UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CSC SERVICEWORKS, INC.,
Petitioner,

v.

PAYRANGE, INC.,
Patent Owner.

IPR2023-01186
U.S. Patent No. 8,856,045

Tuesday, March 26, 2024

Remote Zoom Deposition of CLIFFORD B. NEUMAN, PH.D., taken with the witness participating from his residence in Los Angeles, California, beginning at 9:07 a.m., PT, before Ryan K. Black, Registered Professional Reporter, Certified Livenote Reporter and Notary Public in and for the Commonwealth of Pennsylvania.

PayRange EXHIBIT - 2017
CSC ServiceWorks, Inc. v. PayRange, Inc. - IPR2023-01186

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I N D E X

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CLIFFORD B. NEUMAN, PH.D.,
called to testify, having been first duly sworn or affirmed, was examined and testified as follows:

EXAMINATION

BY MR. ARGENTI:

Q. Good morning, Dr. Neuman. As I mentioned before we got going, my name is Matt Argenti. I'm from the Law Firm of Wilson Sonsini, and I represent the patent owner PayRange in this case.

Could you please state your name for the record?

A. Yes. My name is Clifford Neuman.

Q. Where are you currently located, Dr. Neuman?

A. I'm currently located in Los Angeles, California.

Q. Is there anyone else in the room with you today?

A. No, there is not.

Q. And it's my understanding that you have copies of your declarations and the exhibits that it cites available to you today; is that correct?

A. I have copies of various exhibits. I

don't know if you were planning on introducing some that I might not have, but . . .

Q. But at least as far as the exhibits in your declaration, hopefully you have copies. Hopefully that's included in what you have available to you. If I start referring to any exhibit that you don't have available to you, please let me know. Okay?

A. Okay. I'm sorry. Your audio just dropped a little bit.

Q. I was -- I said if I refer to any exhibit that you do not have available to you today, please let me know. Okay?

A. I will let you know if I do not have one available.

Q. And the copies of your declaration and the exhibits that you have available to you today, are those electronic copies or hard copies?

A. Those are primarily electronic copies. I did print out at least two pages of the table of contents from my declaration just to avoid scrolling as we go through things.

Q. Other than those two pages of the table of contents, do you have any other hard copy

documents, like notes, with you today?

A. Other than a blank notepad where I'm just noting start times and end times, I do not -- well, I do not have immediately in this area of the desk. Obviously, in my office I've got -- you can see my whole book case behind me, but . . .

Q. Understood. If at any point you refer to any notes, please let me know. Okay?

A. I will let you know if I refer to any notes.

Q. Okay. This is not your first deposition, correct, Dr. Neuman?

A. No, it is not. I have been deposed many times.

Q. About how many times have you been deposed?

A. Probably on the order of 20 or 30. But, you know, it could be even higher than that. They blend together sometimes over the years.

Q. Over the years.

Were any of those in the last year or so?

A. In the last year or so, I believe that -- I believe I had a couple of depositions last

summer. So, yes, some of those -- maybe two or three -- would have been within the past year.

Q. Got it.

So I'm sure you're familiar with how things work in a deposition, but I'm going to go through some of the ground rules just so we cover them for this one. Do you understand you're providing your testimony under oath and you're expected to tell the truth?

A. I understand that.

Q. Is there any reason that you cannot provide complete and accurate testimony today?

A. There is no reason.

Q. Hopefully my questions today will be clear. But if you do not understand any of my questions, you have to let me know that it's not clear. Okay?

A. I will let you know if I do not understand one of your questions.

Q. If you don't tell me otherwise, I'm going to assume that you understand the question. Okay?

A. I would expect you would, yes.

Q. Please provide verbal answers, rather than nodding your head, for the benefit of the

record and the court reporter. Okay?

A. I will do that.

Q. And we can take a break at any time that you would like one as long as there is not a question pending. If there is a question pending, you must answer the question before we take a break. Do you understand?

A. I understand that.

Q. And we'll probably take a break every hour or so, is my plan. But if you need one before I throw the possibility of a break out there, just let me know.

A. I will.

Q. Are you being compensated for your testimony in this proceeding?

A. I am.

Q. What is your hourly rate?

A. Were you asking what my hourly rate was?

Q. Yes.

A. My hourly rate in these proceedings, I believe, is $750 per hour.

Q. Who is providing your compensation?

A. The compensation is provided to me through the law firm that I'm working with. I do not know for certain how those funds are provided

to the law firm.

Q. And is all of your compensation in this matter being paid at that $750 hourly rate?

A. All of my compensation in this particular matter is at that particular rate.

Q. How much have you billed the law firm to date for your work in this matter?

A. For my work in this matter, I believe that the total is on the order of about $17,000.

That includes, by the way, not just the deposition, but the drafting of the reports and the preliminary discussions and everything that went on.

Q. You mentioned that you've been deposed quite a number of times. Were those all in the context of patent litigation and you working as an expert witness?

A. Most of my depositions is in patent matters.

There was one case that was a contract dispute on technical issues. And then a long, long time ago there was one instance where I was a witness to a vehicle accident.

Q. In those depositions -- or, sorry, just -- strike that.

In the cases where you served as an expert in patent matters, were they primarily on behalf of a party accused of infringement?

A. In most of the matters where I consulted on patent matters, it has been in support of the party that was accused of infringing. There is one matter that was otherwise.

Q. You understand that you're here today with regard to an IPR proceeding, right?

A. I am aware that I am here with respect to an IPR proceeding.

Q. And that IPR proceeding is IPR2023-01186, right?

A. Well, I'd need to look at the cover of the document to -- if you want me to, I will, --

Q. Sure.

A. -- but I don't memorize the numbers.

Q. I was just about there anyway. Why don't you pull out your declaration for this case, please.

A. Okay. Let's see.

Okay. So I'm pulling up my declaration, which I believe is Exhibit 1003 of this matter.

Q. That sounds correct to me.

A. And if you read back to me that IPR

number, I will confirm if that's what's on this document.

(Exhibit No. 1003, the Declaration of Dr. Clifford B. Neuman in the IPR2023-01186 case, was introduced electronically.)

BY MR. ARGENTI:

Q. So the IPR that you are here to testify about today is IPR2023-01186, correct?

A. That is correct.

Q. And that's related to U.S. Patent Number 8,856,045; is that right?

A. That is correct.

Q. If I refer to that as the '045 patent today, will you understand that's what I'm talking about?

A. I will understand. That's how I've been referring to it for quite some time.

Q. Great.

Can you turn to Page 104 of your declaration, please? That's the last page.

A. Okay. Okay.

Q. Is that your signature on this page?

A. That is my signature on this page.

Q. How is it entered into this declaration?

A. Once I had the final version of the

declaration, I printed the final page. Then I signed the paper copy; I scanned the paper copy of that page and sent it back to the attorneys.

Q. Got it.

Prior to signing your declaration, did you carefully review it to ensure its accuracy?

A. I did carefully review it to ensure its accuracy prior to signing the declaration.

Q. Sitting here today, do you believe the declaration's accurate?

A. I believe this declaration is accurate.

Q. So there's nothing about the declaration that you'd like to modify or correct before we get started on questioning?

A. There is nothing within the declaration that I have observed that I feel needs to be changed.

Q. About how many hours did you spend preparing this declaration?

A. In the preparation for the declaration, I spent on the order of about 23 or 24 hours. But when I say "in preparation for the declaration," this involved a lot of discussion back and forth even during the time when the attorneys were working on their petitions.

So not all of that time was specifically on the document of the declaration, but all of that time was informing the opinions that ultimately went into that declaration.

Q. Did you do anything to prepare for this deposition?

A. Yes, I did.

Q. What did you do?

A. I reviewed quite a number of documents in the case; certainly my declaration. I reviewed the petition. I reviewed your parties' POPR, I think it's called. I reviewed the institution decision. And I went back in my review of my report and did additional review of some of the source documents, the documents on which my --

THE REPORTER: I'm sorry. You broke up there. The documents on which you what?

THE WITNESS: On which my opinions were formed, --

THE REPORTER: Thank you.

THE WITNESS: -- the exhibits.

BY MR. ARGENTI:

Q. Okay. Did you meet with anyone to prepare for your deposition?

A. Yes, I did.

Q. Who did you meet with?

A. Primarily with Jason Mudd. And Emma Murray was on some of those discussions. And there was one other attorney from their firm which popped in on some of the discussions.

Q. About how many discussions were there?

A. I believe -- the discussions that we're talking about now in preparation for the deposition? I believe that I had two Zoom calls. There may have been three, but I believe it was two.

Q. And when did those Zoom calls take place?

A. One of those occurred yesterday. The other about maybe a week-and-a-half ago, I think, thereabouts.

Q. Dr. Neuman, as I ask the questions, I'm noticing that there's some lag and there have been times when you've frozen up. So I just want to make sure you're responding -- it does sound like you're responding to the questions I ask, so I think I'm coming through clearly. And as long as it works for the court reporter, I think we can proceed with this.

I just want to make sure that my questions are coming through clearly to you. Is there any issue on your end?

A. There's a little bit of stutter that's there, but they're understandable. And if there's any question where it's breaking up or I can't understand, I will pause and ask you to say it again.

Q. Okay. Thanks.

You have a bachelor's, a master's and a doctorate degree in computer science, right?

A. Yes. I have those three degrees in computer science, or computer science and engineering.

Q. And you received your Ph.D in 1992 from the University of Washington. Do I have that right?

A. That is correct.

Q. So if we turn to Paragraph 9 of your declaration -- that's on Page 6 --

A. I have Paragraph 9 in front of me.

Q. -- you say that you've devoted your career to the field of distributed computer systems development and research, right?

A. That is correct.

Q. What does that term mean, "distributed computer systems"?

A. Distributed computer systems are computers working together to complete an operation. So you're going to have multiple computers that are working one way or another.

And, in fact, if you look today -- I mean, you look recently, probably most of the computers that we use would be described as distributed computer systems. So, for example, if you're going to the web, you've got your local either desktop PC or laptop. That is one component in a system. You've got the web server on another component of the system. So that would be a distributed computer system.

If you go back to, maybe, the, you know, 1980s, maybe, when I started to use the first computers when I went to the Radio Shack store and played around with their TRS-80s, that was not a distributed computer. Everything that was being done was on that one particular device.

So that's what is meant by distributed computer systems.

Q. Could you turn to the next couple of pages, Pages 8 and 9 of your declaration where

you address the level of ordinary skill in the art. Do you see that section?

A. I'm at that section now. Paragraph 18.

Q. And in Paragraph 19 you say in the second sentence there that, "A POSITA would have had approximately three years of experience with electronic payment systems, vending machine technologies or distributed network systems." Do you see that?

A. I do see that.

Q. When you refer to "distributed network systems" there, is that the same thing as distributed computer systems?

A. Well, distributed computing systems do utilize networks. So in some sense I'd say they're pretty closely aligned.

Technically, if you look at the -- sort of, the fields of distributed computing systems, you're looking more at the distribution of the functions across the computers, where, when you look at networking systems, you're looking maybe a little bit more at the communications between the components.

But the two fields are very closely related. And you could say that most individuals

that had experience in distributed network systems -- is that the line which -- distributed network systems would also have that familiarity in the endpoints; that is, the dist --

(Whereupon witness's Zoom feed froze.)

THE REPORTER: Did he freeze for you guys?

MR. ARGENTI: Yes.

MR. MUDD: Yes.

THE WITNESS: Okay. You just froze.

MR. ARGENTI: And you were -- I think we lost the end of your answer.

Maybe, Mr. Black, if you could read back how far you heard.

(Referred-to testimony read back.)

THE WITNESS: Okay. So that was endpoints which constitute distributed computer systems.

BY MR. ARGENTI:

Q. So it sounds like they are very closely related. How much of your experience with distributed computer systems has involved distributed network systems?

A. Well, the division at the Information Sciences Institute, where for a while I was the

associate division director, was the computer networks division.

So, certainly, almost all of my work in distributed computer systems has used networks. And, you know, a lot of the papers or standards that I've been involved with have been in what's called the Internet Engineering Task Force. And the Internet Engineering Task Force is technically, sort of, computer networking. Although because of the closely-related aspects, you tend to move into distributed computer systems, as well.

Q. Is the Internet an example of a distributed network system?

A. The Internet is clearly an example of a distributed network.

And you just froze a moment ago, so you might have said something that I didn't hear.

Q. I did not. I was waiting to hear the end of your answer there.

MR. ARGENTI: Why don't we go off the record for a second?

(Brief pause in proceedings.)

BY MR. ARGENTI:

Q. Dr. Neuman, thank you. I appreciate

you adjusting your position in your office so that hopefully we can resolve some of these connectivity issues that we've had, so we'll go forward. And if it looks like we're still having issues, we can maybe figure out another solution, but hopefully this works.

So my next question was going to be is a client server arrangement a distributed network system?

A. So a client server arrangement is clearly a distributed computer system.

I do need to adjust one more thing to get my second screen working again.

(Brief pause in proceedings.)

BY MR. ARGENTI:

Q. Okay. So when you say that "a client server arrangement is clearly a distributed computer system," is it also a distributed network system?

(Whereupon witness's Zoom feed froze.)

A. By the way, did we just lose --

Q. Yeah. We did not get your answer to that question.

A. So a distributed -- so a client server relationship describes the --

(Whereupon witness's Zoom feed froze.)

Q. Dr. Neuman, I think we probably need --

A. -- all of the in between; client and a server. That is a network, so it's a --

(Whereupon witness's Zoom feed froze.)

MR. ARGENTI: I don't want to cut off his answer, but I think we probably need to get a better resolution to the connection issue here. So we can go off the record?

(Brief pause in proceedings.)

(Discussion off record.)

BY MR. ARGENTI:

Q. All right. So if we're back on the record, I'm just going to reask the last question, Dr. Neuman, because I don't think we were able to capture your answer. And the question was, is a client server arrangement a distributed network system?

A. So a relationship between a client server -- what we refer to as a client server model encompasses two components: Really, the distributed system; one client talking to a server. And that communication is occurring over a network. And in most cases over the Internet, that's going to be a distributed network.

Q. So it sounds like distributed network systems is a very broad term. Would you agree?

A. I would agree that distributed network systems is a broad term.

Q. Are all distributed network systems used for electronic commerce?

A. Are all distributed network systems used for electronic commerce? Was that your question.

Q. Right.

A. Certainly not. I mean, some are. But distributed network systems are used for a lot of things: For scientific research. For just browsing the web. So certainly it's not only used for electronic commerce.

Q. And so it's also true, I would gather, that all distributed network systems do not necessarily involve vending machine technologies; is that right?

A. Certainly there are distributed network systems that do not involve vending machines.

Q. Okay. If we turn back to Paragraph 9 of your declaration on Page 6, you go on to say in that paragraph that a significant portion of your experience has been in the area of electronic commerce and Internet payments.

Do you see that?

A. I do see that. Yes.

Q. And I think some examples of that are mentioned in Paragraph 13; for example, where you mentioned NetCheque, all one word, N-e-t-C-h-e-q-u-e. Do you see that?

A. I do see that.

Q. What is NetCheque?

A. NetCheque was a very early electronic payment system that provided a method to exchange funds over the Internet between clients and, well, servers, in essence, using infrastructure --

(Whereupon witness's Zoom feed froze.)

THE WITNESS: -- that we had developed.

BY MR. ARGENTI:

Q. Was --

A. Did you hear that?

Q. I think we did capture it, yes. There was a -- there was a brief lag, but I think we got the end of your answer. Looks like it was captured, as well. It was "a method to exchange funds over the Internet between clients and, well, servers, in essence, using infrastructure

that we had developed." Was that your whole answer?

A. That was my whole answer.

Q. Was NetCheque ever on the market?

A. NetCheque was not used in actual commerce. It was a research prototype that we had developed.

Q. In Paragraph 13 you also mentioned something called NetCash. What was that?

A. NetCash was actually integrated with NetCheque. But it involved -- involved a method where one could request tokens that represented electronic payments, from what with we call "currency servers," and transfer those tokens over the Internet to a merchant where the merchant would be able to deposit them in exchange, ultimately, for credits back within the NetCheque system into their account.

So it was an intentionally less-traceable form of electronic currency, but the interesting component with NetCash was the fact that you would have multiple currency issuers which would settle payments between them using the back-end NetCheque system.

Q. About how many years did you spend on

your work designing NetCheque and NetCash?

A. Well, I'd say our work in electronic payments started in the early 1990s and probably extended through around maybe 1997 or 1998. It's hard to say precisely which point was NetCheque or NetCash. I taught a lot of tutorials on these topics in the context of the web and the Internet. I was on the program committees for quite a number of electronic commerce conferences.

And we also had interactions with some banking consortia; in particular, in financial services technologies consortium, in those time frames on technologies that were related to this general area.

Q. Did NetCheque involve vending machines?

A. NetCheque was not designed specifically for vending machines, but there's nothing that would preclude its use for such.

In fact, one of -- well, I wouldn't call it a vending machine, but one of the earliest what we call, sort of, a "pay-per-view" application was to purchase recipes.

Now, that's sort of more of a virtual aspect of things, but it is, sort of, commerce

that you've got there; and not a physical machine, but there's nothing that would prevent it from being integrated with one.

Q. So would those recipes have been purchased over a user's personal computer?

A. They could be purchased through a personal computer from a web server.

Q. Was NetCash a vending machine technology?

A. NetCash was not a vending machine technology. It was a payment technology which, presumably, could be integrated with anything that required a form of payment.

Q. At the bottom of that same paragraph, Paragraph 13, you mentioned something called NetResearch. You see that?

A. I do see that.

Q. And you described that as a company developing online auction platforms. Is that an accurate characterization of NetResearch?

A. That is an accurate characterization of NetResearch.

Q. So it sounds like NetResearch probably was not a vending machine technology; is that right?

A. Well, NetResearch was a company. It wasn't a technology. But they weren't specifically focusing on vending machines.

Q. Does any of your professional experience involve unattended retail machines, such as vending machines?

A. I would not so much describe my research, per se, as involving unattended retail machines. But I did mention to you earlier some of our work with Financial Services Technology Consortium, and some of the conferences and papers and discussions there involved systems Mondex and a few other smart card kinds of systems, which probably more suited specifically for that kind of retail purchase.

That's not my own work, per se -- my involvement in those technologies around that area.

THE REPORTER: Doctor, can you repeat the end of your sentence there?

(Referred-to testimony read back.).

THE WITNESS: I'm not sure there was anything in that area in between there. I was talking about my relationships within, for example, the Financial Services Technology

Consortium, my involvement on program committees where we looked at papers about things like Mondex and other smart cards kind of payments systems, which would be, probably, intended for vending machine kinds of applications.

And then I was saying that wasn't my own particular research, but certainly the communities with which I was interacting in those time frames had some concern about those kinds of retail applications.

BY MR. ARGENTI:

Q. And what time frame is that that you're referring to?

A. That was also in the mid-1990s. Probably about '95 through '97, maybe '98.

Q. All right. Let's turn to Paragraph 28 of your declarations, please. That's on Page 13.

Let me know when you're there.

A. Okay. I am at paragraph -- that's 26, 27.

28. I am there.

Q. And the first sentence of Paragraph 28 reads, "The '045 patent relates to mobile device to machine payment systems." Do you see that?

A. I do see that.

Q. What's the basis of that understanding?

A. The basis of that understanding is cited right there. It's in -- it's a quote from Column 1, paragraph -- or, sorry, Lines 14 to 17 of the '045 patent itself.

(Exhibit No. 1001, United States Patent No. 8,856,045, was introduced electronically.)

BY MR. ARGENTI:

Q. Why don't we take a look at the '045 patent then. If you could pull up Exhibit 1001. And we can turn to that portion that you just cited.

A. Okay. I have the '045 patent up. Would you like to call my attention to a particular --

Q. Yeah. Why don't we look at that paragraph you just called out that's cited in Paragraph 28, which is Columns 1, Lines 14 through 17.

A. Okay. I am at that section.

Q. And that section reads, "Disclosed herein are mobile device to machine payment systems. And, more specifically, mobile device to machine payment systems over a non-persistent network connection and featuring hands-free and

manual modes." Did I read that right?

