the "Device ABC" 1102 has multiple links, because I'm describing here the generation of the enable signal and it just happens to be performed or described in the context

of the hybrid device in the specification.

So it wasn't necessary for me to determine exactly what is the necessary components of a hybrid device in order to speak about the enable signal.

And I haven't opined on it.

Unless there's another paragraph that you want to talk about, I don't have much else to say about what the "hybrid device" does, limited to this two paragraphs here.

Q. So in our -- in this deposition today, you cannot tell me what a "hybrid device" is.

Is that correct?

MR. NORRIS: Objection; misstates the witness's testimony.

A. That's not what I'm saying.

I'm saying: In this particular paragraph here, a "hybrid device" is something that has -- given this example, it has multiple links, 1402 and 1404.

So that's one of the features of the hybrid device.

And it will generate an authorization or enable signal -- so that's another feature of the hybrid device.

So I am describing the "hybrid device" by

what it has and what it does, but not in an exhaustive way.

I don't describe anything regarding, in this sentence, what the necessary components are, because that was not necessary for me to consider in my -- in order to render the opinion about the enablement signal.

Q. So Dr. Jakobsson, do you understand that during the deposition I can ask you questions to get clarity on the statements in your declaration?

A. Yes.

Q. And do you understand that you have an obligation to answer the questions truthfully and honestly and completely?

A. To the extent that I'm able to do so, yes.

Q. Do you agree that the term "hybrid device" is recited in the title of each one of the patents?

A. Yes.

Q. Do you agree that the three patents are directed to a hybrid device?

MR. NORRIS: Objection; vague.

A. So when I read the specification, then....

Since "hybrid device" is not a term of the art, I -- a question I had when I read it was, "What is a 'hybrid device'?"

But then when I considered the questions I was asked to opine on, I realized that I don't need to know exactly what a "hybrid device" is.

So I was not asked to do it, and it wasn't appearing to be important for me to do in order to do my job well. And therefore, I didn't carefully consider what a "hybrid device" must be or must have -- or even all the possible examples of a hybrid device, exactly what they are.

It was sufficient for me to say it's a construction that is used to describe the functionality disclosed in this invention.

And that was enough in order for me to render opinions on the few questions that I was asked to do so on.

I could render an opinion about what a "hybrid device" is. But I haven't, to this point.

Q. So as of the time that you submitted your declarations, you did not determine what a "hybrid device" is.

Is that correct?

A. I did not need to determine exactly what a "hybrid device" was, because it was not necessary in order for me to understand the specification as far as being able to answer the questions that I was

asked to render opinions about.

So, of course, I -- in reading the specification, I have exposure to the term and I've seen examples of what it could be. But I have not spent time analyzing what the boundaries are.

So I could say an example provided here is what, described in this figure.

But I don't know if that is a necessary component that we're looking at or it's just an example component. I haven't considered that.

Q. Based on your analysis, does a hybrid device have to include a PDK and an RDC?

MR. NORRIS: Objection; calls --

Q. "PDK" being a -- sorry, if I may just complete -- "PDK" being a Personal Digital Key, and a "RDC" being a Receiver Decoder Circuit.

MR. NORRIS: Objection; calls for speculation, calls for a legal conclusion.

A. I don't remember opining on this.

If there's a particular paragraph or section of my declaration where you think I am opining about it, I'd like to ask you to please refresh my recollection by showing it to me.

Q. So the title of the patents is "HYBRID

DEVICE HAVING A PERSONAL DIGITAL KEY AND RECEIVER DECODER CIRCUIT...."

My question is: Does a hybrid device include a Personal Digital Key and Receiver Decoder Circuit, as described in the three patents?

MR. NORRIS: Objection; calls for speculation and a legal conclusion.

A. I have not opined on that.

I understand that titles of patents don't have to correspond to the claim language.

You could claim something different than what the titles -- specifies. And a title is an effort to describe all of the specifications, not necessarily the claimed invention.

I would not be able to answer your question without analyzing this.

Q. Okay. Let's turn to the claims, then.

I'll put on the '042 patent. And can you see the -- this is the '042 patent.

Can you see Claim 1?

A. Yes, I can.

Q. So this is Exhibit 1001 in the '042 proceedings. It's a copy of the '042 patent.

On the screen, you see Claim 1.

So Dr. Jakobsson, does a hybrid device,

according to Claim 1 of the '042 patent, include an integrated PDK and an integrated RDC?

MR. NORRIS: Objection; vague.

A. You know, I see the terms that you're referring to. But I haven't spent any time analyzing the claim.

I feel hesitant to opine about something I haven't really considered.

Q. So you're saying that you did not consider Claim 1 of the '042 patent and are therefore hesitant to opine on it? -- my question.

MR. NORRIS: Objection; misstates the witness's testimony.

A. That's not what I was saying.

I'm referring to your question here.

You're asking me if -- according to Claim 1 of the '042 patent, does a hybrid device include an integrated PDK and an integrated RDC?

I don't know, because I don't know what the claim construction is and I haven't spent any time analyzing it.

All I could say is that I see the words that you're referring to.

But that's probably not what you're asking me about, if I see the words. You're asking me

about my understanding of this.

I have not been asked to opine about the question you're asking me --

Q. So --

A. -- and I haven't yet.

Q. Sorry.

So based off of what you see on the screen, which is Claim 1 of the '042 patent, you cannot answer the question -- can you not answer the question that a hybrid device in the '042 patent includes an integrated PDK and an integrated RDC?

MR. NORRIS: Objection; vague.

A. So I don't know about the -- you're not using the word "comprising." You're saying "including."

I don't know whether that is a legal distinction between those two words, and I don't know about the claim construction that has been performed in this context.

So when it says that it comprises it, I don't know what the court has decided that that means.

I could simply read the claim, as anybody could, and say that I see the words you're seeing.

But I do not have the benefit of a claim

construction to understand what the court means by this.

Q. So in offering your opinions in this declaration, you did not see any claim construction positions taken by any of the parties involved in this dispute?

A. I don't remember seeing that, and I wasn't -- I don't think I ever asked for it, because it was simply not pertinent to -- in order for me to answer the questions that I was asked to opine about.

So the question you're asking me now, it seems like a perfectly good question -- and I would be able to opine about it, but I haven't.

Q. Dr. Jakobsson, did you review Claim 1 of the '042 patent when preparing your declaration?

A. I did read the specification and the claims. But, you know, certain portions I spent much more time on than others -- namely, those that were appearing to be relevant for me to answer the questions that I was asked.

I don't remember spending significant time analyzing Claim 1, at least not in the context of what you're asking.

Q. And if I understood -- please correct me

if I'm wrong here -- if I understood your statements earlier, you said that -- and maybe I can go back and read the....

(Pause.)

Scratch that, please.

(Pause.)

A. I'm sorry. I don't think I understood.

Is there a pending question?

Q. No. I was going to ask a question, and I said scratch that. So --

A. Oh.

Q. -- no outstanding question right now.

(Pause.)

Q. So Dr. Jakobsson, I asked you about the "hybrid device." And you mentioned that you did not consider the construction of a "hybrid device."

Is that correct?

A. I don't think I've seen a claim construction related to it.

I have read the specifications and considered the "hybrid device" in the context of the questions I was asked to opine on.

But I did not need to know the boundaries of the meaning of a "hybrid device" in order to do so.

Q. Did you consider the claim construction for any term in Claim 1 of either of the patents -- of any of the patents?

MR. NORRIS: Objection; vague.

A. I don't recall --

Q. Let me clarify. Sorry if that was vague.

Did you consider the construction of any of the terms in Claim 1 of the '042 patent, the '960 patent, and the '289 patent?

MR. NORRIS: Objection; vague.

A. I know many of the things that I've been asked to opine about is of relevance to the claim construction.

So, for example, whether something would be understood by a person of skill in the art, or not, to have a particular meaning, that seems of high relevance to the claim construction.

But I have not seen an opinion based -- by the court -- sorry, I didn't mean to use the word "opinion."

I haven't seen a decision, what it means. And I don't think I've seen all the proposals of what it mean -- could mean.

But I have been asked to do things that relate to matters of claim construction, I believe.

Q. Can you give me an example?
A. Well, I believe that the reason I was asked what a POSITA would understand the terms to mean is one of claim construction.
But I don't know that for a fact. There might be other reasons I'm asked to opine about this.
And so, I know that I have opined, for example, that the PDK is not a term that has a particular meaning among POSITAs. But they would have to review the specification for the context in order to know what the claim language intends.
That would be one example.
Q. When you say "they would have to review," who is the "they" you're referring to.
A. "They" the POSITA.
The POSITA wishing to understand what a PDK is would, in my view, have to read the specification and look at the examples there.
Because a PDK -- it's not something that they would have learned about in their classes, or it's not an industry term that I've seen or I believe they have seen.
And therefore, they would say, okay, in order to understand this better, I would have to

read the specs.

Q. So I would like to turn to...back to the figures.

(Pause.)

Q. So I'm turning back to Figure 12, which was the figure that you referenced in Paragraph 61 of your '289 declaration.

Just using this -- but if you would like to turn to any other figure, I'm happy to do that.

Looking again at the -- Claim 1 of the '042 patent, Claim 1 of the '042 patent claims:

A hybrid device comprising:

an integrated personal digital key and...

an integrated RDC....

Can you show me, either in this figure or any other figure of the '042, where the integrated Personal Digital Key is?

MR. NORRIS: Objection; misstates what a Personal Digital Key and an RDC is in Claim 1.

A. So I'm not a lawyer, and I don't know how to interpret the word "integrated" unless I know a construction for it.

"Integrated" has a meaning outside the patent. But I haven't considered what the meaning is in the context of the specifications.

I don't know if there's been a claim construction about it.

But -- so when the Claim 1 speaks of an "integrated PDK," I don't know what that really refers to, since I don't know whether there has been any agreement about what various terms, including "integrated," would be.

(Simultaneous speaking.)

Q. I'm asking for your -- sorry. Go ahead.

A. I think you're asking for my knee-jerk opinion about this.

All I could say is that the claim does refer to an "integrated PDK." This image shows a PDK 102a. And the hybrid device, which is the 1102, is shown inside the borders of Cell Phone 1202.

I haven't analyzed what this really means in terms of the meaning of what it means to "comprise," as described in Claim 1.

I haven't analyzed it in terms of what it means -- what it means to be "integrated," if anything, other than what a POSITA would have understood outside the claims and the specification.

And the reason for that is that I haven't read the specifications with the question of whether "integrated" is used in the way it's used outside the patent or not.

It's simply something I have not opined about and I haven't been asked to opine about. So I don't have any answer to your question.

Q. Well, you used the word "integrated" in your declaration, did you not?

A. I used it when I cited the specifications.

I don't think I ever defined the word. But I cited paragraphs of the specification in which it occurs, I believe.

Q. So when you used it, what did you -- what was your understanding of the word "integrated"?

A. Can we look at a particular paragraph where I use it, and I will try to answer your question.

(Pause.)

Q. Sorry. I have to go to the '042. Just give me one minute, please.

A. Actually, would you show me 36 again, because I think that might help me understand your question.

Q. Sure.

(Witness reading.)

A. So I do remember speaking about the -- what these -- the integrated RDC and the integrated PDK are, as summarized here.

So this is elaborated on elsewhere.

But based on the absence of a meaning among POSITAs of the terms outside the patent, the POSITA would have to look at what the claimed components supposedly do here.

So they -- I think I used the terms -- the language, correctly. But please correct me if I'm not. I believe this is a means and function argument, where the means and function would be determined from the specs.

Q. Well, Dr. Jakobsson, you state here in Paragraph 36 that the integrated RDC recited in Claim 1 of the '042 patent is nothing more than....

And then you offer some more comments there.

So my question is: What did you mean by "integrated"?

You use the term, and I'm trying to understand how you use it.

So what did you mean by "integrated"?

A. I simply refer to what the language of the

patent is.

So the claim refers to the integrated RDC.

Without picking that apart -- instead saying, what is the general -- what is the meaning of that? -- well, the conclusion on my report, among other things, is that it's really a general purpose computer. And it describes here what it could do.

And then, the question will be: So what does this general purpose computer do?

Well, there are examples in the specification for what it would do.

And I describe in some of my -- in some of the portions of the declaration, I give examples of what these general purpose computers in the context of the specifications are programmed to do.

Q. Dr. Jakobsson, I just -- respectfully, I'd ask you to answer the question.

My question was not what general purpose computers are. It was: What is the meaning of "integrated," as you used it in your own declaration?

You noted -- again, in Paragraph 36 -- what an "RDC" is. Right?

You noted that it's -- an integrated RDC is -- you noted that it is nothing more than the

general ability of general purpose computers, etc.

So I'm asking you: When you used the term "integrated" and "integrated RDC," what was your understanding of the word "integrated"?

MR. NORRIS: Objection; vague. Objection; asked and answered. Objection; misstates the witness's declaration.

A. So I don't remember exactly what an -- what the acronym "RDC" stands for now.

Would you refresh my recollection.

Q. Receiver Decoder Circuit?

A. Receiver Decoder Circuit.

So just like I haven't been asked for the specific word "receiver" -- I've been asked about the Receiver Decoder Circuit -- I have not taken apart the integrated RDC into its full constituent's word [verbatim].

I've been looking at when it says a certain thing in the claim, what is the meaning of that?

So an integrated RDC, my analysis says that that's a general purpose computer that can decode encrypted data.

And it gives examples of how.

It's not necessary for me to look at it

word by word. I'm looking at the whole segment and say, what would be the meaning of this as a blob? -- where the constituents' words aren't necessarily important to analyze in isolation.

Q. So is it your position that, to understand what an integrated RDC is, you did not need to understand what the word "integrated" means?

MR. NORRIS: Objection; misstates the witness's testimony.

A. I was not asked to consider what it was.

And I saw that, in order to understand the -- what -- the meaning of the claim, whether it would have a particular meaning, for example, "to proceed" or -- so, what that meaning would be -- I did not see the meaning of picking apart.

I did not have to isolate word by word, but I only had to see: What is an integrated RDC in this context?

Without, as I mentioned before, breaking out "integrated," breaking out "receiver," breaking out "decoder," or breaking out "circuit," it's the compound that I'm saying corresponds to general purpose computer.

That would be programmed in the manner described in the specifications, for example.

Q. So your opinion that you offered in the declaration regarding what an "integrated RDC" is did not consider what the words "integrated," "receiver," "decoder," or "circuit" mean.

Is that correct?

MR. NORRIS: Objection -- objection; misstates the witness's declaration.

A. Right. I don't....

Let me back up a little bit.

I was not asked to opine about individual words, and I didn't opine about it.

I haven't rendered an opinion. Instead, I looked at what is the meaning of an "integrated RDC," as described in Claim 1, without considering individual words.

It's just -- as I mentioned to you before, we could have renamed it "Device ABC," and I would not have to take it apart and say: What is "Device" and what is "A" and what is "B" and what is "C"?

They call it "Device ABC." What is that?

In the same sense here, an "integrated RDC," I was asked: What is that?

Well, it's a general purpose computer, and it has the capability of decoding, such as what is

done by Wi-Fi.

Q. How do you know it's a "general purpose computer" when you did not give the words any meaning?

MR. NORRIS: Objection; misstates the witness's testimony.

A. So first of all, as I understand it, "general purpose computer" in the context of law is a slightly different thing than "general purpose computer" as in textbooks.

And that's something I've been informed about, what it corresponds to.

The description in the specification of what it is does describe what I've been informed the law says a "general purpose computer" is.

And further, looking at the specs and what an RDC requires, I understand that it needs to be able to decode the encrypted data that it receives.

So if I understand your question correctly, you're asking me to break out individual words and opine on those -- and I would be able to do that, if given enough time, but I haven't done it at this point.

Q. So what is your understanding of a "general purpose computer"?

A. Are you asking in the context of law or in the context of what a computer science textbook would say?

Q. In the context of your declaration.

A. In the context of my declaration, I have been informed that "general purpose computer," for example, corresponds to a computer that has not yet been programmed. Its functionality has not been locked in by the provision of an algorithm yet.

But as soon as you specify the algorithm, it will execute. You have determined what it does, uniquely.

And now, in my understanding of the legal interpretation of "general purpose computer," it has ceased to be a general purpose computer. It is a computer -- a general purpose computer that now has been given a particular functionality by the algorithm it's been programmed with.

Now, this is my recitation of things that I've been told about the law.

So I apologize if I mangle things here. But that is, in general, how I have used the term herein.

Q. So you didn't do any independent analysis as to what a "general purpose computer" is. You

just took the word of your -- of the counsel you were working with?

MR. NORRIS: Objection; misstates the witness's testimony. Objection; vague.

A. So that's not what I was saying. When counsel mentioned the "general purpose computer" term to me --

MR. NORRIS: Objection. Hold up. I want to caution the witness not to reveal any specific communications with counsel that are privileged.

THE WITNESS: Okay.

A. It was explained to me what the law says a "general purpose computer" is when I discussed the specifications with counsel.

Q. And to be clear, I wasn't asking about the conversations you had with counsel. My question to you was: Did you do any independent investigation as to what a "general purpose computer" is?

A. In the context of the specification, in the context of law, or in the context of textbooks -- I need to know which one you're asking

me about.

Q. Well, in drafting your declaration, did you do any investigation to determine what a "general purpose computer" is?

A. It was represented to me what the law says about that.

I don't question counsel when it comes to law. I specify when I have a technical view that diverges from theirs. But when it comes to the law, I just accept it as a fact that this is how it is.

There is no reason for me to doubt it. I am not a lawyer. And my role here is not to interpret the law; it's just to apply what I'm told the meaning is in the law.

But that said, I was sent material. They were legal briefs -- but I don't remember what kind -- that described things that helped me understand, based on case law, how to understand this.

But I don't recall what particular material that was.

Q. So I have turned to Paragraph 18 of your '042 declaration, just a few paragraphs above.

You can see Paragraph 18 -- oh, can you see it?

A. Yes, I can.
Q. Okay. And you agree the first sentence says:
As discussed in detail below, I do not believe the terms "integrated RDC," (receiver decoder circuit), "integrated PDK (personal digital key), and "enablement signal" are understood by persons of ordinary skill in the art to have a sufficiently definite meaning....
Did I read that correct?
A. Yes.
Q. And a few lines down, you also use the terms:
The terms --
You state:
The terms, rather, connote the general and generic abilities of general-purpose computers....
Is that correct?
A. You read it correctly.

Q. A few minutes ago, you said:

A general purpose computer may be one that has not yet been programmed, its functionality has not been locked in by the provision of an algorithm.

Do you recall saying that? Did I state that correctly?

A. Yes -- when I tried to explain what my understanding is of the term from the legal perspective.

So as you know, when I'm talking about the law, I am not as precise as when I'm talking about technology. So I might have said this in a slightly vague or in an inaccurate manner.

But that is an estimate of what I understand it to mean.

Q. I just want to better understand that a little bit.

How does a computer operate without being programmed?

A. To my understanding, what the law has defined a "general purpose computer" to have and do is the ability to store and access storage, and to

communicate.

So that would give it some functionality.

There would probably have to be firmware, maybe an operating system -- depending on the context -- that provides some instructions that enables this.

But, for example, if you're thinking about -- we're using a browser right now. The browser is -- you could think of as an added specification that sits on top of what the general purpose computer does, that allows it to, for example, render HTML.

So that's an example of the instructions that could be given to a general purpose computer.

Now, I know that this is not a complete description and it doesn't identify the boundaries. But this is an example of how I understand the term to be used in the law.

Q. What's the threshold that you have to cross from becoming -- from going -- from being a general purpose computer to a nongeneral purpose computer?