A. You appear to have read that correctly.

Q. And that's the basis of your understanding that the subject matter of the '045 patents is mobile device to machine payment systems; is that right?

A. Well, certainly that's the first basis. I mean, you read it, and there are a lot more things one could potentially point to. But that's certainly illustrative of, sort of, at the highest level, what the patent is concerned with.

Q. And when it refers to "mobile device to machine payment systems," what types of machines does that include?

A. My understanding is that, later on, there was a long list of enumerated things, which could include vending machines. I believe there were some places where it spoke about tollbooths, various other things. And I probably cited to that maybe in different parts of my report here.

Let's see. Such as, here, right, "More modern iterations, such as vending machines here." You've got what's referred to as payment-accepting units. And then right here in my declaration itself we say, "These include

parking meters, tollbooths, laundromat washers and dryers, arcade games, kiosks, photo booths, tollbooths, transit ticket dispensing machines." And those are, again, Column 1, but later at Lines 27 to 38.

Q. So we look at that paragraph, which is the third paragraph under "background of the invention," the paragraph that starts at Line 27. Do you see that?

A. We're looking at the pat -- we're back to looking at the patent, right?

Q. Correct.

A. So under "background" and we see Line 27. I do see what starts at Line 27.

Q. And there it says, "Vending machines are one type of payment-accepting unit (payments-accepting units are also referred to herein generically as machines)." Do you see that?

A. I do see that, yes.

Q. So when it's talking about mobile device to machine payment systems, would you agree that it's referring to payment-accepting units?

A. Here it's using the term payment-accepting units as what it's referring

to, but can you just restate your question specifically? When it's referring to what?

Q. Well, the mobile device to machine payment systems that the '045 patent mentions just a couple paragraphs above that, the machines in that term are payment-accepting units as discussed in that third paragraph, correct?

A. Yes. In fact, that paragraph says right here that the payment-accepting units are also referred to herein as machines, yes.

Q. And then the next sentence is, "A payment accepting unit, parentheses, (or machine), closed parentheses, is equipment that requires payment for the dispensing of products and/or services." Do you see that?

A. That statement says, "An accepting unit is equipment that requires payment for the dispensing of products and/or services," yes.

Q. So the machines in the title of the '045 patent are machines that dispense products or services in exchange for payment, like vending machines. Would you agree?

A. I would agree "like the vending machines," but not exclusively vending machines.

Q. And if we turn back to Paragraph 28

of your declaration, and you had called out that last sentence that provides a number of different examples of payment-accepting units. Do you see that?

A. I do see that. That's the "these include," and then that long list.

Q. And those examples are all examples of unmanned retail machines, correct?

A. I would not argue -- well, let's see. I'd have to look specifically at the patent. But some of these -- there are certainly manned tollbooths also. So I don't want to go inserting unmanned in there where maybe it's not warranted.

Q. Okay.

A. Certainly laundromat washers and dryers, someone's got to go putting in the clothes in the machine, as well. So I don't want to add extra limitations here that might not be warranted.

Q. I can appreciate that.

Why don't we turn to Paragraph 18 of your declaration. This is back in the Level of Ordinary Skill in the Art section.

Let me know when you're there.

A. I am there.

Q. And in that paragraph you list four

factors relevant to determining the level of ordinary skill in the art, correct?

A. I list four factors, yes.

Q. And the first factor is "The levels and education and experience of the persons working in the field at the time of the invention," right?

A. That's the first that is listed there.

Q. And the third factor is "The types of problems encountered in the field," right?

A. That is the third that is listed there, as well.

Q. What is your understanding of the field of the '045 patent?

A. My understanding -- well, first of all, let me just see if I specifically described the field here, but I'll give you a general discussion otherwise. Let's see.

Okay. So I didn't specifically describe the field. But basically we look at the field of the '045 patent, we are looking at supporting payments in the context of these kinds of devices, these retail devices that provide either goods or services in exchange for a payment.

Q. And also mobile devices, right?

A. Oh, mobile devices is a further narrowing of that field. So when we talk about mobile devices, we're talking, in essence, things like cell phones or others that are going to be involved in doing that. So, yeah, I have no problem including that in the description in the field.

Q. So the relevant field for the '045 patent is payment systems involving mobile devices and payment-accepting units. Would you agree?

A. I'd say, let's see, involving mobile devices and payment-accepting units, as that has been defined within this.

I'd say that that is a reasonable set of characteristics that would describe the field.

Q. Why don't we turn now to Page 15 of your declaration?

A. 15 of the declaration?

Q. That's correct. And there you have a section with the heading Claim Construction. Let me know when you're there.

A. Okay. I am there.

Q. And the section consists of one paragraph, Paragraph 32, right?

A. That section has one paragraph. If you give me a moment, I will read that paragraph and then you can ask your questions.

Q. Of course.

A. (Reviews document.)

Okay. I have read that paragraph.

Q. And at the end of Paragraph 32 you conclude that none of the claim terms of the '045 patent require explicit construction, correct?

A. My statement here was that I did not believe any claim terms required explicit construction.

Q. How did you reach that conclusion?

A. That conclusion is by looking at the plain and ordinary language in the context of the specification and asking myself are there issues here that really I don't understand; that require a more clear definition. Or as one of ordinary skill in the art, with the specification in front of me, with the claim language in front of me, do I understand what it is that I'm being asked to decide. That's how I would apply that.

Q. So was it your understanding that a term need only be construed if a person of ordinary

skill in the art would not understand the meaning of that term after reviewing the claims in the specification?

MR. MUDD: Object to the form.

THE WITNESS: The way that you first answer the questions of what is being done is you need to understand what the claims say, okay?

Now, there can sometimes be terms where there seem to be issues and claim construction in a case needs to be decided as a matter of law, okay? But in absence of such explicit constructions, what you do is you apply your understanding of the claim terms as a person of ordinary skill in the art in the context of the specification to understand what it is that you need to assess in terms of the claim language itself.

BY MR. ARGENTI:

Q. And is it your understanding that that is not the standard that's appropriate if a term is construed?

MR. MUDD: Object to the form.

THE WITNESS: My understanding is that if there have been either stipulated constructions, or constructions set forth by

the Court, that those are going to be what is applied. And there's a lot that can go into those decisions, but that is a matter of law, rather than a matter of the POSITA or, for that matter, an expert, acting in, sort of, the sense of a POSITA would do.

BY MR. ARGENTI:

Q. And so because there are no stipulated constructions here, or constructions that have been implied by a court, that's why the claims don't need to be construed. Is that your understanding?

MR. MUDD: Object to the form.

THE WITNESS: Well, the terms always need to be construed, okay? You always need to understand what they are. But the question of whether it requires an explicit construction is one where if you think that there are significant disputes in terms of what that might mean, or uncertainty in terms of what that means, you might require an explicit construction. You're still always construing them in the context of what a person of ordinary skill in the art would understand they mean in the context of the specification and the claim language and

everything else that is accompanying them.

BY MR. ARGENTI:

Q. Why don't we look at the paragraph right above your claim construction discussion, so Paragraph 31.

In that paragraph, you discuss three zones that are recited in various claims of the '045 patent, correct?

A. So the '045 patent claims various other features, yes. The three zones are described here, yes.

Q. And those three zones are the communication zone, the authorization zone and the payment zone, correct?

A. Those are what are described here.

Q. And for each of those terms in Paragraph 31, you've set forth your understanding of what it means, right?

MR. MUDD: Object to the form.

THE WITNESS: In that paragraph, for each of those zones, I describe my understanding of what that means.

BY MR. ARGENTI:

Q. For example, if we look at the top of Page 15, you say that "The communication

zone is the Bluetooth range of the adapter module within which the mobile device may receive advertisements from the adapter module," right?

A. I say that "The communication zone is the Bluetooth range of the adapter module within which the mobile device may receive advertisements from the adapter module." And then I provide support for that; '045 patent at 5:52 to 5:57 and 22 to 25.

So I'm describing my understanding and the basis for that understanding.

Q. So those cited portions of the '045 specification inform your understanding of what "communication zone" means here; is that right?

A. Those cited portions inform my understanding of what that means. That is correct.

Q. Now, outside the context of the '045 patent, there's nothing about the term "communication zone," on its own, that requires the use of Bluetooth or an adapter module, right?

A. Can you please just repeat that?

It came through clearly. I just want to parse it again.

Q. So outside the context of the

'045 patent, there's nothing about the term "communication zone," on its own, that requires the use of Bluetooth or an adapter module, correct?

A. So outside the '045 patent and, for the time being, I'm not even saying within, but certainly outside the '045 patent, the term "communication zone" doesn't necessarily require the use of Bluetooth. It could use other communications technologies.

And certainly outside the context of the '045 patent, there certainly wouldn't be anything involving requirements for an adapter module because the adapter module is pretty much a term of art within the '045 itself. So that's -- I shouldn't say "a term of art." External to the '045 patent, "adapter module," by itself, doesn't have a very specific meaning.

Q. But when you look at the '045 patent at the claims and the specification, terms like "communication zone" and "adapter module" have a more specific meaning, correct?

A. Okay. You froze -- "when you look," and then you froze. If you can repeat?

Q. Sorry about that.

My question was, when you look at the '045 patent at the claims and the specification, terms like "communication zone" and "adapter module" have a more specific meaning, correct?

A. When you look at the '045 patent, those terms have a more specific meaning. That is correct.

Well, I shouldn't say more specific. They have a meaning that -- from the language in the '045 patent itself as, for example, I've cited to you.

Q. I think the last portion of your answer might have gotten lost there.

You said "I shouldn't say more specific. They have a meaning that . . ."

A. That is -- that is described within the patent itself.

Q. And the next term that you mention in Paragraph 31 is "authorization zone," correct?

A. In that paragraph, the next quoted term that I use is "authorization zone."

Q. And for that term you say that, "The authorization zone is a zone within which the adapter module may manually or automatically send an authorization request from the adapter module

to the mobile device." Do you see that?

A. I do make that statement, yes.

Q. And, again, you look to the specification of the '045 patent to understand how this term is being used in a specific context, correct?

A. Yes. And I cite to the '045 patent at 5:45 to 52; 14:53 to 65; 21:66 to 22 -- or -- sorry, 21 at Line 66; 22, Line 17; 22, Lines 26 to 60, that is correct.

Q. So why don't we look at some of that in the '045 patent, please. So if we could turn to Exhibit 1001 and, in particular, why don't we look at what you cited in Column 14 starting at Line 53.

A. Column 14, Line 53. Give me a moment.

Okay. I am at that line. I'm going to start reading now.

Q. Let me know when you're done reading.

A. (Reviews document.)

Okay. I've read through that paragraph that started there.

Q. Now, this paragraph is found in a section of the '045 patent with the heading Definitions, correct?

A. I do see where it says Definitions here, but give me one moment.

(Reviews document.)

Well, the paragraph heading says Definitions. I'll note that the, sort of, preamble to that section indicates -- also notes that terms and phrases may have additional definitions and/or examples throughout the specification.

So I'd say this is a definition, not necessarily the totality of a definition.

Q. In that paragraph you were just reading from, it concludes -- the last line is, "The following paragraphs provide some of the definitions for terms and phrases used herein," correct?

A. I do see where it says, "The following paragraphs provide some of the definitions for terms and phrases used herein." I see where it says that.

Q. And one of those terms in the definition section is Authorization Request, correct, if we look back at the paragraph that you cited?

A. Certainly where it says "Authorization Request," that is within this section that is

included as being among some of the definitions, yes.

Q. And you found the definition of the term "Authorization Request" to also be relevant to the meaning of the term "Authorization Zone." Do I have that right?

A. I believe that I did cite to this paragraph when I was talking about an understanding of "authorization zone." So I found this to be useful and relevant.

Q. And a POSA would also look to the definitions section of the '045 patent to understand the meaning of the claim terms, correct?

A. A POSITA would look to the entire specification, but certainly among that entire specification is a section that was set aside to provide some of the definitions. So, yes, I would refer to this among other parts of the specification.

Q. Let's turn back now to your declaration and look at that Paragraph 31 again, please.

A. Okay. So I'm at 31.

Q. And let's look again in that sentence in Paragraph 31 where you say, "The authorization

zone is a zone within which the adapter module manually or automatically sends an authorization request from the adapter module to the mobile device." What do you mean by "manually" there?

A. When we look at -- well, let's see. First let me look back to --

(Reviews document.)

Okay. So when we look at, sort of, "manually" or "automatically" --

Are you hearing me?

Q. Yes.

A. Are you hearing me?

Q. Yes, I am, Dr. Neuman.

A. Okay. Good.

When we talk about "manually" or "automatically," so the authorization zone is a zone within which the adapter module may manually or automatically send an authorization request -- let's see -- within which the adapter module manually or automatically . . .

(Whereupon witness reads document to himself.)

We're probably looking at whether it is determining that it is within this zone and then sending that message, versus being triggered by

some other event. Maybe the selection of a product or something else, which would result in only sending the request if you are within that zone. So, in other words, does it happen automatically upon entering that zone? That's sort of the "automatically" part. Or is there some other trigger that require -- that -- that is required in order for that to happen, but, of course it only happens when you are within that zone.

I think that would be the distinction between the manual and automatic.

Q. Okay. So if I understand correctly, the distinction you're making there is that automatically sending an authorization request would occur simply by virtue of being within a particular zone, whereas manual, you'd have to be in the zone, but then also there would have to be some other triggering event?

A. That is what I would think manual meant, yes.

Q. Okay. We have been going for over an hour now, Dr. Neuman. Why don't we take a short break?

A. Okay. How long would you like?

Q. Is ten minutes good for you?

A. Oh, sure. That's fine. So back 10:22 Pacific?

MR. ARGENTI: 10:22. Yeah. Let's do that Doctor.

(Recess taken.)

BY MR. ARGENTI:

Q. Dr. Neuman, can you turn to Paragraph 50 of your declaration, please. That's on Page 23.

A. 23, Paragraph 50.

I have Paragraph 50. Would you like me to review it first, or --

Q. Sure.

A. (Reviews document.)

Q. At the end of Paragraph 50, you have a conclusion "All four of the Low, Skowronek, Freeny and Wilson prior art references are analogous to the '045 patent." Do you see that?

A. I say that "Low, Skowronek, Freeny, and Wilson all are analogous to the '045 patent." That is correct.

Q. What is it your understanding of what it means for something to be "analogous art"?

A. When we talk about "analogous art,"

we're talking about, sort of, drawn to solving these same sorts of problems, or at least some common aspect of a problem. And the following paragraphs that I've got in my report actually outlined with respect to each of these why I believe that they're analogous art.

Q. Did counsel for CSC provide you with the understanding of the legal requirements for something to be analogous art?

A. I believe most of the legal requirements that were set forth -- I usually have paragraphs, boilerplate, that was provided to me that I've included.

I can certainly see if I have that boilerplate within there, but certainly with respect to this question I had advice from counsel as to what that meant.

Q. I think you were referring to the relevant legal standard section of your declaration starting at Page 9; is that right?

A. I'm sorry. Can you repeat that?

Q. I think just now you were referring to the relevant legal standards section of your declaration starting at Page 9; is that right?

A. That's what I was referring to. I'm not

sure if that particular point is spelled out in there, but I can certainly search through that to see if it was. But if it's not spelled out there, certainly what it meant to be analogous, I do recall having discussions of what that actually meant.

Q. And what is your understanding of the legal requirements for something to constitute analogous art?

A. So right now is there a question on the table or what?

Q. Yes.

What is your understanding of the legal requirements for something to constitute analogous art?

A. Okay. I don't think I've got that spelled out specifically here. But as I was just telling you, that it would be drawn to the same basic problems.

But if you give me a moment, I'll actually look at what we described in Paragraph 51 and otherwise to refresh my memory as to, sort of, the reasoning behind this.

So if we look at Paragraph 51, we see that at least with regards to these that both

Low and Skowronek describe in detail methods to communicate payments requests. So since both of them are describing similar methods, that would be one of the things that allows one to describe something as analogous art.

And if we look with respect to Freeny, both Low and Freeny again describe methods in this case to communicate information between a machine, such as a vending machine and a mobile device. And we say, "As such, both Low and Freeny are analogous art." So, again, a second example of, sort of, the same set of criteria.

With regard to Wilson, "Both Low and Wilson describe vending machine including a module to communicate with external devices." So, again, based on there being some part of the problem that both are solving, both are analogous art.

Q. But what I want to understand is those problems that you're referring to. What specifically is your understanding of the problem that Low is following?

A. In particular, if we look at Low, Low is describing methods to communicate payment requests and authorizations between a machine and

a mobile device.

And with respect to this particular question when you look to Skowronek or Freeny, both of those -- all three of those are, in fact, addressing basic problems of methods to communicate information between a machine and a mobile device. So they're all addressed to sort of a common general area of problems, and that makes them analogous art.

Q. And I guess I'm still not understanding what the problem is that you're referring to. You're referring to, "Low describes methods to communicate payment requests and authorizations between a machine and a mobile device."

So what's your understanding of the problem that Low is solving?

A. That in this case you are communicating information in support of payment, in fact, also between a device that is going to be doing vending, or whatever, and a mobile device. So, in other words, what we're looking at in terms of making things analogous art is that one person looking at one of these systems would have considered other writings, other teachings, in what we call analogous systems, is something that

would present themselves to the user as relevant to solving whatever problem they were trying to solve.

Q. So do I understand correctly that in your view the problem that Low is solving is how to communicate information in support of payment between a device that's doing vending and a mobile device?

A. That was an unclear statement or a question. Half of it was missing.

Q. I'll read it again. If I got cut off, I apologize.

Do I understand correctly that, in your view, the problem that Low is solving is how to communicate information in support of payment between a device that's doing vending and a mobile device?

A. That is not the sole problem that it is trying to solving. If you want to know what Low is doing we should try and go to the description that I have of Low, which would be at, it looks like, Page 16, one-six, and we can look here and we can see Summary of Low.

So Summary of Low. "Low discloses a similar system and device describing wireless

electronic payments to non-Internet connected machines through user devices." I'd say that that is, at the highest level, what Low is trying to do. That's paragraph -- or, sorry, Column 1, Lines 16 to 20 at Low.

The question that you were you were just asking me is what makes something analogous art. Now, what makes something analogous art is that if we had is someone that was starting with one piece of art, let's say Low, trying to improve it in one way or another, what kinds of additional art would they be drawn to? And they are going to be drawn to that additional art based on similarities to the approach that they're trying to improve in various ways. What is the problem that is being solved? But that could be a subpart of the problem that is in there and that you have some commonalty between the other piece of art that you say is analogous and this one here.

So what is it that makes these other pieces of art analogous to Low has to do with whatever particular problem a person of ordinary skill in the art currently working on something based on Low is going to be trying to accomplish.

Q. So is it your understanding that the analogous art determination centers on a problem that a POSITA is trying to solve when reviewing a reference?

A. I'm not sure your question is specific enough for me, but let's see if we can -- if I have one piece of art that is in front of me; I've got a system that does X, okay? We're not talking about the '045 here. We're just saying, hey, I'm working on Low's system, for example, what are the kinds of things that would be obvious to me to do in modifying Low to solve particular problems that are in front of me, and I would look to what we consider analogous art. And the analogous art is defined with respect to, well, what it is analogous to. So if it is -- this art is analogous to Low, it means that there are, sort of, common problems that one would be, sort of, drawn to in terms of what one is looking to.

Q. So it's the problem I want to drill down on.

You've just testified, and I'm reading here, "Working on Low's system, for example, what are the kind of things that would be obvious to

me to do in modifying Low to solve particular problems that are in front of me."

And what's the origin of those problems? Is it problems in the prior art reference? Is it problems in the '045 patent? Is it problems that a POSITA might be working on that don't come from the prior art or the '045 patent?

A. I would say it is the common things that one is looking to address within the primary reference that you're saying this is analogous.

So we're saying here in 51, "As such both Low and -- I can always never pronounce this -- Skowronek, are analogous art." And then they're also analogous to the '045, in this case, because you've got, sort of, general problems that at least the '045 claimed to solve or whatever that you've got relevance of these references.

So, in other words, what does it mean for it to be analogous? It's more an issue of relevance. Relevance to the problem at hand, as would be seen by a person of ordinary skill in the art.

Q. And, again, the problem at hand is what problem?

A. It could be many different things that are in there.

It could be, you know, at the highest level, what the systems are doing, but it could also be a specific subpart; something that is to be addressed to be improved.

Q. And how about Wilson? What's the problem in Wilson?

A. When we look at Wilson, what we're looking at is the issue of how one integrates a -- this improvement into an existing machine. And in some sense here, what Wilson is doing -- I mean, you've got a standard that is there, okay? A preexisting standard. And it's really, you know, almost even without another reference, although we've got the other reference here, obvious to try to integrate using an existing standard, okay?

And what Wilson is doing is Wilson is utilizing that particular standard in terms of how that integration is occurring. And, you know, the problem in that case is how to integrate one device or one technology with another thing. And, I mean, the solution is, okay, you use the standard, sort of obvious, in

and of itself, in my view. But, certainly, one can say what Wilson was trying to do was utilize the standard to do that integration, and doing that integration is what made it the analogous art.

(Exhibit No. 1004, United States Patent No. 10,210,501, was introduced.)

BY MR. ARGENTI:

Q. Why don't you take out Exhibit 1004, please?

A. I'm sorry. What exhibit?

Q. 1004.

A. Okay. And that is Low and I have that up.

Q. Did you review this exhibit in its entirety when you were forming your opinions in this case?

A. When I was forming my opinions, I didn't review, I'd say in its entirety, although there were certain parts that obviously I spent a lot more time than others. Some were pretty much just sort of, you know, reading through, but, yes, it was read in its entirety.

Q. Can you turn to Figure 4, please, of Low?

A. Okay. So I will turn to -- let's see. That is Figure 3 -- Figure 4. Okay. I'm going to rotate it.

Okay.

Q. And this figure depicts the four basic components of Low's system, right?

MR. MUDD: Objection to form.

THE WITNESS: I do see -- I do see in this figure it showing several components.

BY MR. ARGENTI:

Q. So there's the vending machine, which Low describes as non-Internet connected, right?

A. There is, in this case, a figure of a soda machine, a vending machine. And, yes, Low describes it is not Internet-connected.

Q. And then there is a user device which can be a smartphone, right?

A. There is a picture here of a user device, or the mobile device, as we've been referring to it. And that is shown here and, in most instances, would be a smartphone or a cell phone.

Q. And then there's what Low calls a payment provider server, right?

A. The figure shows a payment provider

server.

Q. And the fourth basic component is a vendor server, correct?

MR. MUDD: Object to the form.

THE WITNESS: And the figure shows a vendor server. As to whether these are separate or not, it probably depends upon different embodiments. In fact, some of these aren't even present in some of the embodiments within Low.

BY MR. ARGENTI:

Q. What were you referring to there specifically?

A. In particular, when you look at the different embodiments in Low, there are some instances where you only use a payment provider server. There are some instances where you actually send your request, or the request gets sent to the payment provider server. The payment provider server communicates with the vendor server and the reply actually comes back from the vendor server itself; you know, in some sense, not -- if we think client server model, that's not really, sort of, two separate servers in that particular case.

There's some other embodiments, as well,

where there are different messages that go to different components. So Low describes quite a different number of embodiments.

Q. And the user device, the payment provider server and the vendor server here in Figure 4 are all connected to each other through a network like the Internet, right?

A. You froze and then it sped up. Maybe you can just repeat that, please.

Q. Sure. Looking at Figure 4, the user device, the payment provider server and the vendor server, are connected to each other through a network like the Internet, correct?

A. So in this particular figure, the network -- the Network 460 is a network like the Internet; probably is the Internet, in some sense, although the communication between payment provider and vendor might be local area network or other things, because they may be collocated. For all we know, they could even be on a single computer.

But certainly the communication between the user device and these other components appears to be other an Internet, like the big "I" Internet, yes.

Q. If we look at the Network 460 and the Payment Provider Server 440, there's an arrow with two arrowheads in between those, correct?

A. Oh, you mean a single line with an arrow on both directions -- or both ends?

Q. Yep.

A. Yes. That is correct.

Q. What does that mean, in your understanding?

A. Well, first of all, this is describing a particular embodiment, I presume, as opposed to necessarily everything that's occurring in here. So there may be certain things that they're leaving out. But this implies to me -- well, actually, it's -- you know, and it's a little bit ambiguous, really, what this implies.

I mean, normally when one looked at this, one is saying that communication to and from that particular entity is sort of through the network, okay? But, you know, it's not like those two arrows are a separate component.

That line with those two arrows, in some sense, is almost part of it in and of itself. So, you know, what does it mean? I mean, it's just sort of how one chooses to visualize

something. But I would understand this is saying that, at least in a particular embodiment, there is communication ultimately through the network to and from that -- and we're talking about Payment Provider Server 440; is that correct?

Q. Right.

A. Yes.

To and from there through the network, and then wherever that communication may go. Similarly, we see, sort of, that wireless signal -- almost that wireless signal on the other is side of that network cloud. Well, that wireless signal also is another one of things that it probably is part of that network cloud.

Q. So just focusing on that line between the network and payment provider server, it's your understanding that that typically would indicate communication to and from the payment server over the Internet, or whatever network is represented by 460. Do I have that right?

A. That would indicate to me that it is possible to communicate with the payment provider server through the Network 460.

Q. And the line between Network 460 and Vendor Server 450 would have the same meaning; is

that right?

A. That line between Vendor Server 450 and the network would also say that it is possible to communicate with the vendor server, to and from, over the Network 460.

Now, that's not to say that that's the exclusive communications that you have there. But that from that network, yes, you can communicate with Vendor Server 450 or Payment Provider Server 440. Whether these are the same computer and different computer, anything else. So, in other words, it's not telling me anything about that. It's simply telling me that I can communicate with those interfaces over the Internet -- or over Network 460, we'll say.

Q. And there's no similar arrow line indicating communication directly between Payment Provider Server 440 and Vendor Server 450, right?

A. In this particular figure, there is not a line that is separate from that.

Q. Now, if we turn to Figure 1 of Low, we see those same four components of the Low system, right?

A. I'm sorry. What am I turning to?

Q. Figure 1.

A. Figure 1 of Low. Okay. Let me go up two things here.

MR. MUDD: And object to the form.

THE WITNESS: Figure 1. And I am on Low, and let me rotate.

Okay. So when we look to Figure 1 of Low, what was your question again?

BY MR. ARGENTI:

Q. That we see the same four components in Figure 1 as we saw in Figure 4, right?

MR. MUDD: Object to the form.

THE WITNESS: We do see components labeled Vending Machine, User Device, Payment Provider 140, Vendor Server 150, this figure shows those same basic components.

BY MR. ARGENTI:

Q. And in your declaration you rely on each of those four components as satisfying various elements of the '045 claims, correct?

MR. MUDD: Object to the form.

THE WITNESS: I believe that in various parts of my declaration I do refer to those components that are in here.

BY MR. ARGENTI:

Q. Could we turn to Column 5 of Low,

please?

A. Column 5 of Low?

Q. Column 5. And then look at the paragraph that begins at Line 19 of Column 5.

A. Okay. I am at 19. I'm reading now.

(Reviews document.)

Okay. I've read through that paragraph.

Q. And starting at Line 22 of Column 5, Low explains that the vending machine includes means for selecting a product such as a keypad, touch screen or display, correct?

MR. MUDD: Object to the form.

THE WITNESS: This is the words that you just described are in that paragraph. That is correct.

BY MR. ARGENTI:

Q. So to begin the vending transaction process that Low describes, the user can go up to the vending machine and use its input mechanisms to select a product, right?

MR. MUDD: Object to the form.

THE WITNESS: Well, I'm not quite certain that that is precisely described here. I won't dispute that that is possibly described elsewhere. But this simply says that, "The

product dispensing module may include means to select a product, such as using a keypad, touch screen, display or other selection means."

BY MR. ARGENTI:

Q. If it would help we could take a look at Paragraph 105 of your declaration.

A. Okay. 105.

(Reviews document.)

I have looked at Paragraph 105.

Q. So in the second sentence there you say, "After the user selects the product using the input mechanism, and after the purchase request is sent to the server, the payment authorization has been forwarded back and so on . . ." so you're relying on Low's disclosure of the user utilizing those input mechanisms that we just looked at, right?

A. In this particular case, yes, we're relying on that.

Q. And if we look back at Paragraph 78 of your declaration, there we see that when you're addressing the input mechanism aspect of the claims, you're citing that very portion of Column 5 that we just looked at, right?

A. So, first of all, you dropped out -- you

-- sorry. You dropped out. You were directing me to Paragraph 78, but what you said after that wasn't clear.

Q. That in Paragraph 78, we see that when you are addressing the input mechanism aspects of the claims, you're citing that portion of Column 5 that we just looked at, correct?

A. That is correct.

Q. So, again, in the mapping of Low that you're relying on for Claim 1 of the '045 patent to begin the vending transaction process, the user goes up to the vending machine and uses its input mechanism to select a product, right?

A. In this particular case, you are using that input mechanism to select a product, yes.

Q. And to do that, the user is physically interacting with the vending machine, correct?

A. If the user is pressing those input mechanisms, the user is physically interacting with the machine.

Q. So if the user in Low is any distance away from the vending machine, the product selection has to happen on the user's mobile device, right?

A. Well, I mean, there's the ambiguity

of your question: "Any distance from the machine," okay, as that's imprecise. But if the user were not within the range to actually physically interact with those buttons, the interaction wouldn't be through those buttons in that case.

Q. And in such a case the interaction would be on the user's mobile device; is that right?

A. I need to look further at other things. So that's -- we just sort of switched embodiments right now. So I'd need to do a little bit more review.

Q. Is it your understanding that Low discloses a user selecting a product in a way other than physical interaction with the vending machine?

A. I believe that there is a way, but I need to refresh my memory on that.

Q. If it helps, you could take a look at Column 2 starting around Line 20. Let me know if that refreshes your memory.

A. That does, in fact, refresh my memory. And as I said before, we just switched embodiments. It starts right here, "in some embodiments," so in this other embodiment, yes,

that is what occurred.

Q. So if the user isn't close enough to physically interact with the vending machine and select a product that way, the user also has the option to select the product on the user device, correct?

A. In some embodiments. So it would depend on the machine; it would depend on a lot of things. But, yes, Low describes an embodiment where that is possible.

Q. And then why don't we take a look at the bottom of Column 9, that last paragraph in Column 9.

A. I am reading now.

(Reviews document.)

I do see this in -- and, again, now we're talking about more of a completely different embodiment, but, yes, it is another embodiment.

Q. And in that embodiment, we see that Low discloses that the user doesn't need to be within wireless range of the vending machine when the user selects a product, correct?

MR. MUDD: Objection to form.

THE WITNESS: In this particular

embodiment, the user does not need to be. But, again, this isn't an embodiment that we even talk much about. So it's just another thing that is possible within Low.

BY MR. ARGENTI:

Q. This is an embodiment that you reviewed when you were preparing your opinions, right?

A. Certainly I reviewed all of Low when preparing my opinion.

Q. So now let's go back to the embodiment where the user selects a product by physically interacting with the vending machine interface. Okay?

A. Okay. What would you like me to look at?

Q. We could look -- we were in Column 5, so we could look back at Column 5; for example, in the bottom starting around Line 65 or 66.

My question is that after the user selects a product using a vending machine interface, the vending machine then creates a purchase request, correct?

A. In most of the cases that we were describing, that is what happens. So the purchase request is created, at least in some

embodiments, after the user has selected a product.

Q. And that applies to this particular embodiment that we're looking at here in Column 5 and onto Column 6 where the user selects a product by physically interacting with a vending machine, correct?

A. So when the user selects a product by physically interacting with the vending machine, that request is generated after the selection has been made. That is correct.

Q. And it's generated by the vending machine. Do I have that right?

A. It's generated by the module within the vending machine which we've tried to sort of separate those out. So it's the payment module within, and then, let's see, what was the term that we used for that module in Low. But, yes, it is that module that is generating the request.

Q. And that's a good distinction to make. Thank you for the precision. If you want to take a look at Paragraph 94 of your declaration, I think that's --

A. Yeah. So Low's electronic payment module contains the payment verification which

corr -- so that's what it's doing. And the purchase request is being generated by the electronic payment module.

Q. So in the embodiment of Low that you're relying on when mapping to Claim 1 of the '045 patent, after the user selects a product at the vending machine by physically interacting with the interface, then the electronic payment module that's within the vending machine then generates a purchase request. Do I have that right?

A. That is correct. So the electronic payment module will generate the purchase request after the user has initiated a process by making their selection with the physical box.

Q. And then after that purchase request is generated, it is sent from the vending machine to the user device, correct?

A. The purchase request is sent from -- well, again, the electronic payment module, which is sort of part of the vending machine -- so, yeah, we can say that, but let's just be precise there -- to the user device. That is correct.

Q. And if we still look at Paragraph 94 of your declaration, on that second sentence where

you talk about sending the purchase request to the user device, there you cite Low at 5:66 through 6:3, and 2:38 through 46, right?

A. That is what we cite there, yes.

Q. And if we look at that citation to 2:38 through 46 of Low, there Low explains that "The purchase request includes information such as a product name, product price, product code, a machine identifier and/or a transaction number," right?

A. I was trying to get to Low while you were reading all that, but we are at two -- sorry, what was it here? We were at 2:38, and that is 2:38.

(Reviews document.)

Okay. And what was the list of things that you just gave me in that request?

Q. Low explains that, "The purchase request includes information such as a product name, product price, product code, a machine identifier and/or a transaction number," right?

A. Right. So we see that it includes, "such as," and it included over in these things "and/or." So some of these may be included, some of them may not. But that's the basic

information that would be found in the request -- in the purchase request.

Q. And then in the next sentence there in that paragraph in Column 2, Low goes on to say that the user device then displays the purchase request, correct?

A. So it says, "The user device displays the purchase request," that is correct.

Q. And why does Low have the user device display the purchase request to the user?

A. I mean, what would seem to make sense is that if I'm the user and I'm going to, in essence, well, ultimately allow this request to go through, I want to know what I'm being charged for and make sure that it is consistent with what I requested; what I press.

So that, you know, it's not, I go up to the machine, I request a dispensing of one item, but what's going through my user device now is really, you know, a whole bunch of purchases for the person behind me in line. There has been some fraud like that at gas stations recently, but . . .

Q. So Low says that, to avoid that, what you're going to want to do is display the

purchase request to the user, right?

A. At least in this -- in -- in one embodiment. I mean, there are other embodiments where that approval isn't needed. But displaying that to the user is one of the things that can be done -- I say "can be done," and what you might want to do in certain cases.

Q. So reading on in that paragraph in Column 2, "Once the user confirms the accuracy of the transaction information, the user selects a payment button or option on the user device to communicate the payment request to a payment server," correct?

A. Give me a moment.

(Reviews document.)

That is what it says, yes.

Q. And if we turn to Column 6 of Low, starting at Line 32, there's a paragraph that explains that the payment provider server can be a company like pay -- or operated by a company like PayPal, correct?

A. Well, you've got -- it starts off -- so PayPal at the end of the paragraph is one of the things that's in there as an option. It says, "Payment provider server may be maintained, for

example, by an online payment service provider which may provide processing for online financial and information transactions. In this regard, it includes one or more processing app . . ." But, in essence, PayPal is one example of the kind of provider that could be the payment provider.

Q. And that payment provider in Low is a company that the user selects to process the transaction after the user confirms the transaction details like price, correct?

A. So you were saying that who selects the payment provider?

Q. The user.

A. Oh, okay. So, yes, the user clicks the pay button, which presumably does that. So just repeat your question. I want to make sure that I've got things right.

Q. "The payment provider in Low is a company that the user selects to process the transaction after the user confirms the transaction details like price," correct?

A. That is correct, yes.

Q. And then the payment server in Low receives the purchase request from the user device and authorizes the transaction, correct?

A. The payment provider in Low, in at least one embodiment, receives the user request and authorizes the transaction -- or authorizes the payment, technically.

Q. Is there a distinction in your mind between the two?

A. Well, in this particular case, what seems to be handled by something like PayPal is are funds available and that sort of authorizing the payment. I mean, one, presumably, could have other authorizations that are needed for, I mean, just in general, a transaction. Let's say you're purchasing liquor. Are you, you know, over 21 years old? Well, PayPal is not necessarily the one that is doing that.

A second thing that you need to understand also with payments is that often you have an authorization step and then a later -- and not too different from what we're talking about here, but a separate settlement step where the funds actually change hands. So let's just say authorize the payment when we're talking about an intermediary that is like PayPal for example.

Q. So is it your understanding that the payment provider's server in Low does not authorize the transaction?

A. Well, it depends on what you define as "the transaction." Okay? I mean, if it is authorizing the flow of funds, then that is -- that's what's being authorized by PayPal. That's distinct from saying, well, I'm authorizing this exchange to occur. Because there may be other elements that are necessary for that. So it really depends on what you mean by "transaction" in this particular case.

When we look at Low, really what is being authorized by that is the funds.

Now, as far as Low is concerned, that may be all that's concerned with the transaction. But in terms of other things, you know, you might draw a distinction, you know. If -- again, I just -- I gave you an example a moment ago. You know, is someone that is 15 years old authorized by the payment server to purchase liquor? Not in most states.

So what is the transaction? Is the transaction for the liquor or is the transaction as, sort of, Low described it, just the funds?

Q. So aside from the liquor purchase context, is it your understanding that the payment provider server is authorizing the transaction?

A. The payment provider is simply authorizing the funds to flow, okay? If the transaction were solely the funds, and not the other end of it, then maybe that's the case. But the payment provider is really authorizing the payment.

Q. And if what is necessary in order to complete the transaction is an authorization of funds, then the payment provider server is authorizing the transaction. Do I have that correct?

MR. MUDD: Object to the form.

THE WITNESS: Yeah. I'm not -- I'm not certain that -- that -- that you do. In other words, if, in order to purchase liquor I have to pay $10, and the merchant has -- or, sorry, and the payment provider has said, yes, you are authorized to transfer $10, that doesn't mean that I am now authorized to purchase the liquor.

BY MR. ARGENTI:

Q. Why don't we take a look at Paragraph 40

of your declaration, please.

Let me know when you're there.

A. Okay. Let's see. Let me read through it. I am at 40.

(Reviews document.)

Okay. I've read through 40.

Q. And you see in the first sentence where it reads, "Once the transaction is authorized by the remote payment provider server"?

A. I do see where it states that.

Q. At the time that you signed your declaration, was it your understanding that the payment provider server in Low authorizes the transaction?

A. At the time that I signed the declaration, and even now, it is my belief that the payment transaction is authorized by the remote payment provider. We say "the payment transaction." Because, sort of, in the way of thinking about a lot of these things, you've got a payment. You think about the transactions on your credit card statement. That's focused on the payment aspect itself.

Now, my understanding is that in your -- I'm not sure if it was in your POPR or elsewhere,

you tried to point to a further distinction between, sort of, the payment and a transaction. And here when we're thinking about once the transaction is authorized, really the transaction that we're referring to here is the payment transaction, as opposed to, sort of, to the full exchange and everything else.

So I think it's more terminology instead of what one is focusing on. And I think that there may be sort of an artificial distinction that you're trying to draw. In fact, the point is there is part of your patent itself that tries to draw that distinction between, sort of, authorizing the payment and other things.

But in this particular case, we're talking about Low. And the transaction that I'm talking about here in 40 is concerned solely with the funds. In fact, it's the payment provider in this particular paragraph that we're talking about that is completing the -- that -- that is authorizing the transaction; therefore, it's only concerned with the flow of funds related to that.

Q. In that answer when you said, "Really the transaction that we're referring to here is the payment transaction, as opposed to the full

exchange and everything else," what do you mean by "full exchange and everything else"?