MR. NORRIS: Objection; vague.

A. That's a really interesting question, and I am curious of that.

But I have not rendered an opinion about it, and I don't know if such a determination has been made in the law.

I would be very interested in reading it, if it has. But I don't have any readymade opinions as far as it goes.

As I said, I have not spent any time identifying the boundaries of the terms, because it wasn't necessary for me to render these opinions.

Q. So without knowing the boundaries of what a general purpose computer is, how could you tell me that the integrated RDC or integrated "PDC" are general purpose computers?

A. So you could tell, in instances, whether something is or is not without knowing the exact boundaries.

And in this case, I can tell from the description that it does belong to the class of general purpose computers.

But you're asking me now about the boundaries. So you're saying, what would you have to add or subtract for it to change that status?

I have not considered that.

I've only considered, is this a general purpose computer? Yes, it is.

Q. Though there is functionality that was in an RDC that you didn't consider, you wouldn't be able to tell me whether, because of the lack of considering that functionality, that the integrated RDC is now no longer a general purpose computer.

MR. NORRIS: Objection; vague.

A. I think I actually don't understand your question.

Q. Okay. You -- so....

Let me rephrase a little better.

In the term "general purpose computer," what is the general purpose of that computer?

MR. NORRIS: Objection; vague.

A. So the way I understand it -- and we're speaking now of a general purpose computer as understood in the law -- it's a computer that has the capability of accessing storage and some form of communication.

So "communication" here could mean that a keyboard is connected, that a radio is connected, that a monitor is connected. Those are examples.

So it's an I/O, in other words.

I don't know the details of what must, according to the law, be incorporated and what must not. So I don't know the boundaries.

Q. But doesn't every computer have an operating system?

A. No. But an operating system, I don't know whether -- and I haven't considered yet whether that would be part of the general purpose computer.

I would have to think about that. It really would depend.

And so....

For example, you could say that a computer needs drivers in order to handle the I/O. Maybe the drivers and a minimum operating system would be part of the general purpose computer -- I have not considered.

Some general purpose computers might not.

It does not -- it is not necessary for me to consider exactly what is and what is not part of it in order to render the opinion here.

I can tell that this is a general purpose computer. And if you're saying, what would you add to make it not so? I don't know, I'd have to think about that.

Q. Well, what you said is that a general purpose computer would have a memory and communication like a radio.

Is that correct?

A. I don't know exactly what the law says.

For example, I don't know if it has to have a memory or it could be, for example....

For example, a hard drive -- is that considered a memory? I don't know. It -- I don't know.

They would have to have -- in my understanding of what I've been told about the law as it relates to general purpose computer, it would have to have some storage facility, which could be a memory, and it would have to have some communication facility -- which could be a radio. I don't know if it has to be a radio.

Q. So is it your opinion that a device that has storage and some form of communication is a "general purpose computer"?

A. If this device is programmed to do a very specific thing, then it is my understanding that the law says that this is not a general purpose computer.

So this device, with storage and communication -- for example, take your -- take a particular device that has that, but which has other things too -- maybe it is, maybe it isn't.

Now we're -- again, we're talking about

the boundaries.

(Simultaneous speaking.)

Q. And that's my confusion, right? -- because and you make a statement, but you haven't explained that you -- for instance, the statement you just made is:

> If a device is programmed to do a very specific thing, then it might not -- then it is not a "general purpose computer."

What is that very -- what is that very specific thing?

MR. NORRIS: Objection; vague.

A. I think I would have to consider it case by case, and maybe I would need to learn more about what the law says about the boundary conditions.

All I've really been told is about pretty much what I recited to you now, that this is the understanding in the law about a "general purpose computer." And I applied that understanding to this context.

What I think you're asking me, time after time, is about the boundaries. And I do not know the boundaries. I would have to think about it and

read more about it.

There may be court decisions about the boundaries. I am not aware of those.

In my view, this is not a technical question. This is applying a legal definition to a technical matter.

Q. Well, I would like to understand -- because in your first sentence in Paragraph 18, you state, and I repeat:

> As discussed in detail below, I do not believe the terms "integrated RDC" (receiver decoder circuit), "integrated PDK" (personal digital key), and "enablement signal" are understood by persons of ordinary skill in the art to have a sufficiently definite meaning....

Aren't you offering a legal conclusion by saying "a sufficiently definite meaning"?

MR. NORRIS: Objection; misstates the witness's declaration and calls for a legal conclusion.

A. So I was given these terms -- for example,

take "integrated RDC" -- and I was asked, does this have a meaning? No, it doesn't -- no, it does not have a meaning outside the specs.

You would have to consider the specs in order to know what this meaning is -- because the POSITA would not know it, having gone to class and having worked for, say, two years in a company -- except if they work at Proxense, maybe.

They would not know what the term means. It's not a common term. So it does not have a sufficiently definitive meaning.

People might be able to guess what it is, but they would not know enough. They would need to know more, and they would learn that by reading the specs.

Q. And is it your opinion that, in light of the specification -- because I believe in other parts of your declaration you noted that you have to interpret claims in light of the specification.

So is it your opinion that, in light of the specification, these terms are understood by a POSITA to have a sufficiently definite meaning -- or, sorry, do not have a -- do not have a sufficiently definite meaning?

MR. NORRIS: Objection; vague.

A. So if I understand your question correctly, I think I'm answering this in the Summary of Opinions when I say that the POSITA would not have understood these terms outside of the specs but would have understood that they correspond to what the legal description of a general purpose computer is, as we discussed it before. And they would look into the specs about what this general purpose computer would be programmed to do in order to provide the functionality that is described in the specifications.

The specification provide algorithms. So they would look at the description of those algorithms in order to understand what is added to the general purpose computer in order for it to perform something that corresponds to the claim language.

THE WITNESS: Can we go off the record for just a moment to have a question to ask?

MR. KHAN: Sure.

(Whereupon, a discussion was had off the record.)

BY MR. KHAN:

Q. So in Paragraph 18, we were discussing the

first sentence of that paragraph. And I noted that you stated here -- you used the term "sufficiently definite meaning." All right.

A. Yes.

Q. Do you see that?

A. Yes.

Q. What do you mean by "sufficiently definite"?

MR. NORRIS: Objection; asked and answered.

A. So, for them to understand what it means to the extent that they would be able to implement it.

For example, when you were speaking about the "integrated RDC" -- if I spell out what an RDC is to a POSITA, this person might say, well, that sounds like a computer of some kind.

But they might not have any idea of what kind of computer. They would have to learn more about it.

So what opinions they might have about what it is would not be sufficiently definite in order to know what it is, to make it definite.

They would have to look at what they do, if they want to know exactly what they would have to

produce.

They would agree that it's some kind of, as I said, a general purpose computer, based on the law and the definition of that term in the law.

But then, what does this general purpose computer do? Well, what would they program it to do? That's the algorithm that is described in the specification.

So they would need to know both what it is and what it does. That is, what that -- should this general purpose computer be programmed to do?

And that's what the algorithms speak of.

Q. I'm a little confused. Don't all computers have algorithms that they execute?

A. So if you talk about barebones computers, when you're kind of running it on the steel, they have a processor that has micro instructions. But they would not have Microsoft Word, for example.

If you wanted to have the capability of editing documents, you would need the algorithm -- that is, Microsoft Word or similar thing -- add to this general purpose computer in order to have that.

The barebones computer would not have it.

Q. I'm a little confused. You've given one example of Microsoft Word and editing -- so you're

saying a computer that has no editing capabilities is a general purpose computer?

A. No.

MR. NORRIS: Objection; that misstates the witness testimony.

A. That's not what I'm saying.

I am giving you an example of two different sides of this boundary. But I'm not telling you where the boundary is, because I don't know.

Q. How can you say which side it is, then, if you don't know where the boundary is?

A. Because my understanding of the law, as it relates to "general purpose computer," gives examples of situations. And I don't know if a boundary has been drawn, and I have not spent any time analyzing it.

So for example, the computer I am using right now that is doing all the things that allows us to speak, I believe, according to the law, is not a "general purpose computer"; whereas if I reformat the drive, wipe it, then, I believe, according to the law, that is a "general purpose computer."

So I don't know exactly where the boundaries are drawn. I don't know what the law

says about whether I add the operating system, and that's it -- whether that is a "general purpose computer."

A "general purpose computer" -- my understanding is that the law says it has the capability of accessing storage and communicate with something on the outside of the computer itself.

Q. So isn't the computer that you're using right now -- that's all right. Sorry, scratch that.

Doesn't the computer that you're using right now have storage and the ability to communicate with something outside of itself?

So why is that not a general purpose computer?

A. You're asking me about the law now.

I am just applying what I've been told the definition is of a "general purpose computer."

A "general purpose computer" is a device that has those capabilities.

It might have other capabilities too, but it's not constrained in terms of what it can do by having been programmed accordingly.

For example, let me give you an example on the other spectrum.

A crypto mining rig that you buy in order

to mine Bitcoin -- and it can only mine Bitcoin -- you can't run Microsoft Word on it -- even if you wanted to, because it does not have the kind of -- it doesn't allow you to load an operating system and load Microsoft Word.

That, in my view, is an example of something that the law says is not a "general purpose computer."

It has been defined.

Now, it could be defined in terms of the hardware it has. It could be defined in terms of the firmware it has. I don't know if there are boundaries drawn here.

The other end is a computer that comes out of the box. It hasn't -- you know, sometimes when you buy computers, they have Microsoft Word on them.

But think, now, the computer that has been wiped. It has nothing -- no factory preloaded things for you. That seems to me to match the legal description of a "general purpose computer."

Now, again, I have not been asked to opine about either one of these examples. I'm providing you an explanation to give you light on my understanding of the legal term.

(Simultaneous speaking.)

A. And that's what I've applied in this context.

Q. And I appreciate you providing clarity.

I'm still not too clear, which is why I'm asking the questions, because I'm not sure, according to your understanding -- or your understanding of the purported law here.