A. I think what we need to do is look to -- well, you know, I probably -- I'm not sure if it was in your POPR or elsewhere, there is a distinction. But, you know, maybe the best way to have this discussion right now is to look at the particular point that you've been trying to make, and we can have, maybe, a clearer discussion with that context in mind.

Q. Well, that's what I'm trying to get at. I'm trying to understand the basis of your testimony here that you have in your declaration and that you're providing here today. So are you able to answer when you say, "the full exchange and everything else," what you meant by that?

A. I'm saying here that when I talk about "once a transaction is authorized by the remote payment provider," what I am referring to is the authorization for the payment transaction versus, okay -- and now I'll try to be a little bit more clear here -- other parts of transactions that are being authorized beyond solely the flow of the funds.

Q. What other authorization is there?

A. So, for example, when I go in -- let's not talk about vending machines. I go into a store and I make a transaction at the store. Let's say I'm paying cash, okay, and I take particular goods. The transaction includes the particular goods that I am receiving, okay?

In the case where I go into the store and I pay by credit card for a particular set of goods, the transaction also includes the goods that I am receiving in exchange for my payment. But as far as the credit card company is concerned, in most instances, the credit card company is not authorizing the particular goods I'm receiving. They're simply saying, yes, I will make good on these funds. Okay?

And when you look to your credit card statement, you see this store, this amount. But usually you don't see -- I say usually; there are some exceptions. You don't see the goods that were purchased separately.

Okay. So in this case when we say, sort of, the payment authorization, we're talking about just the funds. When we are talking about the full transaction, I'm talking about including authority to get this particular set of goods and

everything else.

Q. So I'm interested mostly in what Low actually discloses, Dr. Neuman. And, in particular, the aspects of Low that you cite in your declaration; for example, when mapping to Claim 1. And I'm asking, then, about what additional authorizations are you referring to other than the payment provider authorization?

A. And all that I am telling you is what the payment provider authorization is for is solely for the funds in my arguments around Claim 1, okay?

It is not a statement of any other kinds of authorization that is there. Ultimately, the authorization for the funds is necessary in order for the vending machine to decide that it will dispense the product. But the authorization that is provided in Low by the payment provider server is for the funds.

Q. Can you point me now to where in Low it talks about the vending machine making a decision to dispense product?

MR. MUDD: Object to the form.

THE WITNESS: I'm sorry. Can you repeat the question?

BY MR. ARGENTI:

Q. Can you point me to where in Low it talks about the vending machine making a decision to dispense product?

A. I do have this in my report. I just need to find the -- though, it doesn't use the word "decision," but it is the -- let's see.

(Reviews document.)

I mean, in some sense, you've got it here, not explicitly with the word decision, but after -- let's see, payment requests to communicate --

(Witness reads document to himself.)

One moment.

So then the user device transmits said authorization to the machine to allow, well, in this case, the user to dispense the product. But really that's enabling the machine to dispense the product. So that's, in some sense, where the decision gets made based on some factors, and one of those factors being the authorization of the payment.

We could probably look to, and I'll look further down here.

We'll go to, actually, Claim 1. Let's

see if I've got Claim 1 here.

(Witness reads document to himself.)

So if we look at a decision here -- we can go to 1E and -- well, here, 1E is the claim language. Let me look down further here.

(Reviews document.)

Okay. So we can go to my Paragraph 105.

Q. Okay.

A. So 105, "The dispensing module is configured to interact with electronic payment module 130" -- well, that's the less relevant part here.

"After the user selects the product using the input mechanism" -- which we've been talking about -- "and after the purchase request is sent to the server and a payment authorization has been forwarded back to the electronic payment module" -- adapter module in the vending machine -- "via user device, now the" -- and we'll say, quote -- "vending machine 120 may dispense the purchased item of products."

Okay? So we say "may," okay? But it's a decision. Does it or doesn't it? And part of that decision is, sort of, the receiving of the, quote, payment authorization, which we see here.

So the payment authorization is for the payment. It's still up to the vending machine now -- 120 -- which may dispense the purchased item or products.

Q. Can you point me to anything in Low that discloses the vending machine making a decision not to dispense products after it's received approval?

A. I probably couldn't offhand. Maybe I could find something in there. But,

Q. But nevertheless, it's your understanding that the product in Low is dispensed in response to vending recipient making an affirmative decision to dispense the product, correct?

A. I would say that the vending machine makes a decision; initiates whatever levers cause the product to come out, however that might be, based on various information. Some of that information being the receipt of the payment authorization. And the payment authorization is what we've been talking about, in terms of Low, from the payment provider server. Okay? And it is that payment authorization that, at least that earlier paragraph, I was describing as

the transaction authorization.

Q. And what other various information is the basis of the vending machine's decision whether to dispense product in your understanding?

A. I'm not pointing to anything in particular. What I am simply pointing out here is that the authorization provided from the payment provider is an authorization to provide the funds. It is not intended as an authorization beyond that.

Q. But Low does disclose that that can be the sole authorization that the vending machine receives that leads to dispensing product, correct?

MR. MUDD: Object to the form.

THE WITNESS: I would not say that Low describes that can be the sole. I would say that Low does not describe that there has to be something in addition to it.

BY MR. ARGENTI:

Q. It's your understanding that Low does not disclose an embodiment in which the only authorization received by the vending machine comes from the payment provider server?

MR. MUDD: Object to the form.

THE WITNESS: I am not saying that Low doesn't describe an embodiment where that may be the only thing. I am saying that there exists other embodiments, by the way, where that is not the only thing that is provided back to the server -- or to the -- sorry, to the adapter module to the electronic payment module.

BY MR. ARGENTI:

Q. In the embodiment in which the only authorization the vending machine receives comes from the payment provider, is there an authorization of the transaction?

MR. MUDD: Object to the form.

THE WITNESS: Again, I am telling you that what the payment provider is authorizing is the payment. So to the extent that we say "the transaction that is authorized by the payment provider," that transaction is the payment. We're not saying that the payment provider is authorizing anything beyond that fact, okay?

Now, I'm not saying that the dispensing module, or the vending machine, cannot choose to rely on that fact solely and make its decision with no other input. Yeah. That's certainly

possible. But I am trying to make it clear that what the payment provider is authorizing is the flow of funds.

BY MR. ARGENTI:

Q. So I understand it's your position now, in contrast to what's in your declaration, that the payment provider server does not authorize the transaction in Low. So my question then would be, is there a transaction authorization in Low disclosed?

MR. MUDD: Object to the form of the question.

THE WITNESS: What I am saying now is that the authorization from the payment provider in Low is an authorization with respect to the flow of funds and the transaction that will appear on your credit card statement that may seem a transaction, but it is not an authorization with respect to other aspects beyond the payment, which you or, I should say, some of your filings try to draw a distinction with.

And I think it might be easiest to resolve this if we go right to what your arguments are, and I'd be happy to is discuss

this suitable language, as opposed to an intentional attempt that I see here to try to confuse the language, use the same term now with respect to two distinct different things.

BY MR. ARGENTI:

Q. So, again, my question was does Low disclose a transaction authorization?

A. And I told you that Low discloses the authorization of a payment transaction -- of a payment transaction.

Q. And that's by payment provider server, correct?

A. Sorry. The payment -- yes.

Low, when the payment provider server issues it's authorization, is authorizing a payment transaction.

And, yes, is that a transaction? In one context, yeah. Are there other kinds of transactions? Yeah. There are other kinds of transactions, too, that it is not, okay? They're both transactions, but I think they're -- that -- that it is important, at least given some of the points that your side has made, to try to clearly understand which transactions are which kind and which are different?

Q. So the vending machine purchase in Low involves payment for a product, correct?

A. The vending machine purchase in Low involves, as a component, a payment.

Q. For a product. It is a purchase, correct?

A. The vending machine involves a payment which will be used for a product.

Q. And that transaction is what is approved by the payment provider server, correct?

A. The payment provider server is approving the payment transaction, which is part of the overall transaction.

Q. And what's the distinction there in your mind between the two?

A. I started giving you this example in the context of the cashier at a checkout, so I go in --

Q. No. No. I want you to talk about what's actually in Low. We're talking about the vending machine transaction in Low.

A. Okay. So in the vending machine transaction in Low, what is happening in Low is that the payment provider is authorizing the payment transaction, which means that ultimately,

when settlement occurs, the funds will be available and provided to merchant. So that's what the authorization is that is occurring here.

The broader transaction is, I have gotten funds and I will dispense value that is commensurate with those funds. That's the broader transaction. The authorization by the provider -- by the payment provider in Low is with respect to the funds.

Q. And the purchase request indicates the exchange of a product for funds, correct?

A. The purchase request may include -- okay? Not always -- but may include information about the particular goods. Not always.

Q. And that purchase request goes to the payment provider server, correct?

A. That purchase request will, in some instances, go to the payment provider server. In other instances, it may go to the payment provider server and from there on to the vendor server. In other embodiments it may go direct to the vendor server.

Q. Where's that third embodiment you just mentioned? Could you direct my attention to the an embodiment where the payment provider server

does not receive the purchase in Low?

A. I'd have to look. There are a lot of embodiments in there. I can spend time looking for it, but . . .

Q. Okay.

A. Would you like me to?

Q. Yes. I did ask the question.

A. (Reviews document.)

We could -- and there may be other spots in here, but we can start at Low, Column 8, Lines 3, starting, "Vendor Server 150 may include one or more authorization applications which may be configured to interact with Purchase Application 112 of the user device." Okay. So that's one possible case.

Let me continue looking through here since you seem to want me to find more possible cases.

(Witness further reviews document.)

MR. MUDD: Hey, Matt. I think maybe after Dr. Neuman finishes this question it would be a good time to take a break. I think we've been going about hour or an hour 20 minutes.

MR. ARGENTI: I think we're getting

there, but I will have a follow-up on his answer.

MR. MUDD: Okay. Sounds good.

THE WITNESS: Okay. So various things. But, you know, I think that's one of the points where that appears. So do you have your follow-up question?

BY MR. ARGENTI:

Q. Yes. So you just directed my attention to the first sentence of paragraph -- the first full paragraph in Column 8. I would direct your attention to the last sentence in that paragraph, please.

A. Okay. So where were we again? What column? In what line?

Q. Column 8, Line 17, I believe. The sentence that begins "Authorization application."

A. Okay.

Q. And it says, "Authorization application may receive the approval of the purchase request directly from payment provider server 140 or may receive the approval from user device 110 after payment provider server has approved the purchase request," right?

A. I do see that.

Q. And it doesn't mention anything about

the vendor server in that sentence, right?

A. Wait one second. Let me look at this once more.

(Reviews document.)

And you say it doesn't include what?

Q. It doesn't mention the vendor serve in the sentence, correct?

A. I believe the authorization application is something that runs on the vendor server. So at the beginning, "Vendor server 150 may include . . ."

So when it is referring to "authorization application" here, that is a component of the vendor server.

Q. That's helpful. What so what it's saying here is that the vendor server can receive approval of the purchase request directly from the payment provider server or --

A. That is one -- that is one --

Q. Excuse me, Dr. Neuman.

-- or, alternatively, from the user device when the user device received it from the payment provider server, correct?

A. In this particular part, those are the two different embodiments that are being

described in that paragraph. So, as you said, it may be, okay, you know, sort of, in one case, the payment provider communicates directly with the vendor server and the vendor server is then able to go back to the user device to forward things on.

In another instance, the payment provider does the payment authorization, which is what we were trying to draw as a distinction before, returns that to the user device. The user device now goes to the vendor server in that particular case, yes.

Q. And that's consistent with that first sentence that you pointed to in that paragraph where the surrender server can be in direct communication with the payment provider server and/or the user device, correct?

MR. MUDD: Object to the form.

THE WITNESS: Two separate instances, but it is consistent with both of those. So, in other words, in communication with the payment provider, that's the instance where it flows that way. And in communication with the user device, that would be the path where the payment authorization goes to the user device; the user

device now communicates to the vendor server. So that's where that communication exists.

BY MR. ARGENTI:

Q. Right. And nothing in that paragraph talks about an embodiment where the vendor server does not receive an approval of the purchase request from the payment provider server whether it's directly or indirectly, right?

MR. MUDD: Object to the form.

THE WITNESS: Please restate that, same words. But I think there is something that needs to be corrected there, so please restate that.

BY MR. ARGENTI:

Q. There's nothing in that paragraph in Column 8 disclosing an embodiment in which the vendor server does not receive an approval of the purchase request from the payment provider server either directly or through the user device, correct?

A. I believe that in Column 8 the vendor server, if it receives a payment authorization, is receiving it either directly from the vendor server or relayed through the client device -- or through the mobile device.

Q. And there's nothing in Column 8

describing the vendor server not receiving a authorization of the purchase request, correct?

MR. MUDD: Object to the form.

THE WITNESS: Column 8 contemplates the receipt of that authorization -- we're talking about the authorization, right?

BY MR. ARGENTI:

Q. The approval of the purchase request.

A. Yes. Approval, which is what I've been thinking of as authorization.

But in its negation; that is, if the authorization -- or, excuse me, if the authorization -- or if the approval of the purchase request; that is, the authorization of the payment is not received, then the vendor is not going to respond. In other words, it talks about the positive flow: If this happens, then that. But, naturally, if this doesn't happen, then not those other consequences.

So is there a situation where it doesn't receive it? Yeah. But if it doesn't receive it, then it doesn't receive it and it doesn't have any action to take.

Q. Right. But there's no disclosure in this paragraph of the vending server sending an

authorization to the vending machine if it has not received the approval of the purchase price by the payment provider server, right?

A. In this particular paragraph, I do not seep that described.

MR. ARGENTI: Thank you. I think we can take a break now. Why don't we do -- is 10 minutes enough?

THE WITNESS: I think 10 minutes should be enough.

MR. ARGENTI: Okay. So then 12:53.

(Recess taken.)

BY MR. ARGENTI:

Q. Dr. Neuman, can we look -- still looking at Low, can we look at Column 2 of Low, please, starting at Line 49?

A. Let's see. Column 2, Line 49.

Q. And we were getting into it a little bit before we took the break about the involvement of the vendor server, and I want to ask a couple questions about that.

A. Okay.

Q. Starting in Line 49 there in Column 2, "Low describes the payment provider server sending the purchase request approval to

the vendor server," correct?

A. Give me a moment.

(Reviews document.)

I see that paragraph, yes.

Q. And then starting at Line 54, Low says that "The operator and that the vending machine may transmit a purchase authorization to the user device, which is then communicated to the vending machine," correct?

MR. MUDD: Object to the form.

THE WITNESS: That seems correct. "The operator may, in response to the communication, transmit a purchase authorization to the user device." This authoriz -- well, you can read what is there. "The user device may then communicate the purchase authorization to the machine" -- that's the vending machine -- "which may decrypt the information and dispense the purchased items." That is correct. Yes.

BY MR. ARGENTI:

Q. And I want to ask about that sentence you jumped over, actually.

A. Okay.

Q. Starting at Line 56 that says, "The

purchase authorization may include a private key to encrypt a dispense message that includes machine identifier, transaction or any other desired data." Do you see that?

A. I do see that, yes.

Q. Below there says that, "The purchase authorization sent from the vending server to the user device can include a private encryption key," correct?

A. So it says, the purchase authorization may include -- or, sorry, the purchase authorization may include a private -- so the purchase authorization may include a private key to encrypt a dispense message that includes, yes.

Q. And that's the purchase authorization that is sent from the vending server to the user device, correct?

A. Give me one moment.

(Reviews document.)

Okay. So the language in this is a little bit funky, and there always is in these things. But why don't you ask your specific question about it.

Q. That the purchase authorization sent from the vendor machine to the user device --

A. To the user device --

Q. -- includes a private key to encrypt a dispense message, correct?

MR. MUDD: Objection to form.

THE WITNESS: That's what it says here, yes.

BY MR. ARGENTI:

Q. Now, I'll try -- we talked a little bit before. Alternatively, there's an embodiment where the vendor server is not involved, right?

A. Oh, yeah. Clearly there is an embodiment where the vendor server is not involved.

Q. And in that embodiment, the payment provider server can send an authorization back to the user device to be provided to the vending machine, correct?

A. So in that other embodiment, the response comes from the payment provider to the user device where it is then forwarded on to the module that is within the vending machine.

Q. And the purchase request approval from the payment server is different than the authorization message from the vending server, correct?

MR. MUDD: Object to the form.

THE WITNESS: Yes. So just -- yeah. Please repeat that.

BY MR. ARGENTI:

Q. All right. Let me ask it this way: In the embodiment where it's just the payment provider server involved and not the vending server, there's no dispense message in the approval or authorization that's provided by the payment provider; is that correct?

A. I have not seen something -- it doesn't mean it's not the case -- but that had the dispense message in the same form from the vendor coming from the payment provider. I have not seen that.

Q. And there's also no disclosure in Low that the purchase request approval sent by the payment provider to the vending machine can be encrypted, right?

A. Actually, there are a number of issues that come up there. So, first of all, if we look to Low directly, there is an indication that the response from the payment provider may be decrypted, which gives us sort of an implication that it was encrypted, because it's not actually

changed by the intermediary, by the mobile device.

And, certainly, by the way, also in the instance, but -- I mean, we're not talking about the grounds where we're doing combinations right now, but in the combinations with Skowronek -- I never pronounce it right -- you've got the indication, sort of the motivation of the security technologies being used, and you can apply the disclosures in -- in Skowronek. That's what it is.

But if we look just to Low, there is -- I sort of had the understanding that the response is encrypted, though did not see the specific details to support it on the encryption side. It's supported on the -- it is decrypted and if it is decrypted it must have been encrypted. Does that make sense or do you need to push down further or --

Q. I think it -- I think it made sense.

A. Yeah.

However, as we were talking about before, in that paragraph that we just looked at, and that is from the vendor server, there's the clear discussion of the key that is going

to be used. I mentioned a little bit of oddity there, in that this actually says the purchase authorization may include a private key.

I think what is really meant is this purchase authorization is encrypted with a private key, but that's -- but you've got the disclosure here as it is, so that's fine.

Q. What it says is that the private key is provided as part of the information and sent to the user device, right?

A. That's what it actually says here, yes.

Q. Bear with me just one second. We went through so many questions in that last session that I don't want to burden you with repeats. So I'm just making sure I don't ask you duplicative questions here.

Okay. Why don't we take a look at Paragraph 64 of your declaration, please.

A. Okay. Paragraph 64.

(Reviews document.)

Okay. I've read through 64.

Q. All right. And in the second sentence at Paragraph 64, you state that "Low's Claims 1, 7 and 12 require monitoring the user's proximity to the machine." You see that? And then you

have a quote after that.

A. I do see that, yes.

Q. And the thing that's doing the monitoring of the user's proximity is the payment provider server, or the remote server, correct?

MR. MUDD: Object to the form.

THE WITNESS: I do not think the payment provider server is doing the monitoring, but let's be more clear what you mean by "the monitoring."

BY MR. ARGENTI:

Q. Okay. Why don't we look at Claim 1 of Low.

A. Claim 1 of Low. Claim 1 of Low?

Q. Yes. I believe that's what you're referring to there in Paragraph 64, right?

A. Okay. Fine. Let's look at this.

(Reviews document.)

Q. And if you see in Claim 1 it recites "A system that performs operations comprising," and then it lists a number of steps. Do you see that?

A. Yes. I see the number of steps.

Q. And the first step that's listed is "Receiving by a payment provider a request to

view information associated with at least one of a plurality of non-Internet connected machines associated with a location of a user device for a user wherein the request comprises the location of the user device."

Did I read that right?

A. You read that correct. So that's where we get to the monitoring, okay. So when you say "monitoring," it's sort of how is it determined? This simply says, "the request comprises." That means that the request would include within it, not how that was obtained, but that the request comprises it, okay. I see that.

Q. Requiring I believe was your term that you introduced in Paragraph 64, right?

A. Okay.

Q. So if we look at the claims, though, it says there's a payment provider that receives a request to view information associated with -- and then are you okay if I use vending machines -- a number -- a plurality of vending machines as a shorthand here? -- "a plurality of non-Internet connected machines associated with a location of a user device, wherein the request comprises the location of the user device."