When, you know, you mentioned that the computer you're using right now is not a "general purpose computer," but if you format it then it's a "general purpose computer." Right?

So what does your computer that you're using right now have that makes it not a "general purpose computer"?

MR. NORRIS: Objection; vague, speculation. It goes beyond the scope of his declaration.

A. So maybe my computer was not a great example, because I haven't really been asked to consider whether my computer is a "general purpose computer" or not.

I could see the two special cases that I mentioned to you, which is a computer with absolutely nothing on it, except maybe the minimum amount of firmware that is needed to boot up or

something like that, versus a crypto mining rig, which, you know, you cannot do anything except mine Bitcoin -- and that's it.

Those are kind of example endpoints of this.

My computer, I -- honestly, I would have to consider carefully -- that might not be a good example.

I tried at first to find a good example. And I think the crypto rig is much better than my computer, because I haven't spent time analyzing anything in the middle.

I understand what the law says, as I've been told to apply it. And that was all I needed in order to make progress on my declarations and opine.

And I don't know about the things in the middle, where they fall.

(Pause.)

Q. I'd like to, again, focus on Paragraph 18.

In Paragraph 18, you also mention that -- I'll just read the statement. It says:

> Absent a control logic or some other type of algorithm executed by a controller or another type of processor,

there would be no structure for the foregoing to perform the function of "enabling one or more of an application, a function and a service."

Did I read that correctly?

A. Yes.

Q. So what's an "application"?

A. What is an application?

Q. Yeah.

MR. NORRIS: Objection; vague.

A. I can give you an example of an application. Is that good?

Q. Sure.

A. So for example, on your phone there might be a mail application that allows you to receive and send email. You might have one or more applications that allow you to shop online or order food.

Those are example of applications.

So it's software running on the device that, in many contexts, have been produced by a third party and either downloaded on the device by you or somebody else.

Q. What's the difference between just code that's on a device and an application?

MR. NORRIS: Objection; vague.

A. Well, it's a little bit of a...it's a little bit -- just a different terminology in the eyes of the consumer.

An application is code running on the device.

Now, not all code running on the device, of course, is an application. The operating system is code running on the device.

But a POSITA, at least, would not call the operating system an "application."

But if you're asking about what the law says about the distinction, I do not know.

Q. I'm asking about your opinion. I understand we're here to speak to your opinions. So whatever your opinions are, I'd like to hear them.

A. So, this is just to give examples of things that could be done to a general purpose computer that would make it not a general purpose computer.

We're downloading an app, for example. It....

At least some apps, but maybe all -- and I haven't determined the boundaries -- would cause it not to be a general purpose computer anymore in the

interpretation -- using the interpretation of the term "general purpose computer," as I've been given.

Q. I'm trying to again understand what -- when you say "enabling one or more of an application," what is it that's been enabled there?

Is that like -- what is -- what's -- what is the application that's being enabled?

A. I think this is -- this snippet here, it's...I think, a citation from the patent.

And I don't remember the exact location of it. I apologize that it's not -- I don't have a citation right here.

If you know where it comes from, that would help me understand how to answer your question.

Q. Yeah, this is the -- this is taken from the claim language. It's "enabling one or more of an application, function, and service."

A. So I haven't had to give the boundaries of this. But they describe a number of functionality that could be described as "applications," could be described as "function," or it could be described as "service."

So for example, there's one example in which there are two parties with which a user and

his or her device communicates.

And one of the parties facilitates an authentication process and a key exchange process. And the other party enables what the user of the device might wish to have achieved -- whether that is, you know, online banking or access to a building or whatever external functionality you might search.

So that might be called an "application." That might be part of an application.

It might be called a service, and it's a function.

So I'm just using it to say: If you have this general purpose computer, that is not enough to provide this enabling of the application, function, or service -- because you need to know the algorithm or an algorithm that would do so.

And the specs give a couple of examples of those.

Q. So you gave an example of online banking or access to a building or other external functionality.

Why is online banking or access to a building considered an application, function, or service?

A. So this is based on -- maybe I should have

stayed with the examples given in the specification. I don't recall exactly what examples they gave.

But those would -- the examples given therein would be understood to be an application, function, or service.

That is what I believe is intended as an example of this.

A POSITA looking at this would say, what can you use it for? Might turn to the specification and say, oh, here's one example of what you could use it for -- and oh, here's another example.

That would correspond to this "application, function, and service."

Q. Yeah, I'm trying -- that's exactly -- I'm trying to better understand that.

All right. I think -- is there something you could point me to and the specification or something that would help me understand what the application, function, services -- actually, I'd like to take it like one word, right, each.

So let's focus maybe on the application.

And what's --

A. I think I haven't memorized the different parts of the specification enough to refer you to a particular portion.

And also, I haven't spent any time breaking down this application, function, and service.

This -- you could think of this as what it does, what it achieves.

And the specs give examples of what it achieves.

Whether that's an application, function, or a service, it does not matter to me to understand the claims, this particular classification.

But in terms of understanding the examples of it, it's better to use those in the specs than the examples I gave you, which are, you know, just my recollection of the general kinds of situation the patent addresses.

Q. Yeah. So you noted again here in Paragraph 18 that, you know, the integrated PDK and the RDC enabled signal don't have a sufficiently definite meaning as a name of structures for enabling one or more of an application, function, and a service.

Can you give me an example of what you mean by "function" when you say "enabling a function."

What do you mean by "function"?

A. So I'm using this as the patent --

MR. NORRIS: Let me get a quick objection in. I'm sorry.

Objection. It's vague and misstates the witness's declaration.

A. So I'm using the terms as the patent does, which is the application, function, and service. It's described as what it achieves, pretty much.

I haven't broken it down: What is an application? What is a function? What is a service?

It was not necessary for me to render an opinion.

I can point, with access to the specs and the capability of searching, to something that would be an application, function, or service.

But I have not rendered an opinion whether it's an application or a function or a service, or maybe more than one of them.

Q. Yeah, and -- I mean, I'm asking what your understanding of these words is.

So I'm not asking you to give me a specific example. I mean, if that helps you, that's fine.

But I'm asking: What do you mean when you

say "function"?

You put this word in your declaration. So, presumably, you know what it means.

And I'm asking for -- you know: What do you mean by the word "function"?

A. So I used it as the trio of words -- application, function, and service -- as is done in the patent.

Looking at the specs, what this corresponds to is the -- one way of explaining it is the perceived benefit of the use of the technology. So in other words, what the consumer -- what the reason for the consumer to use this.

Now, this might sound terribly vague, but -- so it gives examples of what the situation in which a "hybrid device" could be used.

And the consumer would have one of these hybrid devices, for example, and would be able to achieve the goal described in the specs by doing that.

So this goal corresponds to the application, function, and service.

We don't have to care whether it corresponds to an application or to a function or a service in order to analyze --

At least from the perspective that I have and the question I was asked -- doesn't have to be understood what the distinction is, if anything, in the context of the specification.

THE WITNESS: Now, would you please give me one minute? I just want to check about the timing, and I'll be back very soon.

MR. KHAN: We can go off record.

(Whereupon, the deposition recessed for lunch at 12:48 p.m.)

- - -

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

(1:47 p.m.)

BY MR. KHAN:

Q. Welcome back, Dr. Jakobsson. I hope that was enough time.

A. That was sufficient. Thank you for being flexible.

Q. Yeah. No problem.

All right. So we started at 10:00. We went to about 2:45. So that's about two hours, 45 minutes -- sorry -- 12:45 -- so we're about two hours, 45 minutes through.

So I'll proceed. Hopefully, we won't need all the time. But -- and like I said earlier, if you need a break, please let me know. We can take a break.

All right. So before we left, we were at Paragraph 18. I have that on the display.

Can you see it?

A. Yes, I can.

Q. And this is Paragraph 18 of the '042 declaration.

We talked earlier -- we were talking about the statement "enabling one or more of an application, a function, and a service."

What are some structures that enable one or more of an application, a function, and a service?

MR. NORRIS: Objection; speculation.

A. I haven't opined on that.

I've opined on that these terms do not have that.

Q. So how do you know, if they don't have that, if you don't know what the structures are?

MR. NORRIS: Objection; vague.

A. What I mean is: In order to enable this collective, you need to say what they do.

So if the terms were known in the art, then people would have known what these things do.

So for example -- you know, let me take a slightly far-fetched example.

If one of the terms was an "umbrella," the POSITA would have known what the umbrella looks like, what it -- how it works, and why you use it.

And so, that would be sufficient, then, in order to understand what it does.

But in this case, the fact that this -- the integrated RDC and the integrated PDK both correspond to general purpose computers with the

ability of then storing, accessing storage, and communicating with outside entities, that doesn't tell you, like the umbrella does, what exactly that means.

So you need to look at the specification to see: What would these devices be configured to do?

So in other words, what is the algorithm, of which there are a couple of examples, that they would need in order for them to perform the tasks needed to do this enabling?

Q. So my question to you was about the word "structures," which you used here in Paragraph 18.

And the question was: What are the structures for enabling one or more of an application, function, and service?

You didn't answer that question. So I'm going to ask again.

A. So there could be many such structures.

So for example, if the claims had described what exactly the RDC would do and what kind of components it would comprise and use terms that are known in the art, then a POSITA reading the claim would know what the structure would be and would be able to do that.

So -- I mean, in the example of the umbrella, something that is well understood, you could just plug it in and you know that, oh, that's the umbrella, that you use it like this and it has this functionality and this is how it works.

By describing the invention using terms that aren't well understood in the art, you need to look at the specification to see if that -- if the specifications give any guidance.

And in this case, they do by providing a few example algorithms of how they would be configured, these general purpose computers, in order to achieve the intended goals.

Q. And is it your opinion that the integrated PDK and the integrated RDC have...don't have a structure, but are general purpose computers with some type of algorithm?

A. The integrated RDC, for example, is a general purpose computer. And by itself, it doesn't have the algorithm. It's just "general purpose computer."