So the payment provider receives a request that includes the location of the user device. Are we on the same page there?

A. Yes.

Q. Okay. And then in the next step it's determining, based at least in part on the location, identification of the plurality of non-Internet connected machines within a distance to the user device.

Do you see that?

A. I do see that.

Q. And I think that sort of correlates to your term "monitoring" that you have in Paragraph 64, right?

A. Let me go back to 64.

Well, they're related, okay? So, in other words, when I say "require monitoring," it means some entity. Doesn't need to be the payment provider, but the --

Q. But is the --

A. -- monitoring information ultimately gets communicated to the payment provider in here. Okay. That's correct.

Q. And it's just not communicated to the payment provider. It's based on information

in a request that the payment provider receives, right?

A. Yeah. I don't quite see the difference there, but, yes, the payment receiver or the payment provider does receive that information.

Q. So the user device sends its location to the payment provider, right?

A. According to this, yes.

Q. And then the payment provider, based on that location, determines the non-Internet-connected vending machines that are close to the user device, right?

A. That's what's occurring here, yes.

Q. Okay. So going back to my original question, in Claim 1 of Low it's the payment provider server that determines which vending machines are within a specified distance of the user device, right?

A. I'm just reviewing the claim language right now.

(Reviews document.)

Okay. So can you repeat your question now? I just had to review Claim 1.

Q. So in Claim 1 of Low, it's the payment provider server that determines which vending

machines within a specified distance from the user device, right?

A. It appears to be that, within Claim 1 of Low, that it is the payment provider that is determining, based at least in part on the location, the identification of the plurality of non-Internet connected machines within the distance of the user device. So, yes, that is the case.

Q. So in Paragraph 64, when you refer to "monitoring the user's proximity in Low," that's not based on the signal strength of wireless communication between the vending machine and the user device, correct?

A. I'm just trying to un -- to -- to resolve this, because Freeny does it that way, but that's --

Q. Right. Right now we're just talking about Low.

A. So at least when we look at Claim 1, I presume, if you want to stipulate that 7 and 12 are similar, it appears that Low is doing this with the determination being by the server. That's what it appears to be.

Q. And it's not a determination

that's based on signal strength of wireless communication between the vending machine and the user device, right?

MR. MUDD: Objection to the form.

THE WITNESS: At least with respect to Claim 1, it does not seem to be based on signal strengths.

BY MR. ARGENTI:

Q. And we can stipulate that's the case for Claims 7 and 12, too?

A. I was asking you to stipulate that it was similar that those were the same ones.

Q. I will. Yes.

A. What?

Q. I will.

Can we turn to Page 42 of your declaration, please?

A. Page 42?

Q. Page 42.

And that discussion of Element 1E that starts at the bottom of the page.

A. Okay. Page 42, Element 1E.

Q. So this claim limitation requires that the payment-accepting unit dispenses a product or service in response to receiving user input

to the payment-accepting unit input mechanism if said adapter module has received an authorization grant, correct?

MR. MUDD: Object to the form.

THE WITNESS: That was an accurate statement of that part of the claim language.

BY MR. ARGENTI:

Q. So would you agree, then, that two things have to happen in that claim element in order for the product to be dispensed: One is that the payment-accepting unit receives user input to the input mechanism; and, two, is that the adapter module has to receive an authorization?

A. Well, I don't think you intended the word "in order" to be the specific meaning in order there when you just stated that. But -- but -- so I'll -- I'll just answer this way.

I do agree that there are two specific things here that need to occur.

Q. Okay.

A. And that those two specific things are that there needs to be a received said authorization grant, and that there also needs to be user input that at least initiated the

process, because that process needs to be in response to -- I wouldn't say immediately following -- but there needs to be that causal relationship. So those two items are necessary, yes.

Q. And that user input specifically -- I think we looked at it earlier in your analysis -- the user input is a product selection, right?

A. The user input was the pressing the buttons to select the product, that is correct.

Q. At least in your mapping to Low -- I don't want to get into --

A. Yeah. We'll talk about the previous discussion that we had, yes, that would -- would constitute such user input.

Q. Right.

So what is your understanding of the meaning of the term "in response to" in this claim term?

A. Okay. I sort of just, sort of, fit that in there. But when we say "in response to," it means that we've got an action that puts a set of steps in motion, and at some point that step, or that set of steps, results in something occurring, okay?

So, you know, to be explicit here in terms of what my opinions are with respect to this, if I press a button to select a product, and that results in a request being made for a payment authorization, and that payment authorization is received. And at this point -- I know you didn't like the word "decision," but a decision gets made whether to dispense a product and that decision is made based on, one, for example, is a product for the button that I pressed in stock? Okay. So that's in response to the button itself. And, two, this explicitly says there's another condition -- that other condition is that said adapter module has received said authorization grant -- that that would meet this particular outline.

Q. It's funny in that answer, Dr. Neuman, that part of your example was "if I press a button to select a product," because that gets to my next question. Is there a distinction in your mind between "in response to" and "if" in this claim term?

A. Could you say that again? A difference between "in response to" and "if"?

Q. Yes. In this claim term, is there a

distinction in your mind between what they mean in a claim term?

A. Okay. I mean, it's probably possible to construct something that might be. But the, "in response to," means that there needs to be sort of a causal relationship in some sense; in other words, something got put in motion. I press the button, and, I mean, sort of, the clearest case, but not the only case, would be that immediately something happens, okay?

But it's also in response to, if I press a button and that puts that process in place, and then at a later point in this process something happens, okay? So I press a button, process goes on. We send the payment request. We get the payment authorization. Continued processing goes on that says, "okay, the process authorization has occurred, now I perform an action," that action was in response to what set the whole process in motion: the pressing of the button.

So is that really the same as saying, "well, if I press the button and I do that then this?" Yeah. It could be. But, you know, there needs to be, sort of, that causality, in some sense. And I guess we could -- well, yeah.

So first question that you had, was my answer ambiguous or was it simply you had the follow-up question about, sort of, the issue of "if" versus "in response to." I mean, I think I've answered what I mean by "in response to."

Q. Yeah. I'm trying to get at your understanding of both of those terms and if it differs at all.

And so, you know, in looking at this last answer that you gave, "Is it the same as saying, well, if I press the button and then I do that and this? Yeah. It could be." And so going back to my question, do the terms, "in response to" and "if" in this element have the same meaning in your mind?

A. You know, I think it would be -- I mean, maybe the other way is to come up with a counter-example, okay? So if I turned on the lights in my room and then the machine dispensed the product if the module received an authorization grant, is there a causal relationship? No. Okay? But "if" is still there, right? If I flipped the light switch and I got the authorization, well, yeah. So -- so it -- it -- it's, sort of, the causality and, in

some sense, the basis of what causes the actual action.

So, in other words, in one case, yeah, I could say "if," and, by the way, we could say -- you could do reductio ad absurdum and say, you know, if the sky -- you know, if we were to say, if the sky is blue and you received the authorization grant, then we dispense it, well, that, "if the sky is blue," is sort of irrelevant. It's not in response to the sky being blue.

So I'd say "if" and "in response to" are not necessarily exactly the same.

Q. So if I understand, in your view, "in response to" carries with it some causal relationship, whereas "if" could be an incidental action?

A. I think so, yeah. I mean, well, yes, except for the fact that if that "if" were -- I know, too many ifs here -- if that "if" were in the condition that determined whether something was dispensed, well, then I guess it is causal, but, yeah.

Q. Right. In the context of the claim, the product isn't going to be dispensed without the

approval, correct?

A. Yes.

Q. So would the meaning -- would your understanding of the meaning of Element 1E be any different if it read, "Wherein the payment-accepting unit dispenses the at least one product or service in response to said adapter module receiving said authorization grant if the payment accepting unit has received user input to the payment-accepting unit mechanism"?

A. I'd really need to sort of diagram that out and spend significant time thinking about that.

Q. It is a lot of words.

A. Yes.

Q. But, basically, all I did was switch the --

A. Right. I realized you switched the order, but you inserted some other words in there also.

Q. Nope.

A. Oh, okay.

Q. I can read it again.

A. Okay. Sure.

Q. My intention was to stick with the

identical claim language.

A. Okay. Read it to me again, and I'm going to read along here in scrambled order.

Q. Would the meaning of the Element 1E be any different if it read, "Wherein the payment-accepting unit dispenses the at least one product or service in response to said adapter module receiving said authorization grant if the payment-accepting unit has received user input to the payment accepting-unit mechanism"?

A. Okay. I see what you did there.

(Reviews document.)

I think my analysis would probably come to the same conclusion if they were. And, you know, in terms of changing the order, I see what you did there. You took the -- what was the "if" and you put the instance there before the "in response to" and then what was "in response to" after the "if."

And whereas I might not say the language would be identical -- although I might say it would be. I'd need to really think through that a lot more -- I do think that my conclusions with respect to how Low applies to this probably would be the same.

Q. So is it your view, then, that the product in Low is dispensed in response to both the user selecting the product and the vending machine receiving the purchase approval?

A. I think that I would say that it is in response to both those things, because both those things need to occur before it's able to dispense the product.

Q. So then does that mean that the product in Low is also received in response to the other steps of the process like the user device receiving the purchase approval -- sorry, the purchase request from the vending machine?

A. So ask this once more so I can --

Q. Is the product in Low also dispensed in response to the other steps of its process such as the user device receiving the purchase request from the vending machine?

A. You know, there's sort of -- there's sort of a lot of things that could go wrong between those steps. So, for example, the user device receiving the purchase request from the machine, well, if that were to be the sole condition it would be very different, okay? Because the user device could receive the

purchase request from the vending machine or from the module, and it doesn't get things authorized.

So there's sort of -- you know, you've got the sort of required affirmative steps where we think about the other things, and then you've got sort of incomplete steps. So, you know, my gut tells me I'd sort of have a hard problem with that one. It doesn't seem right that it is in response to that happening, because it is the machine -- or the vending machine dispenses it in response to an action that the vending machine itself takes, rather than that is sending the request to the user device.

Q. But the vending machine does -- it is the thing that sends the request to the user device.

A. Oh, it is. It is. Yes, it is. But there's something that just sort of strikes me as odd about that being the condition.

Q. Why?

A. Okay. Because it's sort of an incomplete condition, I mean, in the sense that there's a lot more that's needed; in other words, it's -- yeah.

Q. But without that step the product

doesn't get dispensed, right?

A. Well, without that step the -- well, --

Q. In the process that Low describes.

A. Actually, Low probably describes some other alternative embodiments, and I'm not certain on this. So don't have me finding all these weird embodiments right now -- we'll never get to lunch -- but in some sense when we think about -- okay, when we think about 1E here, okay, whichever way we're looking at it, there are, in essence, two conditions in 1E: whether talk about them as "in response to" or whether we talk about them as "if," okay?

And those seem to be, sort of, the conditions that make sense here: Hey, I requested the product with the user input, and I got the payment authorization, okay? And those things together, sort of, it's -- yeah, it's -- clearly the thing that started the process was the pressing the button. That's in response. You've got payment authorization that comes in, which I think could also be described as "in response," if you wanted to do it that way.

The question is are there any embodiments in Low where the payment

authorization, or a dispense request or anything else, comes in without the vending machine having initiated the process to the user device.
And I'm just going to say I seem to recall, and, again, let's not push down on this -- I seem to recall there being some embodiments where the user device was, in essence, able to request a product from an online catalog, almost, of what's on the machine and initiate that purchase and get the response even in that instance where you're not actually in communications range of the device.

Q. I agree. I pointed your attention to Column 9. But let's focus on the embodiment that you're relying on for Claim 1, all right? You would agree that Claim 1 requires user interaction with the vending machine, right? And you're mapping to that.

A. Yes. In Claim 1 we see that, yes.

Q. You're focused on that embodiment. And I think you're also relying on the transmission of the purchase request from the vending machine to the user device in mapping to Claim 1, correct?

A. Repeat that. I'm relying on?

Q. You're also relying on the transmission of the purchase request from the vending machine to the user device when you're mapping to Claim 1. There's an authorization requirement in the claim, right?

A. Yes. In our discussion of Claim 1, yes, we are relying on that.

Q. So let's focus on this embodiment that you are relying on in Claim 1 where there is a transmission of the purchase request from the vending machine to the user device. And my question then is is the product ultimately dispensed in response to that transmission of the purchase request to the user device?

A. Yeah. And, I mean, in some sense we're -- you know, we're talking about hypothetical claim language here, which is, sort of, not the right thing that -- that -- that is gonna give us any sense of clarity here.

And since we're talking about hypothetical claim language here, in some sense, I'm saying there's still something that doesn't seem right. I mean, yeah, maybe we can map the causality; in other words, the message goes from the vending machine, or from the

payment-collecting module, to the user device and then that sets in motion further steps. And we've already said a later step in there is one of the things that it's conditioned upon. But it still doesn't seem quite -- I mean, technically, yeah, we can draw that. I gave you why I don't think it feels right.

There could be all these things that go wrong; in other words, to say -- you know, if we were to change the claim to say it is based on user input and the sending of that, then the meaning of the claim has changed, okay? Because the important part -- in fact, in all honesty, I think the important part of this claim is the, "if said adapter module has received said authorization grant, the wherein the payment accepting unit dispenses in response to receiving the user input," I mean, yes, it is, in order to meet the claim, something that needs to be there. But the real intent is looking at the receipt of the authorization grant.

So, in some sense, what you're asking, in terms of, well, what if we reworded this claim so that the condition was the sending of the request to the mobile device, which will put in

motion all these other things -- leading off the "which will put in motion all these other things," and leading off the conclusion of all these other things, just changes the meaning of the claim.

Q. So if I understand, the reason it doesn't feel right to you to say that the product would be dispensed in response to the transmission of the purchase request to the user device is because there are too many things that could go wrong in between that occurrence and the ultimate product dispensing; is that right?

A. Well, I mean, it's two things. One, that's sort of the more concrete part of it. The other part is changing the claim language in that way sounds to me like simply a way to confuse issues. And I'd much prefer to see things that are much more precise.

Q. In what way is it confusing?

A. Well, the discussion is confusing in the sense that you're saying, well, if we change the claim to be worded this way, almost the implication is, well, the meaning's the same even though the words are different. And I'm telling you that the meaning is not the same when you

change those particular words, okay?

And that's what sort of bothers me about this particular hypothetical.

I mean, in some sense, I spent a lot of time look through the claim language as it was during the various analysis. And now you're presenting me with a different claim language, which is clearly a different meaning. I think that would require about as much analysis as I put through on the original analysis to give a definitive answer, because there are a lot of different angles that need to be considered.

Q. So if we focus on the claim language itself, going back to the dispensing the product in response to receiving user input to the input mechanism, to sum it up it's your understanding that that's met because it has a causal effect and it's necessary for it to occur in order for the product to ultimately be dispensed, correct?

A. That is -- that -- that is my position, yes.

Q. And even though, in the embodiment you're relying on, the purchase request being transmitted to the user device is also a necessary event that must occur in order for the

product to ultimately be dispensed, you think it would not be in the -- the product would not be in response to that occurrence? Do I have that right?

A. I don't think you do. What were last four words you said.

Q. Do I have that right?

The product would not be dispensed in response to that occurrence of the transmission --

A. The product would not be what? In?

Q. Dispensed in response to the --

A. Okay. That's what I needed to know.

I'm not stating that the product would not be dispensed in response to this. I'm saying the product might or might not be dispensed in response to that.

Actually, maybe that's -- that's the clear point. The product or might not be dispensed in response to those conditions because there are other conditions that are also necessary.

Q. Likewise, if the user makes a selection of the product, it also might or might not be

dispensed in response to that selection if the later conditions don't also occur, right?

A. That is correct. If the user makes the product selection, the product might or might not be dispensed because there is that second condition, the receipt of the authorization that is necessary.

Q. Right. So if the approval is received if the product is dispensed, is the product dispensed in response to the transmission of the purchase request to the user device?

A. Please repeat. Sorry. I was coughing.

Q. If the approval is received and the product is dispensed, is that product dispensed in response to the transmission of the purchase request to the user device?

A. If the product is dispensed and the authorization is received, okay, then, in this particular embodiment, it is still in response to the user input.

Q. But is it in response to the transmission of the purchase request to the user device?

A. And, you know, I keep telling you, I sort of don't -- you know, is it in response to

we're talking about a hypothetical thing? That's not what the condition is here. We're getting into more of a philosophical discussion at this point.

And so it doesn't seem to me, in my gut, that I would say, yeah, it is in response to that, okay?

Q. So there are a number of steps that have to happen in order for the product to be dispensed in bulk, correct?

A. Yes, there are.

Q. And it's not your view that the product is dispensed in response to each one of those steps occurring. Do I have that right?

MR. MUDD: Object to the form.

THE WITNESS: Again, that would not be my way of stating what it is in response to. There are certain things that seem to be much more critical in terms of these, and clearly you've got ones that you've identified in your claim language. So we look at this in terms of the claim language. Well, you know, is a product dispensed in response to the sky being blue? Well, yeah, I don't see the causal relationship there. I mean, you know? And even when it is

something that is a step -- you know, you've got, maybe, so many different embodiments. I gave you the example of other embodiments where it didn't need to be that way, and, in fact, you confirmed that, yeah, that was one of the embodiments we were talking about earlier.

So, you know, this seems to be more of a philosophical discussion about the English language, and --

BY MR. ARGENTI:

Q. But there are also embodiments in Low in which the user does not select a product on the vending machine interface, right?

A. Yes. There are embodiments in Low where that does happen.

Q. So it can't simply be about the existence of alternative embodiments.

A. Okay. Well --

Q. I'm trying to understand where you draw the line between whether something is in response to or not in response to. And it seems a little arbitrary, so . . .

A. Yes, it does seem a little arbitrary. I mean, there are certain things that seem to naturally fit that. And what you are trying to

do here is to, I mean, in some sense, show the arbitrariness of it, but by bringing up some things that I think most people would not. But maybe the expert that you need here is not one in distributed computer systems and payments, but an expert in the English language.

MR. ARGENTI: I think it's probably a good time for a lunch break.

(Lunch recess taken.)

BY MR. ARGENTI:

Q. Can you turn to Paragraph 58 of your declaration, please? And that's on Page 26.

A. I am there, yes.

Q. And here you discuss Skowronek's teachings regarding encryption, correct?

A. I start off, "Skowronek also teaches the" -- well, the reason we focused on Skowronek was encryption. So, yes, I'm talking about Skowronek and encryption.

Q. And in that discussion you cite Paragraphs 26 and 27 of Skowronek as teaching that its payment authorization request can be encrypted, right?

A. So, let's see, we've got Skowronek at 26. Low's authorization -- so that's Low --

contains same.

Q. Well, for instance, just looking at the first sentence of the paragraph, "Skowronek also teaches that the payment authorization request, which includes both the transaction information and payment information, such as debit card accounts, may be encrypted," and so on.

A. Yes. I see that.

Q. And there you're citing Paragraph 26 of Skowronek as teaching that encryption approach, right?

A. So in this particular case, what we're pointing to is Paragraph 26 as pointing out that it's teaching the authorization request may be encrypted. That is correct.

(Exhibit No. 1005, United States Patent Application Publication Number US 2009/0106160, was introduced electronically.)

BY MR. ARGENTI:

Q. Take a look at Exhibit 1005, which is Skowronek.

A. Okay. Give me one moment.

Exhibit 1005. Skowronek. Okay.

Q. And I'll ask the same question here as we get into this reference that I asked with the

others. Did you read this entire reference when preparing your opinions?

A. I certainly read through the entire reference but focused on some parts more than others.

Q. Okay. And, presumably, including Paragraphs 26 and 27 that you cite there in your declaration, why don't we turn to Paragraph 26?

A. Okay. We will turn to 26.

Okay. Would you like me to read through it first?

Q. Sure. Yeah.

A. Okay.

(Reviews document.)

Okay. I have read through that.

Q. Okay. Paragraph 26 of Skowronek doesn't actually describe encrypting payment information, such as a credit or debit card account, does it?

A. Let's see. We've got a list of the things that may or may not be included, so let's see what we've got here.

(Reviews document.)

Okay. And which item are you asking about whether it includes such?

Q. Well, if we could look at the first

paragraph of your declaration, Paragraph 58, again.

A. Okay. Give me one moment.

Fifty-eight. I'm right here.

Q. And there you say, "Skowronek also teaches that the payment authorization request, which includes both the transaction information and payment information, such as credit or debit card accounts, may be encrypted to secure the transaction and payment information included in the request." And in support of that you cite Paragraph 26, right?

A. So I cite to 26 there.

Q. So I was asking about the credit -- payment information such as credit or debit card accounts that you referred to there. I don't see that in Paragraph 26 of Skowronek.

A. Okay. So there may be some things that are elsewhere which we could look to. But beyond that we have, in an embodiment, the consumer uses her mobile appliance to start a credit or debit transaction. Now, we need to look to other information to determine that particular aspect and its inclusion in the request, but that is certainly one area where we have that indication.

But if you can give me a moment, let me see if I can find --

Q. I have a suggestion. I would just say maybe just take a look at Paragraph 27 of Skowronek.

A. Okay.

(Reviews document.)

Okay. We see that right there in 27, so what's your question at that point?

Q. So just to make sure we're on the same page, what I'm looking at is a little more than halfway down the paragraph in Paragraph 27 of Skowronek where it says, "The mobile appliance 104 compiles and appends the payment information to the transaction information received from the unattended retail device 102." So it's the mobile device that's adding the payment information, right?

A. In this particular -- in this particular paragraph, it is the mobile device that is adding the payment information.

Q. And then it goes on to say in Paragraph 27 that, "The combined information is an embodiment encrypted and sent to the merchant processor 108," right?

A. In this particular instance, that is what it is saying is happening.

Q. So then if we look back at Paragraph 58 of your declaration, the combined transaction information and payment information that you refer to in your Paragraph 58 has actually been compiled and encrypted by the user's mobile device, correct?

A. So in this particular case, if we look just at Skowronek, what I'm referring to here is the combined information that has been -- well, some of the information came into the mobile device. Other things were appended. But what's important to understand here is that what we're talking about is really, sort of, a combination. So we're looking at Low, as well in here, and we've got the information and the types of information that are in various places here.

So when we look at Skowronek, we're looking at, really -- well, you know, as you indicated at the beginning, and which I confirmed -- the more detailed use of encryption is the main thing that we're getting out of Skowronek here. So you need to look at all of these things in the combinations as we have presented them.

Q. Right. And the presentation of the combinations is that you are taking the teachings regarding encryption from Skowronek and applying them to what's going on above, correct?

A. That is what we're doing. That's correct, yes.

Q. And again in Paragraph 58, the teachings of Skowronek that you're pointing to are Paragraphs 26 and 27, right?

A. 26 and 27 are what I am specifically citing to in Paragraph 58. That's correct.

Q. Okay. And so then why don't we look at the next paragraph of your declaration, Paragraph 59.

A. Okay. Give me one moment.

Okay.

Q. And in the first sentence of that Paragraph 59 you say, "Additionally, Skowronek teaches that the encrypted information may be unreadable to the mobile device in order to prevent tampering." And you again cite Skowronek Paragraph 26, correct?

A. That's correct, yes.

Q. And then you say, "A POSITA would have been motivated to apply the same encryption

technique from Skowronek, Paragraph 26, to Low," right?

A. Certainly a POSITA would have been motivated to apply this technique. That is correct.

Q. Okay. So now let's turn back to Paragraph 26 of Skowronek. And about halfway down in that paragraph do you see the sentence where it says, "the unattended retail device 104 compiles transaction information"?

A. I do see that, yes.

Q. And then in the next sentence Skowronek goes on to list the types of information that are included in what it's calling transaction information, right?

A. So "Embodiments may be the good or service requested, the amount of payment required, an identifier for the unattended retail device, an identifier for the merchant that needs to approve the transaction, instructions for the mobile appliance to contact the merchant processor and/or one or more other items of information." Yes, that's what it is describing there.

Q. And then Skowronek goes on in that

paragraph to say that all that transaction information can be compiled into a packet for transfer over a network, right?

A. That is what would typically be done, and that's what is described. So it is compiled into a packet for transfer over first communication channel.

Q. And then near the bottom of that page and within Paragraph 26 it says that that packet of transaction information can be encrypted for transmission, correct?

A. In embodiments the packet is encrypted for transmission, yes.

Q. And that's the encryption approach that you are proposing to carry over to Low when we look at Paragraphs 58 and 59 of your declaration. Do I have that right?

A. Well, that's an explicit description of the transaction information being encrypted. There are many ways that one can do it. In fact, there's encryption of some information already in Low. But in this particular case, this is the technique that we're looking at doing. And Skowronek talks a lot more about encryption later on. Here it's just calling out to the

encryption. But, yes, we are saying that this data should be encrypted.

Q. And then in -- if we look at that Paragraph 26 of Skowronek where it refers to encryption of the data for transmission, the user device has to be able to access that data, right?

A. Not necessarily. And the reason "not necessarily" is that it's possible for the data to be encrypted in a manner that is opaque to the retail device; in other words, the retail device doesn't necessarily have to be able to decrypt it. The retail device can forward the encrypted packet on to an entity that is able to decrypt it.

But some of the times there is data that you do want the retail device to be able to see. So we might selectively encrypt some parts, not other parts. And I think that's described elsewhere in here. But the point is that you can forward encrypted data to an intermediary that is able to pass it on without being able to either view or, for that matter, tamper with, which is -- is one of the things we're looking at here, by encrypting it in a key that is going to be available only to the second party to which it is

ultimately forwarded.

Q. So let's take a look now at Paragraph 27 of Skowronek. And at the beginning of that paragraph we see that "the user device can present the transaction information to the consumer on the mobile device," correct?

A. In -- so let's see. For example, the consumer -- (Reviews document.)

Okay. So would you repeat -- so I'm not quite sure I understood -- we're still on Paragraph 27, right?

Q. Right. Paragraph 27 of Skowronek. And at the beginning of this paragraph we see that "the user device can present the transaction information to the consumer on the mobile device," correct?

A. That is correct, yes.

Q. The user device must be able to access the transaction information in order to display it on the display to the consumer, right?

A. So the consumer -- the consumer device; in this case, the mobile device, would need to be able to decrypt at least those components of the information that it's going to display. And in some embodiments, that can be all of it; in other

words, in some embodiments, you're not encrypting it so that it is opaque. In other embodiments, you might only encrypt certain parts of the information and not other parts.

Q. Which embodiments are you referring to there?

A. Okay. Let me look for this.

(Reviews document.)

Okay. Well, before we get to the part of some parts and not others, we can go to Paragraph 30, which tells us that there are embodiments where the encryption module is optional. Okay. So there are some embodiments where you're not doing encryption. We're more concerned with the embodiments where you are.

So now let me move onto that. I just wanted to set that first.

Q. I believe you are explicitly not relying on any embodiments that don't involve encryption or that only partially encrypt. I believe that's called out in your declaration.

A. Okay. Let's see. Actually, I believe that in my declaration I did explicitly point that -- point that we were not relying on that. So I do recall that in my declaration.

Right now we were talking about, sort of, the general aspects of things. But if -- if that resolves your issue -- actually, where I say what we're specifically not calling out, that might tell me what -- what paragraph I want to be referring to here, I don't know.

Q. Well, if -- but if you are not relying -- excuse me -- if you are not relying on embodiments that partially encrypt, then when Paragraph 27, which you are relying on, talks about displaying transaction information to the user, it's all accessible to the user, right?

A. In that case -- so -- so there are actually a couple -- there's one more point to bring up here. And that has to do with -- well, Skowronek, most of what we're doing is following conventional cryptography, so that's maybe a little bit less of an issue here.

But one of the things that will often be done in various systems, and again I'm talking about in general here, is you may have data that is encrypted to prevent tampering, but you can also accompany that with other copies of the data. It's a regular thing that tends to be done. So that's certainly one possibility.

But why don't we just go back and try to address the question in the context that we've just framed it. So we're talking about which paragraph now I think in my report? 58 I think, right?

Q. Right. 58 and 59 is what we were looking at.

A. Okay. So "also teaches that the request" -- let's see.

(Reviews document.)

Okay. So we see, sort of, the motivation here to prevent that. Okay. So, now, let's go back to your question about the display, which was what?

Q. That -- well, I think we agreed that at the beginning of Paragraph 27 we see that the user device can present the transaction information to the consumer on the mobile device, right?

A. So we see in Paragraph 27 of Skowronek that the user may be able to present the -- or that the mobile device may be able to present the information to the user. But, again, in the -- what we're looking at here is drawing in the encryption into Low and, in this particular case,

you're describing what's happening in terms of the display functionality of Skowronek, which is, sort of, less relevant here because what we're focusing on is the encryption technology of Skowronek.

Q. I think we already looked earlier today at Low and saw that Low has very similar disclosure about displaying the purchase request information on the user's device, right?

A. I believe there may be something in that point. But, you know, it's still the case that you can send additional information along. You can use encryption to protect the integrity, in one case. And the confidentiality you might include separate information in the protocol messages, maybe not the, quote, request. Because when you look at the request itself, the request is something that you are, in essence, collecting to forward on. In one case, collecting to append stuff and then forwarding that on. But all of this takes part in the context of protocol messages that support other functionality as well.

So when we say, "the request," that doesn't mean that's the only messages that are

going between the devices.

Q. So when you're talking there in your answer about sending additional information along, or separate information along, are you referring to encrypting part of the transaction information that comes from the vending machine to the user, but not all of it?

A. In some sense you might have separate protocol messages, some of which are entirely encrypted. Some of which are not. You could have a packet format that has certain designated components; that is, the request itself that you might -- this is the piece that's to be forwarded on and that's what we're looking at here. So there are a lot of things you can do in this particular instance.

In some sense, we're describing, you know, the combination of these technologies, and a person of ordinary skill in the art is going to understand how to integrate these technologies in a way that is appropriate for the combination that is intended to provide, the functionality that they are seeking to import into, sort of, their base system.

Q. So when you just referred in that answer

to the -- that the request itself -- I believe you meant the request itself might be encrypted while other parts of the information are not, what's the distinction in your mind between encrypting the request and that information -- transaction information that's displayed to the user in Paragraph 29?

A. Well, first of all, if we were going to talk this in the context of a combination, we should probably be referring to it in the context of Low, rather than in the context of Skowronek. But it is very common in protocols -- in fact, you go back to the, you know, Kerberos authentication protocol, which I designed many years ago, we've got certain message types that are intended to encompass certain information and be forwarded intact -- maybe with encryption; maybe with not -- from one element to another. So, you know, I'm sort of stepping outside of it here, but just trying to draw an analogy, when we think about the Kerberos authentication protocol, we've got a protocol message that we call "the ticket," which is something that is encrypted to be opaque to the end user that is going to be forwarded off to the application server.

By the way, that's not a payment system. I'm not trying to bring in art here. I'm just trying to explain this concept of what you have is certain -- I wouldn't even call them packet formats, but certain message formats that define the particular extent of things that are going to be encrypted.

Q. And when you talk about --

A. And to the extent -- to the extent that the Request Message is one of these things that gets forwarded, that's likely to be a, sort of, constraining component in and of itself.

Q. At the beginning of your answer you said, "if we're going to talk about this in the context of the combination, we should talk about it in the context of Low instead of in the context of Skowronek." I'm wondering why that distinction matters when both references talk about the user device displaying the transaction details?

A. I'm not sure the extent to which I'd say it is critical to do that. But in terms of the context in which such a combination would be provided, what you're looking at is you are looking at adding the encryption capabilities

that are from Skowronek into, sort of, the base protocol and exchanges that we had with -- with -- with Low.

And in that sense, we're not pulling over from Skowronek the message formats, per se, other than that, yeah, there are similarities of what they are, but we're not drawing that over. So, in some sense, I'm just saying that if we're looking at the message formats within a combination, the formats that you'd be using are probably much closer to Low because we're not actually drawing those formats from Skowronek. What we are drawing from Skowronek is, primarily, the specific encryption methodology.

Q. The specific encryption methodology not being about what information is encrypted. Do I have that right?

A. The methodology of the part from Skowronek that we were taking was really the use of symmetric cryptography. That's much later. Here it's still just talking about encryption. And the fact that you are doing the encryption itself. And the fact that this is going to, in some sense, make the data opaque for the intermediary.

Q. Well, it's that last part that I keep asking about.

A. Yes.

Q. Because if we look at Paragraph 26 again, we already saw that among the transaction information types, the types of transaction information, that it includes an identifier for the merchant that needs to approve the transaction and instructions for the mobile device to contact the merchant processor, right?

A. That's in Skowronek, okay? So what we are focusing on taking from Skowronek into Low is the encryption, not so much the fact that, yeah, Skowronek has all this stuff that it does, as well. I mean, yeah, maybe that is something we want to take or not, but that's not the thing we were focusing on taking from Skowronek.

Now, the fact that it was similar kinds of data is something that helps to show that really they are in the same -- the same general area. But what we are looking to apply to Low is the encryption. We're not looking to Skowronek to tell us, oh, well, we're gonna take this and that and these other things, as well.

Q. So you are not relying on Skowronek for

a teaching that the vending machine can encrypt transaction information in a way such that it's undecipherable or inaccessible to the user device; is that right?

A. No, that's not right.

We are relying on Skowronek to indicate that information, whatever it may include, and by the way, that could include transaction information; it could include your home address; it could include that the sky is blue, whatever is there, can be encrypted in a way that will be opaque or undecipherable to the intermediary.

So I wouldn't characterize it as we're not relying on it to say that we can do this. Yeah, we are relying on it to say we can do this. What we are nothing relying on it to do is to say that the information that should be included is XYZ.

Q. But Skowronek in Paragraphs 26 and 27 can't possibly teach encrypting information at a vending machine such that it is inaccessible to a user device when that information includes instructions for the user device and information that's explicitly displayed at the user device, right?

MR. MUDD: Object to the form.

(Witness reviews document.)

THE WITNESS: I'm just trying to find the section where we spoke about the "undecipherable" here. Not my report but in -- actually, let me go back to my report to see the cite.

(Reviews document.)

Okay. I think that here if we look at Paragraph 26, we can look at the end of it here, okay? We've got Paragraph 26 in embodiments, so it would be line -- well, we're in paragraphs that's why -- sort of up three from the bottom.

"In embodiments, the packet of transmission information is encrypted for transmission." And then you have, "The unattended retail device sends the transaction information to the mobile appliance." And then we get, in embodiments, "One or more items of the transaction information is also sent to the mobile appliance." Okay?

So what this looks like it's saying, to me is, hey, here's what we're going to do; exactly what I was telling you before happens often: We're going to have it encrypted, and we

are also -- in some embodiments, also going to send some of this data unencrypted to the appliance, which would make sense if you ultimately wanted to display that information.

BY MR. ARGENTI:

Q. And so that information is accessible to the user device. So it sounds like now we're talking about --

A. The unencrypted information is available to the user device.

Q. Right. So there's an encrypted portion of what's sent and an unencrypted portion of what's sent?

A. In terms of Skowronek, yes.

Q. Right.

Okay. And that's now the teaching that you're relying on and you say that a POSA would have carried over to Low?

A. It's certainly one of the things that you could -- that a person of ordinary skill in the art would have considered if there wasn't a necessity to display things that would otherwise have been -- you know, that otherwise would have been encrypted and not visible.

But the primary thing that we are

bringing over is the encryption that is described.

Q. Isn't that what we're looking at here?

A. Oh, yeah. But this paragraph is two parts. I mean, you've got the encryption, which is what we're bringing over. You also have a statement right at the end, "In some embodiments, some of this information may be needed separately and is sent unencrypted."

Q. And that's -- if it's the instructions on where the user device is supposed to send it. It seems like that would be not just some embodiments, that would be every embodiment, right? How else is it going to know where to send it without instructions?

A. Actually, it could be preconfigured into the mobile device, so, yeah.

Q. Oh, okay. Is there any disclosure of that?

A. I don't know if there is. But, I mean, in some sense, this information is what could be included, so it gives a list of things that could be included. And, you know, you were asking almost an inherency question: Well, isn't it necessary that that be sent unencrypted? And I'm

saying maybe not. I mean, when I was trying to address that issue, rather than --

Q. It's either sent unencrypted or it's decrypted at the user device, right?

A. Okay.

Q. I don't have a problem that it has to be sent unencrypted, but it's accessible to the user device, right?

A. So data that needs to be accessible to the user device either needs to be decryptable on the user device or received in plain text -- that's unencrypted -- or known a priori, in some sense.

Q. And so that would include the instructions for the mobile device to contact a merchant processor, which is part of the transaction information, right?

A. Well, again, this particular thing with the instructions for contacting the mobile processor and other things, that's Skowronek, okay?

Q. Right. Okay. And you would also include --

A. I mean, in some sense, you'd look at Low whether Low needed that or not. I actually

didn't see in Low specifically the instructions for contacting the payment server. I think in Low it is assumed to be known, sort of, a priori in some sense.

Q. And it would also include, then, transaction details that are going to be displayed on the user device as taught in both Skowronek and Low, correct?

A. If there were transaction details that originated from the vending machine and those components that needed to be displayed on the mobile device, those details would need to be received either unencrypted or would need to be decrypted. And that third option doesn't apply because obviously those are details that change a priori.

Q. And that is, again, I mean, consistent with what's described and taught in these Paragraphs 26 and 27 in Skowronek. This is not a hypothetical that we're pulling from somewhere other than the reference. That's what Skowronek says, right?

MR. MUDD: Form.

THE WITNESS: Yes. This is consistent with what Skowronek is talking about.

BY MR. ARGENTI:

Q. Can we turn to Page 21 of your declaration?

A. Page 21.

Q. It's where you start talking about the Freeny reference.

A. Okay.

Q. And looking down at Paragraph 46, you cite "Freeny's disclosure of a first proximity distance and a second proximity distance," correct?

A. I see the first proximity and the second proximity distance, yes.

Q. And, actually, let's take a look at Paragraph 31 of your declaration. Sorry for jumping around.

A. Paragraph 31 now?

Q. Right. We looked at this one earlier.

A. Okay. We're going back quite a ways. Okay.

Q. And in this paragraph, Paragraph 31, you set forth your understanding of the term "authorization zone" within the context of the '045 patent, right?

A. I say, "They claim various other

features, including the use of separate communication, authorization and payments zones." And then I -- and we did talk about this earlier, we talk about my understanding of some of these different zones, yes.

Q. And then you also describe a payment zone in the next sentence, in the context of the '045 patent. And you say that that's an area within which the mobile device may forward the authorization grant of funds to the adapter module, correct?

A. And I do see that, yes.

Q. Okay. Now, I want you to keep those definitions or those understandings in mind and go to Paragraph 166 of your declaration, please.

A. Okay. So let's see.

Okay. Keep in mind, I can't keep them on the screen at the same time. What paragraph?

Q. 166.

A. 166. Okay. 166. Okay.

Q. Okay. So in Paragraph 166, you seem to equate Freeny's first proximity distance with the authorization zone of the claims; is that right?

A. That is what -- so I'd say that's accurate. Let me just read through it.

When it is within the first proximity distance, Freeny's wireless adapter element transmits authorization for a mobile payment, yes.

Q. So is it your understanding that Freeny's first proximity distance satisfies the definition of authorization zone that you have in Paragraph 31 of your declaration?

A. It is my belief that the -- that Freeny's first proximity zone -- or proximity distance, so the zone defined by that first proximity distance, does correspond to, in my opinion, the authorization zone from the '045.

Q. So in your view, Freeny's first proximity distance that it describes is a zone within which an adapter module may manually or automatically send an authorization request from the adapter module to the mobile device. Is that right?

A. That is my position, yes.

Q. Okay. And then in Paragraph 166, you also seem to equate Freeny's second proximity distance with the claim term payment zone; is that right?

A. With the payment zone, that is correct,

yes.