So then, in order for us to understand the claims, we would need to look at the specifications to see what is the algorithm that has to be added to this? -- how do they need to be configured, in other

words?

But by themselves, as described in the claim, they don't have that algorithm. The claim doesn't specify the algorithm.

Q. Does the specification --

A. Yes; it gives examples.

Q. -- provide --

So my question was: Does the specification provide -- is it your position that the specification does not provide an indication of the structure of the RDC and the integrated PDK?

MR. NORRIS: Objection; misstates the witness's testimony.

A. So what I'm saying is that it gives some examples of possible implementations.

But the term "integrated RDC," as used in the claim, is not a known term.

And so, then when we look at what would be required for something to be an integrated RDC, the analysis gives us that it has to be a general purpose computer.

And then, a general purpose computer doesn't have the algorithm that defines the enabling that we have described here.

So in order for us to understand the claim

and understand how to deal with this, we would have to look -- it's a means plus functions argument -- we'd have to look at what is described in the specification.

And that would be the example algorithms.

Q. Does the '042 patent or any of these patents use the term "general purpose computer"?

A. I don't know. I haven't seen it. If it does, we could look at it together.

Q. Well, I'm asking you if it does.

A. I'm not aware of it, one way or the other.

But I am not relying on it saying that it's a "general purpose computer." I'm relying on these terms not having a defined meaning in the art to a POSITA and, therefore, based on that, looking towards what is an integrated RDC.

And so, the analysis that I describe in here says that it's a "general purpose computer."

For example, we know that it needs to have a processor and...to perform these tasks.

The processor is something that the general purpose computer has.

(Pause.)

Q. Does a processor execute a function?

MR. NORRIS: Objection; vague.

A. I don't know, one way or the other.

"Executed function" is not a phrase that I've seen in the claim language. But if I'm mistaken, please draw my attention to it.

Q. You said that a processor is something that the general purpose computer has. So I'm asking you what the processor does.

Does the processor execute a function?

A. I like to stay away from the word -- from the word "function," since that is in the claims.

I'd say it executes some form of computer instructions.

Those might be micro instructions. It might be a regular machine code instructions.

But they will cause the processor, for example, to access storage when it has a program that makes it request software -- makes it request access to the storage.

So it has the capability of accessing storage. And similarly, it has the capability of transferring information in and out from the entity itself.

Q. I asked you -- my question was: Does a processor execute a function?

MR. NORRIS: Objection --

Q. Are you -- let me -- yeah, so I asked you that question, but you did not answer it.

So I'm going to ask again: Does a processor execute a function?

MR. NORRIS: Objection; asked and answered.

A. So the word "function" exists in the claim, and I don't know about whether there has been or will be a claim construction related to "function."

So in order to not confuse matters, I should not say anything about a claim term that has not been construed or which I don't know the construction of.

I haven't opined on what the construction is of "function," and I can't on the fly do that right now.

So I need to stay away from using the term, since I don't have it defined in this context.

Q. Did you use the word "function" in your declaration?

A. I know I did when I cited the patent.

I don't know whether I used it for other purposes.

(Simultaneous speaking.)

Q. Sorry, sorry. Go ahead.
A. If I did, I would like to ask you to draw my attention to it and I could look at the context.
Q. Yeah, I think we're looking at it together. It's in Paragraph 18:
...structures for "enabling one or more of an application, a function and a service."
So I will -- and I think you repeated it several times. So I'm going to ask you again: Did you use the word "function" in your declaration?
A. I used the word "function" in the declaration when I cited the patent, which has the phrase "enabling 'one more' of an application, a function, and a service."
Q. Did you use the word "function" in your declaration without knowing what it means?
MR. NORRIS: Objection; vague.
A. I did not have to opine on whether a function is something that is executed.
A function could be something you achieve.
In the context of this patent, I don't know. And it wasn't necessary for me to determine that in order to properly answer the questions I was

asked to opine on.

So, maybe a function is executed.

But I did not opine on that. And I have no opinion about that at this time.

Q. So Dr. Jakobsson, that was not my question. And this has happened many times, and I don't want to go down this route. But it defeats the purpose of a declaration [sic] if the questions are not going to be answered.

And I'm happy to pull the transcript and show it to the Board. I would rather not do that.

So I'm going to repeat the question again, and I hope I can get that answer.

The question was: Did you use the word "function" in your declaration without knowing what it means?

MR. NORRIS: Objection; asked and answered.

A. So let me clarify.

I cited the patent in my declaration, and the patent uses the phrase "enabling 'one more' of an application, a function, and a service."

A POSITA looking at this would know that this corresponds to achieving the goal of the invention. So -- it gives examples of what the

goals could be.

We don't have to know whether a function is something that you achieve or which you execute. That is not important.

It enables the function. We know that. It enables, in fact, one or more of an application, a function, and a service.

So it -- maybe it doesn't even enable a function. We don't know.

But it has the capability of enabling at least one of these.

I don't have to know what each one of them means, specifically, in order to say that it enables one of them, at least one of them.

And in particular, it's irrelevant for me, in order to render the opinions I was asked to consider -- to answer the questions that I was asked to consider -- whether a function is something you execute or that you achieve, for example.

It wasn't necessary for me, and I did not render an opinion about that.

Q. Dr. Jakobsson, I did not ask you for your opinion on whether a function is something you execute or you achieve.

My question to you was: Did you use the

word "function" in your declaration without knowing what it means?

MR. NORRIS: Objection; asked and answered.

A. So I think you asked me if the processor we spoke about executes a function.

Q. That's not what I asked.

I can repeat the question: Did you use the word "function" in your declaration without knowing what it means?

MR. NORRIS: Objection; asked and answered.

A. So as I tried to explain before, I'm looking here at what a POSITA would understand "one or more of an application, a function, and a service" to mean.

I understand that this maps to what we might call the "functionality" -- I'm not using the word "functional," but "functionality" -- of what the device is achieving. Right?

So it might be that it logs you in to a first place, that then connects you to second place, that allows to -- you to see data or access data that you otherwise would not have been able to.

That -- whether you want to call it an

application, a function, or a service, it does not matter to me. It's one or more of an application, function, or service in the context of the patent.

And that is being enabled by the integrated RDC, integrated PDK, and the enable signal together.

Q. My question to you was: Did you use the word "function" in your declaration without knowing what it means?

MR. NORRIS: Counsel, you've asked the question multiple times. He gives you the same answer.

It doesn't seem like his answer is going to change. What do you expect him to do?

MR. KHAN: Counsel, if you have an objection, that's fine -- please, you can raise your objection. But he's not answering the question.

And this transcript will be produced to the Board. And they can decide if that's the case.

I don't want to do that. Right?

The point is -- of a deposition is not to not answer questions. Right?

And so, I am looking for an answer based off of the statements that he made. And he's not answering the question.

THE WITNESS: Let me explain why.

A "function" -- there are several contextual interpretations of it.

It could be similar to what programmers call a "procedure." Right?

"Function" is also used as, what is the outcome? in common language.

It does not matter here whether we say one or the other, because the function in a programming sense can be used to perform the function in a layman's term.

In that sense, they're overlapping.

And for the sake of my rendering an opinion, I don't have to know whether it's one or the other. Because for both of them, whichever "function" means, it's clear to me that the statement I make here is correct.

And that is especially so since you only need one or more of an application, a function, and a service.

I understand what each one of them correspond to in the patent, and there are examples of it.

So all of them correspond to the examples, individually and collectively.

You can call the example an "application." You can call it a "function." And you can call it a "service."

There might be differences of relevance, even in the context of the litigation.

But there are no differences of importance for me to render an opinion.

If one is greater than the other, and entirely encompassing a third, it does not matter to me. I can still render an opinion about it because I understand what it corresponds to.

(Reporter request for clarity.)

THE WITNESS: "A third," yes.

So what I'm saying is that you

could draw a Venn diagram of these three, and there might be a overlap in terms of what it mean -- and I believe there is.

But it's not important to me whether there is or not, because it's enough that one of them is enabled -- at least one of them.

And each one of them corresponds -- as does the collection of them -- to the examples that are given.

So to me, it's not a relevant question to say exactly what is the definition and what are the boundaries?

I understand what it refers to.

BY MR. KHAN:

Q. How do you understand what it refers to without knowing what the individual words mean?

A. In the context of the specification and based on what the claim language says.

Q. But even for that, you would need to understand what each word means.

A. I understand what it maps to. But I don't need to understand the exact boundaries.

I don't need to understand if one is a subset of the other. It's not important.

I understand that the collection of them correspond to the examples given.

It's just like you could have a composite term.

"RDC" is a collection of words abbreviated.

This is a collection of words that describe the goal of the invention, what is being achieved by the enablement signal.

Q. So how do you know what's being achieved if you don't know what the words mean?

A. So in order to know what is achieved by the enablement signal, you look at the specification. And you see that that corresponds to, what is the stated -- you could think of it as the stated consumer goal of having this apparatus or this, you know, whatever it is.

I don't want to use legal words like "apparatus," actually.

So having this device in your pocket or in your possession, why would you do that? Oh, because I need it to be used to authenticate so I get access to this.

That is the service. That is the function. That is the...what's the third word?

I'm blanking now, we've been through this so many times -- "application."

That's the application.

It doesn't mean that we need to determine the boundaries of these three terms. We know what it corresponds to.

Q. At the end of this page, there is a statement you make:

> Absent a control logic or some other type of algorithm executed by a controller or another type of processor, there would be no structure for the foregoing to perform the function of "enabling one or more of an application, a function, and a service."

Did I read that correctly?

A. Yes.

And before you ask the question, I must say that it's a little bit unfortunate when I say it perform the function.

I wish I did not use the word that also included in the cited thing.

Because when I use the word "perform the

function," I'm not saying that I use it exactly the same way as the patent owner did when they said "enabling one or more of an application, a function, and a service."

My use of it here is in a general sense.

I could have said "perform the actions corresponding to."

Q. How do you know it's different than the way the patent owner uses it?

A. I don't know. I --

(Simultaneous speaking.)

Q. Then how are you saying it's different?

A. No, I'm not saying it -- it is different. I'm saying it could be.

It does not -- I'm using it as one would in a general technical explanation. And the use of it in the patent is in the context of the patent.

So that's what I'm saying.

I'm not using their terminology in my sentence.

Q. That could be different or could not be different.

A. Exactly.

Q. Okay. So in this statement that I had read, "Absent a control logic" -- that sentence -- I

was trying to understand that a little better.

Are you saying that there's structure if there's control logic or some other type of algorithm executed by a controller or processor?

A. That's not what I'm saying.

Q. Okay. Could you explain --

A. There might be --

Q. Sorry.

A. -- there might be some control logic and some algorithms that are meaningful to achieve this.

So remember, the general...there would be no way of -- perform this "enabling one or more of an application, a function and a service" if the algorithm that sits on this device is doing something unrelated. Right?

So for example, if this is an algorithm that tells you the distance from Chicago -- right? -- it's not going to help you, at least as I see it, "enabling one or more of the application, a function, and a service."

It's something that is an algorithm, but it's not an algorithm of relevance to do this.

So to say that the existence of an algorithms means that you satisfy the other one would be wrong.

However, you could say that if you want to achieve the goal of enabling, and so on, you need the control logic or the algorithm -- because, otherwise, you have just a general purpose computer, doesn't do anything in particular.

Q. Going back to your days in academia, would it be a safe assumption to make that, when you taught your courses, you used electrical engineering textbooks?

A. I wouldn't -- I actually taught no electrical engineering classes.

But I have taken electrical engineering classes, and I often use electrical engineering textbook in my research.

But as far as teaching goes, I would actually use -- well, it's difficult, because what I was teaching on, when I was, was an area for which there did not exist many textbooks. So sometimes I just used handouts.

Q. So in the course of your research and your work, you have used electrical engineering textbooks?

A. Yes.

Q. Did you ever see the word "decoder" in the textbooks?

MR. NORRIS: Objection; it goes beyond the scope of the witness's declaration.

A. I have, and it's used in a variety of ways.

Q. Please just answer the question -- please just answer the question.

Did you ever see the word "receiver" used in the electrical engineering textbooks?

A. I would imagine that I did.

I can't remember individual instances, of course. But "receiver" is a common word.

Q. Did you ever see the word "circuit" used in an electrical engineering textbook?

A. "Circuit"?

Q. Yes, "circuit" -- "circuit."

A. "Circuit," yes, I have.

Q. Did you ever see the word "digital" used in an electrical engineering textbook?

A. I would presume that I did. I certainly saw it in other textbooks.

Q. Did you ever see the word "key" used in a electrical engineering textbook?

A. That I cannot tell you.

Q. Did you see it in an

authentication-related textbook?

A. What is an "authenticated-related textbook"?

Q. A textbook that describes authentication techniques.

A. So like a cryptography?

MR. NORRIS: Objection; vague.

Q. That's one possibility, yes.

A. The word "key" is used in the context of cryptography.

Of course, depending on the context, it means different things.

It's also used in database theory, where it means another thing. And you'd have to know what you're talking about in order to know what "key" is.

But "key" is a common term.

Q. In your declaration, you walk through a number of figures. You have Figure 6.

I'm scrolling through -- for the purpose of the transcript, I'm scrolling through the '042 declaration.

And I see a Figure 6 here.

Do you see Figure 6, Dr. Jakobsson?

A. Yes.

Q. And we see a Figure 2.

Do you see that, Dr. Jakobsson?
A. Yes, I do.
Q. A Figure 1?
A. Yes, I do.
Q. A Figure 4?
A. Yes.
Q. A Figure 5?
A. Yes.
Q. A Figure 6 again?
A. I do.
Q. And Figure 14?
A. I see that.
Q. 15, Figure 15?
A. I see that as well.
Q. Figure 12?
A. I also see that.
Q. And does that capture all the figures that were presented in your declaration?
A. I don't know if you started at the very top, so I can't say.
Q. This is the very top.
A. Yes.
Q. That was Figure 6.
A. I believe you did. You showed me all the figures in my declaration.

Q. Okay. Now, in your declaration, you point to Figure 2.

Could you describe to me what's happening in Figure 2.

A. So Figure 2, as it appears in the patent, I think, is exactly what you're seeing here, without the markups below.

Q. Um-hum.

A. So I would need to refer to the specification where this figure is described in order to do it justice.

I can just, from here, read what I see and not describe what is happening, because this is a figure that is about an example PDK as opposed to what the example PDK does as it's shown here.

And then, in the specs, it describes, with reference to this, what it does.

Q. Could you tell me what the service blocks do in the memory, what's their role.

A. To be certain, I should look it up.

But just approximately speaking, it is corresponding to different types of access.

There's an access control described by -- in the specification. And the service block corresponds to the one or more zones of access that

a party proving a given key would have.

Q. And these are stored in memory. So "these," I mean the service blocks, are stored in the memory 210.

Is that right?

A. The service blocks are stored in memory 210.

Q. Yes. Is that right?

A. That seems to be what this figure shows.

Now, I haven't considered if there are options. And I would have to review the specs to see if this is the only approach of doing it.

Q. The service blocks in Figure 2A -- that's Block 112A, 112B, 112C, all the way down to 112N -- they have a line that's going from them, respectively, to a selector block 252.

A. Yes.

Q. Do you see that?

A. Yes.

Q. What's the role of that selector block?

A. At least one role is to select one of the service blocks and provide access to that.

Q. And the selector is connected to an encrypt/decrypt block 254.

Do you see that?

A. Yes, I do.

Q. So what's the function of the encrypt/decrypt 254 block?

A. The name suggests that it's to encrypt and decrypt, which...sometimes it's referred to as "encode" and "decode."

So that is one possible functionality of it.

Q. And -- so, what happens here?

Receives the data 228. And it encrypts/decrypts the data, sends it to the selector.

Is that what's going on?

A. I would have to look at the specs or the details of this, to the text describing it. I have not memorized this.

Q. And the selector 252 and encrypt/decrypt block 254 are part of this block 250.

Is that right?

A. In this example, it seems like it is.

I haven't given any thought to this, if that is the necessary way of doing it.

I think this is illustrative.

Q. And the PDK has a transceiver connected to a wireless application, connected to the -- a

control logic 250, which is connected to the memory 210.

Is that right?

A. So I don't see 250 being labeled as control logic. I would have to look at the specifications for that.

I can read what the boxes say, but I --

(Simultaneous speaking.)

Q. Let me see if I can find it here.

In Paragraph 39, right above that figure, it says:

> After summarizing the operation of the algorithm of control logic 250....

Did I read that correct?

A. That's what it says, yes.

Q. Okay. So, yeah....

(Pause.)

A. Is there a question pending?

Q. Not right now. I'm just...

A. Okay.

Q. ...looking at my notes.

(Pause.)

Q. So I'd like to just turn to the claims again -- this time, the '960 claims.

I'll share my screen.

And this is a copy of the '960 patent that's displayed on the screen.

Dr. Jakobsson, do you see it?

A. Yes.

Q. Okay. And just to confirm, for your benefit, this is a cover page. You see that it says "Patent '960" on the cover page?

A. Yes.

Q. Okay. And I'm going down to the end....

(Pause.)

Q. The claim recites three elements. So the claim is a device comprising -- I'm sorry, let me rephrase that.

The claim device comprises:

...a battery;

an integrated, secure memory...; and

an integrated, wireless communication interface....

Do you agree?

A. That's what it says, yes.

Q. Could you point me to what the "integrated, secure memory" is in the '960 patent.

A. I would have to review it carefully before

I do that.

I remember reading it and thinking about things. This one, if I determined which one it was, I did not memorize it.

Q. Could you point me to what the "integrated, wireless communication interface" is in the '960 patent.

A. Again, this is something that I didn't opine on. I could review everything again and point it to you.

But I would need to think about it carefully, especially since this is something that may have bearing on the claim construction.

Q. So sitting here today, you don't recall what the "integrated, secure memory" and the "integrated, wireless communication interface" in the '960 patent are.

MR. NORRIS: Objection; it goes beyond the scope of his declaration.

A. I have read the specifications. And I understood them, at least to the extent that I could, without uncertainty, address the questions I was asked.

I don't recall what I decided on this.

In my preparation for today, I reviewed my

declaration. But I don't think my declaration touches on this, and I don't recall what I thought of these as I reviewed the specifications before.

Q. Do you agree that this claim, Claim 1, recites...the last sentence:

> ...the local, secured information stored by the integrated, secure memory enables one or more of an application, a function, and a service.

A. Do I agree that it recites that text?

Q. Yes.

A. That's what it says.

Q. All right. Do you agree that the "integrated, secure memory" that's recited in that sentence that I just read you is the same as the "integrated, secure memory" listed on Line 3 of Claim 1?

A. I am not a lawyer. So, I would answer you as a layman.

This seems to correspond to the same item. That's how I understand the use, versus the in-patent language.

I don't know if there are exceptions to

that rule.

Q. And do you agree that the term, "the integrated, wireless communication interface," which I've highlighted here -- I should say it's part of the limitation of the wherein clause, for purposes of note-keeping. It says:

> wherein one or more of (a) the integrated, wireless communication interface....

That recitation of the "integrated, wireless communication interface" refers to the "integrated, wireless communication interface" on Line 5 of Claim 1.

A. That's how I understand that the syntax of claims work, but I'm not a specialist on this.

So if somebody tells me otherwise, I would pay attention to that and listen to why.

Q. Now, turning to the '289 patent -- if you confirm, you see the '289 patent?

A. I do.

Q. This is Exhibit 1001, the '289 proceeding.

And I'm turning to Claim 1.