Q. So is it your understanding that Freeny's second proximity distance satisfies the definition of payment zone that you have in Paragraph 31 of your declaration?

A. That is my opinion, yes.

Q. So you view Freeny's second proximity distance as a zone that may be within the authorization zone and is an area in which the mobile device may forward the authorization grant of funds to the adapter module?

A. That is my opinion, yes.

Q. In Paragraph 166 of your declaration, you cite Freeny at Column 33, Lines 18 to 36. So why don't we take a look at that portion of Freeny, if you could turn to Exhibit 1006, please.

(Exhibit No. 1006, United States Patent Number 8,958,846, was introduced electronically.)

THE WITNESS: Okay. And I'm looking at 18 to 36. One second.

BY MR. ARGENTI:

Q. Well, and before I start asking questions about that portion, I want to ask you, this is quite a long reference, 42 columns. Did

you read this in its entirety when you are you were forming your opinion?

A. I certainly skimmed through this and again paid more attention to some sections than others. There are a lot of things that really are a lot less relevant in this, so a lot of things got skimmed over.

Q. So if we do look at Column 33 starting at Line 18, that paragraph, it looks like it refers to a proximity service unit which is a store checkout system, right?

A. Give me a moment. Let me read through the paragraph.

(Reviews document.)

Okay. So I've reviewed that. What's the particular question you have?

Q. So this paragraph is talking about a proximity service unit, which is a store checkout system. Would you agree?

A. It does talk about such a unit, yes.

Q. Okay. If we look at the paragraph right above that, the one that starts at Line 5, that's talking about an example where the proximity service unit is a gas pump system, right?

A. That's what it talks about in 5, yes.

Q. And in the paragraph right before that that starts in Column 32 at Line 49 -- you see that paragraph?

A. Column 32 -- well, okay. We're going way up. Column 32, line what? 39 you said?

Q. 49?

A. 49.

Q. The paragraph right above the gas pump.

A. Okay.

Q. Do you see that?

A. I see that, yes.

Q. So in that paragraph it's talking about an embodiment where the proximity service unit can be an ATM system or a vending machine system, right?

A. I do see that, yes.

Q. So I'm curious, why did you choose to rely on the store checkout embodiment in Freeny rather than the vending machine one?

MR. MUDD: Object to the form.

THE WITNESS: Please give me a moment.

(Reviews document.)

I think that any of them could have been used. I think it's just which ones we chose to use as an example.

BY MR. ARGENTI:

Q. Did you review the vending machine embodiment in Freeny when you were forming your opinions?

A. Well, I certainly had reviewed this section.

Q. And yet you chose not to cite it. You cited the store checkout one instead, right?

A. Well, the store checkout one, I mean, it's something that is maybe a little bit more familiar to most people, in some sense. But, yeah, as to why, I mean, that's the one that we chose to use.

Q. Did you consider whether a POSITA might find the vending machine embodiment in Freeny more relevant to Low's vending machine system?

A. I think you'd find the, sort of, same disclosures with these as to whether one might find it more relevant or not. Most of these systems we're talking about working for a large collection of devices.

In fact, if you look to the '045 patent, it talks about -- you know, you've got tollbooths. You've got a whole range of things in here.

So, yeah, I -- I -- I don't have a particular reason to argue for this particular choice. You see these same basic descriptions in most of these.

Q. Dr. Neuman, I'm not sure if that answers my question.

Was -- whether a POSITA would find the vending machine embodiment more relevant to what's going on in Low, as opposed to the store checkout embodiment, was that something that you considered when forming your opinions?

A. I do not believe I specifically asked myself that question.

Q. Vending machines and store checkout systems work differently, right?

MR. MUDD: Objection; form.

THE WITNESS: There are certain aspects that are similar. There are certain aspects that may be different.

But, again, the point is you need to look at what our base art is here and what we're drawing from Freeny. What we are drawing from Freeny is the discussion of the particular zones. We're not talking about the details of the message formats and other things, other than the

extent to which it is necessary to address the particular zones and when certain activities occur.

BY MR. ARGENTI:

Q. Okay. Yeah. Let's look at those activities. Why don't we go back to the store checkout system embodiment that you rely on. That's in Column 33 in the paragraph starting at Line 18.

Let me know when you're there and you're ready?

A. I am there. I am there, so . . .

Q. So we already established that in this paragraph we have the proximity service unit that is a store checkout system, right?

A. You have a proximity authorization unit that is part of the store checkout system. That is correct.

Q. I think you might have misspoken there.

The proximity service unit is the store checkout system. That's what we see in the first line of that sentence or that paragraph, right?

A. Oh, I was looking later on. So the proximity service, 2920, is the checkout system. And then that has within it a proximity

authorization unit. So that's -- yeah.

Q. But my understanding and maybe -- if I'm wrong on this, please correct me and point me to the relevant part of Freeny. My understanding of Freeny is that the proximity authorization unit is some sort of a portable computing device, right? I don't believe it --

A. I'm sorry. You are correct there. The proximity authorization unit is what is being used to -- you know, it's -- it's like your -- what do we call them, the proximity card kinds of things, except a lot more than the pass of proximity cards, yes. So the mobile device.

Q. Just so the record is clear, that earlier answer when you said that the proximity authorization unit is within the proximity service unit, that's not quite right, right?

A. That was not correct.

Q. So proximity service unit is the store checkout system. The proximity authorization unit is a portable computing device that can be operated by a user, right?

A. The proximity authorization unit is a portable computing device or other device that is operated or held by, or whatever you would

describe it, the user.

Q. And I think earlier in the Freeny reference when it's introducing the idea of a proximity authorization unit, it talked about it being an alternative to a cell phone. Part of the idea here is that you're trying to avoid high costs associated with cell phones. But it's a mobile computing device, a portable computing device for the user, right?

MR. MUDD: Objection to form.

THE WITNESS: It is a mobile -- sorry. It is a mobile computing device that is capable of doing computations, yes.

BY MR. ARGENTI:

Q. Okay. And then just reading through this paragraph in the first sentence it says, "The proximity service unit 2920 is the store checkout system. The store checkout system can be activated either automatically or manually by the proximity authorization unit, 2910, when the proximity authorization unit is within a predetermined proximity distance of the store checkout station." Right?

A. That's correct, yes.

Q. And then it goes on to say the

authorization -- "Using the authorization request codes transmitted to the wireless adapter element 3180 of the proximity service unit 2920, from the proximity authorization unit 2910, can be activated, for example, at a first proximity distance." Do you see that?

A. I do see that, yes.

Q. And that's the first proximity distance that you're citing in that Paragraph 166 of your declaration that we saw, right?

A. That is a first proximity distance that I am citing there.

Q. Okay. So as we just saw in Freeny, at that first proximity distance, Freeny's portable computing device, the proximity authorization unit transmits authorization request codes to the store checkout system, correct?

A. Give me one minute. Let me just --

(Reviews document.)

I'm not sure. We might be reverse -- or you might have asked this in reverse, so let's see.

So when the mobile -- so I'm looking at my Paragraph 166 now. Okay.

When the mobile device is within

the first proximity distance; that is, the authorization zone from the proximity service unit, Freeny's wireless adapter -- now, the wireless adapter is transmitting the authorization for it, or it is transmitting, in essence, the request for the authorization for the mobile payment, but that's going upstream.

And at a second proximity distance -- that's the payment zone -- that is when the -- and now I'm switching back here -- the proximity authorization unit would forward that authorization. But I'll have to look for the language in here to this service unit, so let's see what's being said here.

(Reviews document.)

So what we see happening here is, sort of, the flow is different than we're talking about in the other systems that we've been talking about because of how the transactions are approved. But going back to my declaration at 166, when the mobile device is within a first proximity zone, Freeny's wireless adapter is going to transmit the authorization for the mobile payment and that's going to go to the -- and let's see -- that is going to go, in

essence, to the proximity service unit, so from the mobile -- sorry, from the -- from the authorization unit to the mobile unit, that is going to be --

Q. Sorry, Dr. Neuman. The mobile authorization unit is the mobile unit.

A. Sorry. One second.

Did I say that? Wait.

I said from the mobile authorization unit -- oh, I did say it wrong -- to the proximity service unit.

Q. Okay.

A. So what's happening is when you get to this point, you've got the authorization, but the transaction's not going to be approved until the -- you're there to either pick up the item or actually right at the register, and that is occurring at the other distance.

Q. Okay. So I think it would be helpful, to really parse this out, to treat -- let's go through the first authorization -- sorry, the first proximity distance first, and then we'll get to the proximity distance.

A. Okay. Fine. So when the mobile device --

Q. And then what's happening at the first mobile proximity distance in Freeny, and I think the paragraph you cite, the most relevant sentence is the one that starts at Line 23 that says, "The authorization process using the authorization request codes transmitted to the wireless adapter element of the proximity service unit, from the proximity authorization unit, can be activated, for example, at a first proximity" --

A. I agree that is probably the most relevant here.

Q. And what we have --

A. So that I've got that, you don't mind if I just highlight on my copy?

Q. That's fine.

A. Yeah. I think it's just going to make it easier to go back and forth here. Okay.

So, yes. You're quite right.

Q. And what we have in that sentence is a transmission of authorization request codes transmitted from the proximity authorization unit --

A. Unit, that's correct.

Q. -- to the proximity service unit. You

would agree?

A. I would agree. So, yes, we have the transmission of those -- sorry, of the request codes transmitted from the proximity authorization to the proximity service unit.

Q. So that's transmitted from the user device to the store checkout system, right?

A. From the user -- yes. So in more general terms, from the user device to the store checkout system at the first proximity distance.

Q. Okay. Now, that to me sounds like something different than what you say in the first paragraph -- first sentence of Paragraph 166. So why don't you compare those.

A. Okay. "When the mobile device is within a first proximity distance from proximity service unit, Freeny's wireless adapter element transmits authorization for a mobile payment." Okay.

Now, so that's not actually inconsistent, but --

Q. Well, why is it --

A. -- it does seem that -- sorry, it does seem that way when you think about it in terms of the other art.

Q. No. I'm not asking about the other art.

A. Okay. Fine.

Q. I'm asking about that sentence compared to Freeny. You say Freeny -- you say that, "At the first proximity distance, Freeny's wireless adapter element transmits authorization for a mobile payment," right?

A. Yes. And that is, in essence, the authorization request codes.

Q. Right. So the wireless adapter element in Freeny, is that part of the proximity authorization unit?

A. I believe it is, but let's see. Let's look for the -- let's go here, and let's see -- we've got this here.

I'm just looking for a number of figures here right now.

(Reviews document.)

No. Actually, it appears that the wireless adapter element, if we look at it, is 3180, is in this case --

Q. Part of the proximity service unit.

A. Part of the proximity service unit.

Q. So that's the store checkout system, not the user device, right?

A. Yes. So let's see what's happening

here.

Q. So in your declaration, you said there's a transmission from the store checkout system and it's to -- it's transmitting authorization for a mobile payment. But it's -- it's not actually a transmission from the store checkout system, nor is it an authorization, is it?

MR. MUDD: Object to the form of the question.

THE WITNESS: Let me just -- just review this one. There may have been an error that I might have used a wrong term here, but let me review this first. Let's see.

(Reviews document.)

Okay. I think that in this statement that I have in Paragraph 166, I may have misidentified the elements as Freeny's wireless adapter when it should have been, at least in I think what you pointed to, was the right section here. The authorization process -- so that was 33, starting at Line 23, "The authorization process using the request codes are transmitted to the wireless adapter element of the proximity service unit from the proximity authorization unit."

That's what's happening at the first stage.

BY MR. ARGENTI:

Q. Okay. What is the authorization request code that Freeny refers to there?

A. Give me one moment.

(Reviews document.)

So I'm actually not able to find this at this point.

Upon reading it the first time, I, as one of skill in the art, would have understood it to be codes that are available on the proximity authorization unit. But I don't see the specific support in here that defines it as such.

Q. And do you know what they are requesting?

A. The -- what I would, from reading this, have expected it as being requesting is requesting, basically, authorization for payment. But that is going to be, in this case, as opposed to the other art that we've been talking about, forwarded, in essence, through the point of sale terminal. So you can think of it as a credit card you have an authorization request that goes in when you start to try to process a

transaction.

So that's what I was interpreting that as.

Q. Why don't you turn to a couple of pages earlier to Column 30 of Freeny?

A. Sorry. To what page?

Q. Column 30. Page 66 of the exhibit, Column 30.

A. Okay. And what row?

Q. Well, at the heading down low in Column 30, we see that this store checkout system and document that we've been discussing appears in a section of Freeny with the heading Detailed Description of the Invention Master Proximity Authorization System, right?

A. I am at that section, yes.

Q. And if you look at the last line of that first paragraph of this section, you see where it says, "Each of the proximity service units 2920 provide a predetermined service when activated in response to receiving a request authorization code"?

A. I see that.

Q. So if we turn back now to Column 33 in the store checkout system embodiment, right after

that sentence that we just analyzed talking about transmitting authorization request codes at the first proximity distance, you see that it says, "The proximity service unit 2920 can deliver special services to the customer via the audio or video elements of the proximity authorization unit 2910, or send greetings to regular customers, for example, telling them of store specials"?

A. I do see that. Okay.

Q. So the services that are triggered at the first proximity distance are greetings and advertisements, correct?

MR. MUDD: Object to the form.

THE WITNESS: Okay. Yeah. I see that. So what's the particular question? I'm sorry.

BY MR. ARGENTI:

Q. That the services that are triggered at the first proximity distance in this example are greetings and advertisements, correct?

A. Well, this says that, at that distance, special services to the customer may be delivered, okay? It's not saying that that's exclusively what is occurring at that point.

Q. But Freeny does not say that its first

proximity distance is a zone within which the wireless adapter element sends an authorization request for funds to the adapter module in the user's -- from the adapter module to the user's mobile device, does it?

MR. MUDD: Object to the form.

THE WITNESS: Certainly this particular paragraph does not state that.

BY MR. ARGENTI:

Q. Now we can talk about the second proximity. This paragraph of Freeny in Column 33 goes on to say that the store checkout system can approve the transaction at a second proximity distance, right?

A. We were looking at -- sorry. What are we looking at? Column 33?

Q. Right.

If we look down at, I believe it's Line 31, do you see where it says, "The store checkout system can approval the transaction at a second proximity distance"?

A. It does say, "The store checkout system can" -- and I interpret that as approve, but -- "the transaction at the second proximity distance which is closer than the first proximity

distance," yes.

Q. So Freeny says it is the store checkout system that approves the transaction at the second proximity distance, rather than the store checkout system receiving a transaction authorization, correct?

A. In the case of Freeny, that's what it is stating, yes.

Q. And at the end of that sentence that I was just reading, if I go on to read the rest it says, "The second proximity distance (which is closer than the first proximity distance) using either the signal strength detected by the wireless adapter element 3180 or using the physical adapter element 3170 to deliver the correct authorization information to the store checkout system."

Do you see that?

A. I do see that.

Q. What is the "authorization information" that Freeny refers to?

A. Well, what we are drawing from here, is, again, the zones and when certain things occur. The authorization -- so here it says, "to deliver the 'correct authorization

information' to the store checkout system."

Let's see. So it's using either the signal of the wireless adapter or using the physical adapter element to deliver authorization information to the store checkout system. It's -- what that made it -- what that data is used for is important to identify it as enabling the transaction to go through. But that's sort of what is stated here. And the details of what is the format and things like that, I'm sure it is elsewhere in this document, but it's not what we were focusing on, other than the function of what was being delivered.

Q. Do I have it right that you don't have an understanding of what the authorization is that's referred to -- authorization information that's referred to in that last sentence of the paragraph that you cite?

A. In that last paragraph, my high-level understanding of the authorization information that is delivered to the store checkout system is that it is information enabling the transaction to go through. The details of it is a record of this format; it originated here or there, is not the aspects that we were focusing on in Freeny.

Q. So you don't have any idea whether that authorization information that's sent from the proximity authorization unit to the proximity service unit is an authorization grant of funds, do you?

A. As to an authorization grant of funds, no, I don't have at the moment. I may have, at one point, had a better understanding of that. But at this point, as to whether it is specifically a grant of funds, I do not.

Q. Now looking back to Low -- the Low reference, you don't contend that Low's system -- on its own, before you looked to Freeny, you don't contend that Low's system has an authorization, right?

A. Well, we looked at zone -- or, sorry. We looked at Low without Freeny. The primary zone that was there was the communication zone.

And in Low by itself, we're not contending that there was a separate authorization and payment zone.

Q. If we jump back to the section in your declaration talking about reasons to combine Low and Freeny; I believe that starts at Page 27 of your declaration.

Actually, before I get into these handful of questions, it's been a while that we've been going. Would you like to take another break?

A. Sure. Maybe 10 minutes.

Q. Okay. Why don't we do that. That would be 3:20 Pacific time.

A. 3:20. Okay.

Q. All right.

MR. MUDD: Thanks.

(Recess taken.)

BY MR. ARGENTI:

Q. Dr. Neuman, as I mentioned before we took our break, could you turn to Page 27 of your declaration, please?

A. Okay. Page 27.

Q. And that's where you had your section that discusses Reasons to Combine Low and Freeny, correct?

A. That is correct.

Q. And then if we turn to the next page, at the top of Page 28 you say, "Automatic proximity-based payments would have increased convenience for the customer paying at one of Low's vending machines as it would have reduced

the number of interactions the customer must have with the user device to complete the transaction."

Did I read that right?

A. You did read that correctly, yes.

Q. So my question is how would the combination of Low and Freeny that you propose have reduced the number of interactions the customer has with the user device?

A. What you can certainly envision is a case where the user simply walks up to the machine, presses a button and you don't even have the prompt that requires the user to now interact with -- to interact and say, "I'm approving this," because the proximity became one of the aspects that was used for the approval. That's, sort of, probably the main aspect you would think there.

Q. So reducing the interaction -- or eliminating the interaction that the user has with the user device to pass the purchase request on after the user device receives it from the vending machine. Is that what you're talking about?

A. Wherever it would be requiring user

interaction is one of the things that you're able to eliminate. So it could be we have the purchase request that goes to the mobile device. You present it to the user to approve. Well, because you have the physical proximity, you simply presume that approval. So that's a reducing interaction.

Q. Any other interaction specifically that you'd identify?

A. Well, depending upon what the different embodiments might have been, one could envision that there was an embodiment where the actual approval was after things came back from the payment provider that the user would need to decide whether to forward that on, depending upon what it is. So those kinds of interactions are probably the thing that comes most to mind in reducing the interactions that one might have.

Q. Does Low talk about that? Does it talk about requiring a user interaction to forward the approval that's coming in --

A. I don't think it does. It does talk about the first one that's there.

If we were to think of other examples -- well, Low already has the ability to provide

the -- well, that's just communications zone. Really what we're getting from Freeny is these other two zones -- the advertisements as to what are the nearby devices. So that's probably already something that's already within Low, not an advantage that we're getting here.

But here I'd say that, you know, the main one in terms of just, sort of, the user convenience is the -- yeah, you know, it's -- well, you know, clearly more recent than the priority date of this. But think about the "Just Walkout Technology" that Amazon has now, right? It's -- it's -- you know, there really isn't any interaction with your device that is necessarily needed.

Now, we go back a number of years, and that's sort of almost what's happening with the vending machine. Okay. There's not an interaction with your device that is needed. The proximity is what determines that. And, of course, you still need whatever interaction, whichever way you're doing it in terms of selection of products, but . . .

Q. That was going to be my next question, is that in your combination of Low and Freeny,

the user still selects a product on the vending machine interface, right?

A. And so in this particular case, the user selects a product on the vending machine interface. But, in fact, sort of, the big advantage is when you, sort of, move away from the vending machine to a model where maybe there is only one service: a tollbooth or a parking booth or something like that. So you just drive out, okay? And you could have all of the authorizations go there, and there's not a selection of the product itself.

Now, that isn't Freeny adding. Freeny is adding the proximity part. But all in all, you know, more and more interactions get eliminated, so . . .

Q. So I think you were kind of seeing the direction where I was going when you brought up the tollbooth.

My question is in the Low-Freeny combination, the user is physically interacting with the vending machine and so the user is still standing next to the vending machine to get the product, right? The user's standing at the vending machine the whole time during the

process, correct?

A. So in the case with the vending machine, the user would need to be, physically, within arm's reach to press the button. And you would still have the interaction of pressing the button, assuming that there was more than one thing that is going to be dispensed. But you are eliminating, in essence, the need to confirm on the device that you want to purchase.

Because the problem is, if you didn't have the proximity in there, someone goes buying something from the vending machine because you happen to be in the next room, or, for that matter, because you happen to be at home.

Q. Well, you couldn't be in the next room or at home, because then you wouldn't be able to select a product using a vending machine interface, right, which is a requirement.

A. Oh, no. No. No. No. That's the point. The fraud example that I'm giving you is someone else is posing as you, okay?

So in the normal case, yes, you wouldn't be able to select the product when you were at home, when the machine was at work. But the way that you prevent someone else from getting the

product in that case is that you need to approve on your device. In this case, you've got the zones and the distance. And the presumption is that if you are within the payment zone; you're close enough to the device at this point, that, as a result of that, we are going to assume that you are approving the transaction, so . . .

Q. But if you are --

A. Go ahead.

Q. If you are outside of a close distance to the vending machine, such that you're not interact -- able to interact with the vending machine, that's outside of the scope of the claims anyway, right?

A. Well, but you've got Bluetooth distance, which, by the way, can be pretty big nowadays, of course -- well, actually, even in those days I remember hearing about people abusing Bluetooth in various ways.

So, you know, Low talks about the communication zone, and that's sort of Bluetooth range. Adding these other zones that are within that, especially when you get to the payment zone which is, presumably, a very small radius, that is what is increasing the convenience.

Q. Let me ask it this way: Why would it make sense for a POSITA to introduce proximity zones if a user is standing next to the vending machine the whole time in order to select a product from the vending machine and receive a product from the vending machine?

A. Because in the other case -- okay, sort of -- well, we'll talk about, sort of, the use case and we'll talk about the misuse case here.

In the misuse case, I'm standing in a room; the vending machine's on the other side of the room. I am within Bluetooth range. Someone goes up, presses the button, takes the soda. It's billed to my account.

Now, what do you do to address that? What you do to address that is, well, when the machine requests -- or when the payment module on the machine requests the approval, you're going to display something on my handheld that I now need to press the button and say, this is okay. Of course, I wouldn't do that because it was someone else that was getting it.

But once you implement that mechanism, now when I'm standing next to the machine, I press the button and now I have to pick up my

phone and I need to select the buttons. So whereas when I have that proximity zone that is effectively within arm's reach of the machine, now I don't need to force the manual approval of this on my device because that is already addressed by the very tight in proximity.

Now, what happens if I'm in a really crowded room, we're all sandwiched up against someone and someone brushes against the button and it accidentally dispenses, well, yeah, you've got problems there.

But in this particular case that I've just described, it is simplifying the normal process where I am the one making the purchase, I am within the arm's length, or whatever, of the machine, and I don't have to have in place a mechanism where I need to fish this out of my tightly zipped pocket to approve it, because the fact that I am within arm's length of that machine is considered acceptable.

Q. So if we look at Claim 1 of the '045 patent, it involves a user, right?

A. Let me just pull up Claim 1, but, yes, it involves a user.

Q. And that user has a mobile device,

right?

A. And the user clearly has a mobile device, yes.

Q. And there are communications that go through that mobile device: the authorization request for funds, the authorization grant, right?

A. These go through the mobile device, that is correct.

Q. And that same user is the one who interacts with the vending machine to select a product, right?

A. Certainly, if we look at Claim 1, yes, that same user is interacting.

Q. So your example where you were saying the user is somewhere far afield and there's somebody else who nefariously is selecting a product at the vending machine, that's not within the scope of the claim. What we're talking about is the user is at the vending machine selecting the product, right?

MR. MUDD: Objection.

THE WITNESS: Well, you've got what is within the scope of the claim in its use case. And then you've got the fact that you have to

address what in security we call, sort of, negative use cases, or misuse cases. And that addressing that misuse case -- now the misuse case is not within the scope of the claim, but the misuse case requires extra steps for the user in the use case in order to mitigate the misuse case. And when you have the payment zone that is in there, then you don't need that particular mitigation, so you are benefiting the user by that simplification.

BY MR. ARGENTI:

Q. Let's now take a look at Page 22 of your declaration.

A. Page 22. Okay.

Q. And here you discuss the Wilson reference, right?

A. I discuss the Wilson reference, yes.

Q. And Wilson discloses something it calls NetVend, correct?

A. Wilson is particularly disclosing a vending machine with an interface that they call NetVend that connects to a vending machine controller through the multi-drop bus interface. That is correct.

Q. It says, "The NetVend is a device that

can be added to a vending machine by plugging that device into the multi-drop bus," right?

A. So NetVend is a device that can be added by plugging it into the multi-drop bus interface, yes.

Q. What is a multi-drop bus?

A. So the multi-drop bus interface is a specification that was actually, at that time, a standard for integrating certain payment devices, in particular, primarily for coins and similar currency, with a standard interface to the other components of a vending machine that would result in dispensing and various other things that occur.

Q. Is -- a multi-drop bus generally, is that -- is that specific to this vending machine interface that you're referring to? Are there other --

A. When you say "specific to this one." So the multi-drop bus interface was a specification from, I guess, I presume, a consortium of vending machine manufacturers, to create a standard interface for the payment -- I'm not -- let me not use the word payment-accepting unit because that's overloaded here. For integrating those

parts of a machine that accepted, whether it was coins or dollar bills or other kinds of things that were going on, to integrate with the rest of a vending machine. So, that, for example, you didn't have to design the interface differently for every kind of vending machine, whether it was for soda, whether it was for hot coffee, whether it was for laundry, whether it was for one thing or another.

So the idea is you would design your system to focus more on the delivery of the goods. And instead of every one of these machines having a different designed component to accept currency, in whatever form, it would allow you to take these components and simply plug through, sort of, standard connectors that sent -- defined by the standard signals over the connectors -- to enable the machines to operate.

Q. Well, are there other types of multi-drop buses that are not specific to vending machine context or that particular interface?

A. I believe the multi-drop bus interface works not just with vending machines but -- I mean, unless you're going to call them vending machines, so if you've got laundry or other kinds

of things that all of these could be there; but the multi-drop bus interface is a standard.

So all of the things that conform to multi-drop bus interface do the same things and have the same interface to the rest of the units to whatever those units are, whether it's a vending machine, whether it's a laundry machine, whether it's, I guess, it could be used on tollbooths. I don't know if it has been.

Q. When you're referring to the standard, I think what you're referring to is the particular multi-drop bus protocol that Wilson talks about, right?

A. So, in fact, we did cite to the document that had the standard, and that is what Wilson is describing integrating to as well, yes.

Q. And that's the multi-drop bus internal communication protocol, or MDB/ICP, correct?

A. That sounds familiar. Let's see. See MDB -- "see MDB/ICP specification." So what we have as that is what we're referring to.

Q. Had you ever heard of MDB/ICP prior to your involvement in this case?

A. I don't think I had heard of that particular standard. But I did have, sort of,

a general understanding that these devices were modular and that there was such a standard. But I don't know if I had -- and I don't think I had -- I certainly had not read that particular standard prior to this matter.

Q. And Wilson says that when it's NetVend devices is connected to the multi-drop bus, the vending machines use it as a cashless device peripheral that's defined in that MDB/ICP specification, right?

A. That's how Wilson describes it, yes.

(Exhibit No. 1007, United States Patent Number 7,455,223, was introduced electronically.)

BY MR. ARGENTI:

Q. Okay. Why don't we look at Wilson. That's Exhibit 1007. Let me know when you're there.

A. Okay. Wilson -- oops, sorry. Let me just do it here. Wilson. That is 107.

Okay. I have that up. What column?

Q. Let's see. Why don't we take a look at Column 6, please, Line 53.

A. Okay.

(Reviews document.)

Q. Let me know when you're there.

A. I am there.

Q. Do you see the line that says, "Figure 2 shows a block of a diagram of a first exemplary embodiment of a vending machine interface, i.e., a NetVend interface 114 showing the major components and their relationships to each other according to this invention"?

A. And I do see that, yes.

Q. And let's take a look, then, at Figure 2 of Wilson.

A. Okay. Good. I was going to ask if I could go to the figure.

Q. Okay. So Figure 2 depicts the NetVend device, right?

A. Great. I don't have to rotate it.

So Figure 2 does depict the NetVend device, that is correct.

Q. How many MDB connectors does this NetVend device have?

A. The NetVend device itself has a single MDB connector, at least according to this figure.

(Exhibit No. 1008, a printout of NAMA Multi-Drop Bus/Internal Communication Protocol, was introduced electronically.)

BY MR. ARGENTI:

Q. Why don't we take a look now at Exhibit 1008.

A. Okay. And I have that up. Where would you like me to turn to?

Q. Well, first I'll ask, did you review this entire document when you were forming your opinions?

A. Certainly sections of it, but it is a very long document with a lot of irrelevant details.

Q. And why don't we quickly jump from this back to your declaration and take a look at Paragraph 49.

A. Okay. So let's see. Paragraph 49.

Okay.

Q. And at the end of Paragraph 49 of your declaration there's a figure from the MDB/ICP specification and a cite to Page 7 of that specification. You see that?

A. Okay. I see that.

Q. But then if we go back to Exhibit 1008, it looks like that figure is actually on Page 52. Why don't you take a look at that and let me know if you agree with that.

A. Okay. I certainly do see this figure,

or at least I see those particular connectors within the figure that is on what we'll say what is, of the PDF document, Page 52, but what is the page number at the bottom of the page as Page 7.

Q. Okay. And this is the seventh page of Chapter 4 of the specification Exhibit 1008. So I'm wondering if Chapter 4 is all that was provided to when you worked on your declaration?

A. I believe I had the document itself, in terms of the PDF. Where I chose to focus, I think, probably isn't here. But I had the PDF document, so . . .

Q. Which was the complete specification?

A. Which I believe was the complete specification.

Q. All 270 pages of it?

A. Again, I'm not certain, but I believe that it was the complete specification, which would have been 270 pages. As we spoke about before, I didn't review all of it, and, yeah, it's possible that I might have had a different version of this.

Q. Okay. Let's take a look at the figure on Page 52 of Exhibit 1008. This is an MDB connector, right?

A. That is an MDB connector. Actually, what it is in that figure is, sort of, the male and the female of an MDB connector.

Q. And there's -- so there's a peripheral side of the connector and a VMC bus side of the connector, right?

A. So there is what is described as the peripheral and the bus connector side, that's correct.

Q. And when it says "VMC bus connector," is it your understanding that VMC stands for vending machine controller?

A. Can you just give me one second?

Q. Sure.

A. Okay. My wife just got home and called to me, and I had to tell her I'm still on the deposition.

Q. You can pass on my apologies.

A. Okay. So we spoke about the peripheral connector and the VMC bus connector, and your question then was?

Q. Is it your understanding that VMC in this figure stands for vending machine controller?

A. I believe that that is the connector

that would be the vending machine controller bus, in some sense. Well, VMC would be vending machine controller, but it's the bus connector for that.

Q. Okay. So the peripheral has the connector with the sockets, right?

A. So let's see. We've got the sockets here and then you've got the pins on the other side. So the sockets are on the peripheral side, yes.

Q. So the peripheral side is the female side, right?

A. If you've got the sockets, yes, that would be the female side.

Q. And the VMC bus side has the pins, so that's the male side, right?

A. The VMC bus connector would be, if it says pins, I described that as -- I mean, these are a little bit weird in terms of the connectors themselves in that you have, sort of, a recess and then you've got plastic that comes out and then you've got pins that go into each of the small things. So the male-female is sometimes a little bit confusing, but I'll certainly accept your characterization of those.

Q. Okay. So to tie it all up, then, for a single MDB connection, there's a male connector on the vending machine side and a female connector on the peripheral side, right?

A. On the peripheral side, you would have the female, as we're talking about it here. On the peripheral side and the vending machine side, you would have the male connector.

Q. So, for example, in Wilson, when we look at Figure 2, where it says MDB connector in the NetVend device, that, presumably, would be a female connector, right?

A. So what Wilson is describing in this device here would be -- and let's just be clear here -- that is the peripheral, okay, which shows sockets, so that would be the field, yes.

Q. Now, still looking at Page 52 of 1008, we see -- above those figures of the male and female connectors we see that that specification lists the Connector Pin-out, right?

A. It describes what we call the pin-out, yes, okay.

Q. And there are six lines for the MDB connector, right?

A. This shows the connector as having six

lines, that is correct.

Q. And that's the same for both the male and female side, right?

A. There would be six lines on each. They have to mesh together.

Q. Right. So, for example, Line Number 1 is for 34 VDC, right?

A. That's volts DC current. So that's the voltage that is provided to both power the peripheral device -- actually, primarily power, but also setting the reference voltages for the communications as well.

Q. Okay. Yeah. I think you were getting to my next question. And so when the male and female connectors are plugged together, Line 1 delivers power from the vending machine to the peripheral, right?

A. Actually, I would say, probably, Line 1 and Line 2 together, because you need two wires.

Q. It's the return, yeah.

A. Yes.

Q. So we just addressed Line 2 is for the DC power return.

It looks to me like Line 3 may not be used. Is that your interpretation?

A. That's my interpretation of the NC, so for the N for not. C, I mean, usually it would be NA or NU, but, you know --

Q. Line 4 is the master receive line, right?

A. Master receive line, yes.

Q. Line 5 is master transmit, right?

A. That's correct.

Q. And Line 6 is for something called communications common.

A. Yes.

Q. Do you know what that means?

A. So when you are communicating a signal, and just like for the 30 volt DC we needed two wires to transmit the voltage, in this case what you have is, to communicate a signal over a line, you have, basically, a wire that is going to be modulated up and down in terms of voltage, usually, like, five volts -- I'm not sure what the voltage is here, other than the powering voltage -- but you need to have what's called common, or ground, to provide the reference for the signal.

So when you are transmitting a zero, the voltage that is on master receive is going to

be the same as -- well, actually, transmitting on master transmit, transmitting zero, is going to be the same as communications common, so the voltage is going to be the same.

And when you're going to transmit a one, you will have the voltage on master transmit probably at "other than common," probably 5 volts or 12 volts or whatever it is here. And for the receive, that's just a communication in the other direction.

So, in essence, the "communications common" -- and the reason it's called "common" is it provides the second reference voltage for both master receive and for the master transmit.

Q. Got it. That's helpful. Thank you.

So if we look at -- based on at least Lines 4 and 5, and it sounds like Line 6, as well, a peripheral can both transmit and receive information using a single MDB connection, right?

A. Yes. So a peripheral would be able to transmit and receive information to the other components. So a peripheral to the bus, the vending machine controller bus, can both send and receive using a single connector.

Q. Okay. Now, if we turn to the next page

of the MDB/ICP specification, that's Page 53 of Exhibit 1008, you see a figure that's been labeled as Example Schematic, right?

A. Yes. And, by the way, from this I immediately see, I guess, a five volt DC as the communications voltage was right.

Q. Nailed it.

So there are three peripherals on the right side of the figure, correct?

A. Well, here we're looking at example schematics of the voltage output, but let me just determine whether this is -- these are -- okay. So we've got the peripherals here, so you've got different entities that can go there, okay. We have three there.

Q. So the three peripherals are labeled slave one, slave two, slave three, right?

A. Yes.

Q. And in the context of Wilson, the NetVend device would be equivalent to one of these peripherals, say, slave two, correct?

A. That would be what Wilson is describing it as, yes.

Q. And looking at this figure on Page 53 of Exhibit 1008, on the left side, which is the VMC

side, there are lines labeled one, two, four, five and six, correct?

A. So we're still looking at the same figure?

Q. Yes.

A. We have one, two, four -- I see, one, two. Where's four? Five. Okay. Just out of order. Oh, and six down at the bottom. Okay.

Q. And so those lines correspond to each of the lines that we just saw on the previous page in the connection band, right?

A. Right. So we had Communications Common, which was six. We had Master Receive, which was four, okay? We had Master Transmit, which was five. We had the Voltage Input-output as one and two. So those correspond to that. That is correct.

Q. And in this figure, the example schematic, there's presumably no line three because it isn't used in the MDB pin-out, right?

A. That certainly makes sense, yes.

Q. And for each of those five labeled lines on the VMC side, there is a corresponding line into the peripheral on the right side, right?

A. So if you look at the line into

the peripheral, on the right side we see the corresponding lines. And these are, in essence, connected in parallel, as we would describe, in that you've got the receive line which goes into -- well, let's see, what do we have here? We've got the receive and the transmit, but they all end up connected across the three examples that we see here to the corresponding what you described as pin here, yes.

Q. So each of slaves one, two and three in this example schematic figure is connected to the bus with a single MDB connector, right?

A. So when I look at this, what I am -- and I'm not absolutely certain here, but I am wondering if you actually have a single MDB connector with three peripherals that are, sort of, hardwired together, in some sense. And then if you see the less-than less-than symbols, with the pin number next to them -- the pin number is next to each of less-than less-than symbol.

Q. Yes.

A. Okay. I think those correspond to the actual pins on the connector.

So what it looks like here is that you have, in this particular diagram, a peripheral

that might accept -- you know, might have multiple sets of sensors; for example, bill reader and a change reader, or something like that; and that they are, on the peripheral side, hardwired together to a single pin on the connector, in which case what you have here is really, sort of, a single peripheral. The things describes as the slaves within the peripheral are really, sort of, modules within that peripheral that do things in parallel.

Q. So for all three of the slaves together, there's a single female MDB connector connecting to the bus?

A. That is what it looks to me, at least in this particular diagram. I mean, I presume you have many other examples in here that give other examples. But that's what's being shown here.

Q. Okay. Why don't we take a short break. I think that might be all the questions I have. I just want to confirm.

A. Okay. Five minutes?

Q. Five minutes, and I'll be right back.

MR. MUDD: Sounds good. Thanks.

(Recess taken.)

MR. ARGENTI: Barring any follow-up

after redirect, that's all my questions, Doctor. So thank you.

MR. MUDD: No questions from petitioner.

MR. ARGENTI: All right. I guess that's it, then.

THE WITNESS: Okay. Thank you.

Have a good day.

(Deposition concluded -- 4:05 p.m.)

C E R T I F I C A T E

I do hereby certify that I am a Notary Public in good standing, that the aforesaid testimony was taken before me, pursuant to notice, at the time and place indicated; that said deponent was by me duly sworn to tell the truth, the whole truth, and nothing but the truth; that the testimony of said deponent was correctly recorded in machine shorthand by me and thereafter transcribed under my supervision with computer-aided transcription; that the deposition is a true and correct record of the testimony given by the witness; and that I am neither of counsel nor kin to any party in said action, nor interested in the outcome thereof.

WITNESS my hand and official seal this 4th day of April , 2024.



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Notary Public

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I, _____, do hereby certify that I have read the foregoing pages __ to ____ and that the same is a correct transcription of the answers given by me to the questions therein propounded, except for the corrections or changes in form or substance, if any, noted in the attached Errata Sheet.

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Subscribed and sworn to before me this _____ day of _____, 2024.

My commission expires:

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Notary Public

Jason Mudd, Esquire
jmudd@shb.com

April 4, 2024

RE: CSC Serviceworks, INC v. Payrange Inc
3/26/2024, Dr Clifford Neuman (#6594284)

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Federal Rules of Civil Procedure

Rule 30

(e) Review By the Witness; Changes.

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

(A) to review the transcript or recording; and

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

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

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Veritext Legal Solutions represents that the foregoing transcript is a true, correct and complete transcript of the colloquies, questions and answers as submitted by the court reporter. Veritext Legal Solutions further represents that the attached exhibits, if any, are true, correct and complete documents as submitted by the court reporter and/or attorneys in relation to this deposition and that the documents were processed in accordance with our litigation support and production standards.

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