Do you see the term "integrated, secure memory" in Line 2 of --

A. I do.

Q. -- the '289 patent?
A. On line -- on the second line of the Claim 1, yes.
Q. And in the last clause of the claim, Claim 1 -- it's where it says:
...the local, secured information stored by the integrated, secure memory enables one or more of an application, a function, and a service.
Do you agree that that recitation of "the local, secured in-" -- sorry, of....
Do you agree that the recitation of "the integrated secure memory" in that phrase refers back to the same "integrated, secure memory" on Line 2 of Claim 1.
MR. NORRIS: Objection.
(Simultaneous speaking.)
A. That is my understanding of things, based on my layman's understanding of patent law, that it refers to the same concept as is shown in the second line there.
Q. And in the wherein clause, it says:
...wherein one or more of

(a) the integrated RDC....

Do you agree that that recitation refers back to the integrated RDC on Line 4 of Claim 1?

A. Now, this is actually a legal question, and I don't know the answer to this. I don't know how it works when there is an acronym introduced and then used.

I don't know if there is case law related to this. All I could say is that I see the intent of whoever wrote it. And the intent, to me, seems to be to refer to the same concept here.

MR. KHAN: We hit the one-hour mark now. So maybe it's a good time for a break.

We could go off the record and take a 10- -- let's say, 15-minute break.

We can come back at 2:55.

Does that work?

All right. Thank you.

(Whereupon, a recess was taken from 2:41 p.m. until 2:56 p.m.)

BY MR. KHAN:

Q. Dr. Jakobsson during the breaks that we've taken today, have you spoken with anyone?

A. Yes.

Q. Did that include opposing -- did that include patent owner's counsel?

A. Yes. I spoke with him and asked him --

MR. NORRIS: I want to caution the witness to not disclose the communications that we had, as they are privileged.

A. We did not speak about anything related to the content. And I spoke to things that do not relate to our conversations at all, with my parents, during the previous break.

Q. Did you discuss any of the patents at issue today with patent owner's counsel?

A. No.

Q. Dr. Jakobsson, what makes a PDK digital?

MR. NORRIS: Objection; it goes beyond the scope of his declaration.

A. I haven't really opined about that.

Q. You've opined on what an "integrated PDK" is.

Isn't that right?

A. To make it easier for me, would you please bring up the portion of my declaration that speaks about this, and I will look at it in context.

(Pause.)

Q. We can try a few different places, as you use this term throughout your declaration. But let's start here with -- this is Exhibit 2014 of the '960 and '289 proceedings. And we're looking at Paragraph 61.

Paragraph 61, Dr. Jakobsson -- I'll just give you a moment to read it. And then, you can let me know when you're done.

A. Please remind me of the question first, and then I will read that with the question in mind.

Q. The question was: What makes a PDK digital?

(Witness reading.)

MR. NORRIS: Note, I have the same objection, that that question goes beyond the scope of his declaration.

A. I don't see "digital" in this one.

Would you search for "digital."

Q. So would you agree that "PDK" means Personal Digital Key?

A. I know that's the name that the acronym corresponds to, but I don't know if that means that it has to be digital.

It's -- as far as the patent goes, it's a description of a general purpose computer.

And there are general purpose computers that are analog, even though it's rare.

Q. So are you saying that the Personal Digital Key is not digital?

A. That's not what I'm saying.

I'm saying I haven't opined about it, and I don't know that the patent specifies it.

So I would have to look at the specification to see if there are any place where they clearly spell out that a PDK must be digital.

It's clear that it could be.

Q. So when you see the term "digital key," to you that means it's not clear whether it's digital?

MR. NORRIS: Objection; vague.

A. I'm not looking at it as a digital key that is personal.

I'm looking at PDK as an element, and they call it "Personal Digital Key."

But that doesn't mean anything in the art. And therefore, I look at how they use it.

There's nothing about how they use it that means that it needs to be digital. And it could just be shorthand for one of the embodiments.

I know examples where a description is not, verbatim, accurate, but it refers to an item

that then branches out.

Q. I'm sorry, I don't understand.

Are you saying that even though the patents, all three of them, describe PDK as a "Personal Digital Key" -- for you, you don't think that "digital" describes "digital key"?

MR. NORRIS: Objection; vague.

A. So I haven't opined about this.

And I know of cases where -- I might use the wrong legal term now, but I think it's "equivalence," where -- I've been in cases where it's been argued that two things are equivalent to each other, and therefore one can be substituted in for the other.

I don't know, one way or the other, whether that applies here. And I don't know the -- whether there's any claim construction regarding "digital."

But to me, PDK -- I'm not aware of any instance where it says a PDK must be digital.

Now, it's clear that a possible implementation would be a digital implementation. That's a very common way of implementing a general purpose computer.

But I don't know whether that's the only

way without --

Q. So --

A. -- specifically looking at this, with this question in mind.

Q. So in your opinion, Personal Digital Key may not be digital.

A. I would -- I cannot opine about that without reviewing the specs with this in mind.

Q. Well, you reviewed the spec. So please tell me what you found when you reviewed the spec.

A. So I said I can't opine about that without reviewing the specs with this in mind.

When I reviewed the specs, it was with other questions in mind.

I would have to read the specs again, thinking: Does this have to be digital?

And I did not do that last time.

So --

Q. I see.

A. -- I understand that it could be digital.

And I understand that the name includes a "D," which is -- in the acronym, is for "Digital."

But I know that that does not mean that it must only be digital.

It could be that their favorite embodiment

is digital. I don't know.

Q. You mention in Paragraph 61 an example, the cell phone has a "conventional SIM card."

Does a SIM card have structure?

MR. NORRIS: Objection; vague.

A. I'd have to think about this. These are not things that I've opined on.

Q. You can think about it.

A. No; it's not something I think about for two minutes. I would have to think about, what does it mean to have structure?

I am a technologist. So I need to look at, what does a "structure" mean in legal sense and think about it. And then I have to read the specs and think about that.

It's not something I do during a declaration or during a deposition.

Q. So what does a "structure" mean to you?

A. I see it as a legal term that I ask counsel about when I have to.

In layman's terms, a "structure" could be like a house or, you know, a skeleton.

But, of course, that is not what it means in patent language.

Q. How do you know that?

A. I mean, it doesn't -- in patent language, it doesn't mean a house.

I've seen the word used, and I understand as it has been used. And when I didn't, I would ask for clarifications and make sure that I don't abuse the terminology when I answer a question.

You're asking if a SIM card has structure. I would have to ask what "structure" would mean in this context and think about whether a SIM card has such a structure.

It's...I have no readymade opinions about either one of these.

Q. You provided an example of Figure 12 in your declaration.

Is that right?

A. I believe so, yes.

Q. In that example of Figure 12, you wrote in your declaration that the cell phone has a "conventional SIM card."

Is that right?

A. Would you show me the exact text, so that I get the context too.

(Witness reading.)

A. You're referring to Paragraph 61?

Q. Yes, Paragraph 61 here. The sentence I

was referring to, the second sentence of Paragraph 61:

> As shown in Figure 12, cell phone 1202 has the "conventional SIM card...replaced with the hybrid device"....

Do you see that?

A. Yes, I do.

Q. So you agree that you wrote that the cell phone has a "conventional SIM card"?

A. The "cell phone 1202" is described in the patent as having a "conventional SIM card."

This cites the 15:6-8.

We could look at the exact content of 15:6-8. I'm just citing it.

Q. Yeah, let's do that.

And I'll turn to Figure 12 too so you can see what figure it is.

(Pause.)

Q. So this is Figure 12 of the '289.

Do you see that, Dr. Jakobsson?

A. Yes.

Q. Do you see that it has a "cell phone 1202"?

A. I do.
Q. And do you see that there's a "SIM card 1206"?
A. Yes, I do see that.
Q. All right. How does that SIM card work with a PDK?
A. So I need to look at the context to see whether this is before or after this described replacement.
I don't remember that.
Q. Well, I'm just asking you a general question here: How does this SIM card work with the PDK?
MR. NORRIS: Objection; it goes beyond the scope of this declaration.
A. I don't think I opined about that. I would have to consider that to answer it.
Q. All right. You quoted this figure, and you gave an example of the SIM card. And I'm asking you how that figure works.
And you're saying that you didn't opine on it, but you relied upon it in your declaration.
So I'm going to ask you again: This "SIM card" that you referred to in your declaration, how does that work in the system?

A. So first of all, I --

MR. NORRIS: Objection; vague.

And again, objection, it goes beyond the scope of his declaration.

A. So first of all, I'd like to ask that you take me to 15:6-8, where there was the corresponding....

Q. All right.

(Scrolling.)

Q. Can you see 15 --

A. I can see that.

Q. -- 6 to...yeah.

And please take your time to read.

If you need me to scroll up and down further, I can do that. Just let you know, please.

(Witness reading.)

A. And now, would you please turn to my declaration that cites this.

(Witness reading.)

A. So I think this gives the context that may be the answer to your question.

So the first sentence I would like to hone in on is that -- is the one you read me before, that it has the conventional SIM card replaced with a hybrid device.

So that means that instead of the SIM card you have the hybrid device, and the SIM content that is normally stored on the cell phone is now stored in the PDK.

So the PDK is the one we saw before. And now, the PDK -- the next sentence there, starting with, "The cell phone 1202...," is not -- it can't be used, other than for 911, if this PDK, the same one we talked about, is out of range of the RDC of the hybrid device. And the hybrid device 1102, that is the thing that replaced the SIM card.

So what we have done is: Before this replacement, you have a conventional SIM card in your cell phone. After the replacement, you have the cell phone now with a PDK -- no, I'm sorry -- now with a hybrid device instead of the SIM card, and the hybrid device communicates with a PDK if it's within range.

So if it is within range, it communicates with it and receives information that allows it to proceed, which is, in this example, to use the phone.

Whether -- whereas, if it's not within range -- so the hybrid device does not get a response from the PDK -- then the hybrid device will

not allow regular use of the phone, only 911 call. That's what it says.

So it determines what to do based on the presence or nonpresence, in terms of a given range of the PDK.

Q. And my question to you is: What is the structure of a "conventional SIM card"?

A. What is the structure --

MR. NORRIS: Objection; vague.

A. Would you say your question again, I'm sorry.

Q. Yeah. What is the structure of a "conventional SIM card"?

MR. NORRIS: Same objection.

A. I have not opined on that. I would have to think about that.

Q. So does a "conventional SIM card" have a memory?

A. I understand that some SIM cards have memory.

But I don't know if this one has to have a memory. I would have to consider it.

Q. Okay.

A. So I -- most SIM cards have some form of memory, but I don't know that all of them -- all SIM

cards do.

It's unclear to me what the structure is. I would have to consider this.

Q. In this example that you gave, what's the purpose of a SIM card?

A. You mean, before being replaced?

Q. Yes.

A. So SIM cards typically have some information that is specific to the account of the user -- meaning, for billing purposes, the proper account would be billed when you place a call.

I don't know, in detail, what the requirements are on SIM cards.

It's a common implementation to have a processor on a memory.

Sometimes there's a crypto processor, I believe.

But I don't know if the -- if we're constrained to the common devices, in terms of SIM cards. And I don't know the full scope of what SIM cards can have and do.

I could try to determine that, and then I would be able to answer your question without speculating.

Q. Now, you mentioned that some SIM cards

might have a crypto processor.

What would the crypto processor be used for?

A. In this context, or in general?

Q. I'm just getting clarification of what you said. It could be in whatever you meant. I'm trying to understand.

A. Oh, I meant SIM cards, in general, not constrained to the specifications.

I have not studied if there are particular constraints on the SIM cards in the scope of the specification. And I haven't determined exactly what functionality SIM cards had in 2007, which is probably what a SIM card should be understood to mean in this context.

Q. In the context of these patents -- '960, '289, '042 -- what would a POSITA have understood that the structure of a "conventional SIM card" would be?

MR. NORRIS: Objection; vague.

A. I have not determined this.

This is another one of those things that I could opine about, but I haven't. I would have to consider that.

(Pause.)

Q. So I wanted to turn your attention to Paragraph 37 of the '042.

That's Exhibit 2016, Paragraph 37.

In this paragraph, you mention -- from the third last line of the paragraph:

> Instead, an algorithm or control logic defining how the information is to be accessed and made usable to the application, function, or service would be required.

Do you see that?

A. Yes.

Q. Who said that an algorithm or control logic is required?

A. That is to -- a general purpose computer doesn't do things. It -- at least, it doesn't do any other things required by the claim.

In order to achieve the enabling we have discussed before, there has to be something that is added to the general purpose computer in order for that to happen.

And that something needs to be clear enough to a POSITA in order for the POSITA to actually be able to do it. Otherwise, just throwing

in "general purpose computer," you haven't solved the problem.

So the POSITA would look at anything that defines what the general purpose computer would be configured to do.

And two ways of dealing with that would be to have either control logic added to it or the software version of that, which is, you know, some executable code.

Q. But what's the basis for you to say that these two things are required: An algorithm or control logic?

A. Because that is what enables -- let me not use the word "enable" either.

That is what turns a general purpose computer into one that has a specified purpose, where the specified purpose, if it does address the enabling thing, corresponds to the claim.

Now, if it is just control logic or an algorithm that does not achieve the stated goal, then I don't know whether, you know, it's worth talking about.

But at the very least, one needs this logic or algorithm in order to do it.

Q. I understand that's what you said.

I'm asking to see, what's the basis on why these two things -- what's your basis for saying it's these two things that are required?

A. My years in the field and my research and my knowledge about computers.

A computer that is a blank state, like a general purpose computer is -- it doesn't do things. You have to somehow configure them to do things.

And as far as I could think of, there are only two ways of doing that: A control logic or an algorithm.

A control logic is really just another way of saying an algorithm, but it's one that typically has a hardware component.

Q. What's the difference between "hardware" and "control logic"?

A. "Hardware" can implement an algorithm.

And the hardware with the algorithm sometimes is referred to as "control logic."

Q. So a processor that executes an algorithm would be "control logic"?

A. I would have to think about that, but it sounds reasonable. That's one example.

"Control logic," as it's typically used -- commonly, it's a special purpose component.

But it doesn't have to be.

To answer your question, I really would have to consider what the boundaries are.

Q. And what's an "algorithm"?

A. You could think of an "algorithm" as a recipe that is executed by a computer, for example, in order to take some input and produce some output.

Algorithms are sometimes explained as a mathematical concept.

The executable code would be one embodiment of an algorithm, and the -- there could be other ways of embodying the algorithm.

A human can think of an algorithm.

But that's not the kind of algorithm that we speak of here. An algorithm here is something that the computer can execute on.

Q. I'm sorry, could you repeat that. I'm not sure I fully understood what you were saying.

A. So the last part I said was that algorithms could be what you teach a child, how to add with carry.

That is an algorithm.

That is not what we're talking about here, the method of adding the carry that a child would learn.

Instead, "algorithm" in this context would mean, for example, a set of computer instructions that, when executed, would perform some computation or some task.

That would be an algorithm.

So for example, something that adds up a number of inputs and computes the mean of them by dividing of the number of inputs that they were -- that is an algorithm.

And a child could do it if given the instructions of how to do it. That's the algorithm.

And a computer could do it, if given the instructions -- typically, machine code instructions or -- or expressed in, for example, a language that's C++, which is then compiled into machine code. And then it could execute it.

Q. And according to you, you need an algorithm or a control logic to be applied by a general purpose computer in order to have some type of meaningful structure here.

Is that correct?

MR. NORRIS: Objection; misstates the witness's testimony.

A. I think I no longer see what I say in this paragraph. So it's hard for me to answer your

question.
Q. So I'm focusing on the same -- I highlighted it for you so you can take a look at it.
It says:
Instead, an algorithm or control logic defining how the information is to be accessed and made usable to the application, function, or service would be required.
A. Yes. Would you show it to me. I think you stopped screen sharing.
Q. I'm sorry, what was that?
A. Are you currently screen sharing?
Q. Yes.
A. I cannot see it.
Q. You cannot? Okay.
A. Oh, somehow -- now my window is larger, but I still don't see it here.
Q. Here, I'm resharing --
(Simultaneous speaking.)
A. Now, I can see. Yes.
Q. Okay.
A. So when you have a general purpose computer, that by itself is not going to do the

"enabling one or more of an application, function, or service," you need something that tells it what that entails.

So that is what I refer to as the "algorithm" or "control logic" here. That is pretty much the steps that the specification gives examples of.

It has a couple of examples where it says, you know, this is what this unit would perform. These are the steps that it would perform.

And so, that would correspond to the algorithm.

It doesn't give it in machine code, of course. But a person of skill in the art who reads the specification and reads what these units would do would understand how to implement that, because it says what it would do.

And that's the "algorithm" or "control logic."

(Pause.)

Q. So in that -- in this limitation that we've been talking about, "enabling one or more of an application, a function, and a service," what does it mean to you to "enable" something?

A. In the context of the patent and in the

context of the claim language here, the "enablement" is the conveyance of a signal, where this signal means something like, "Yes, go ahead," or this option or -- you know, it conveys information that allows the processing to proceed -- whether it means to allow or not allow access to something, for example.

MR. KHAN: Can we take a five-minute break?

MR. NORRIS: That works.

MR. KHAN: Okay. So we'll go off the record. We'll come back around 3:50.

(Whereupon, a recess was taken from 3:44 p.m. until 3:51 p.m.)

MR. KHAN: So I have no further questions.

THE WITNESS: Okay.

MR. KHAN: So, the witness is yours, Mr. Norris.

MR. NORRIS: I have no questions.

MR. KHAN: No objections from me.

MR. NORRIS: Yeah, to answer

your question: I have no questions.

MR. KHAN: Great. So I think we're done, then.

THE WITNESS: Thank you all.

(Whereupon the deposition concluded at 3:52 p.m.)

DEPONENT'S SIGNATURE

Please be advised I have read the foregoing deposition, pages 1 through 150, inclusive. I hereby state there are:

(Check one)

_____ No corrections

_____ Corrections per attached

_____

MARKUS JAKOBSSON, PH.D.

( ) Reading and signing was requested.

( ) Reading and signing was waived.

(X) Reading and signing was not requested.

Should the signature of the witness not be affixed to the deposition, the witness shall not have availed himself of the opportunity to sign or the signature has been waived.

--oOo--

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NAME OF CASE: Microsoft Corporation v. Proxense LLP

DATE OF DEPOSITION: December 20, 2024

NAME OF WITNESS: MARKUS JAKOBSSON, PH.D.

Reason Codes:

1: To clarify the record.

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MARKUS JAKOBSSON, PH.D. DATE

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DECLARATION UNDER PENALTY OF PERJURY

I am the witness in the foregoing deposition.

I have read the foregoing deposition or have had read to me the foregoing deposition, and having made such changes and corrections as I desired, I certify that the same is true in my own knowledge.

I hereby declare under penalty of perjury that the foregoing is true and correct.

In witness whereof, I hereby subscribe my name this _____ day of _____, 202__.

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MARKUS JAKOBSSON, PH.D.

CERTIFICATE

I, SUSAN ASHE, a Certified Electronic Reporter and eNotary Public, hereby certify that the foregoing is a true and accurate transcript of the deposition of said witness, who was first duly sworn by me on the date and place hereinbefore set forth.

I FURTHER CERTIFY that I am neither attorney nor counsel, nor related to or employed by any of the parties to the action in which this deposition was taken, and further that I am not a relative or employee of any attorney or counsel employed in this action, nor am I financially interested in this case.

I FURTHER CERTIFY that I was situated in Hockessin, Delaware while performing eNotary services remotely.

Dated this 27th day of December 2024.

_____

Susan Dolores Ashe

Notary Public for the State of Delaware

My commission expires: December 4, 2026.

Notary Registration Number: 20241204000009.

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