

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

CISCO SYSTEMS, INC.,

Petitioner,

v. CASE NO. IPR2018-01512

CENTRIPETAL NETWORKS, INC.,

Patent Owner.

** REVISED **

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The deposition of DR. MICHAEL GOODRICH was taken before Patrick R. Miller, Alabama Certified Court Reporter, No. 631, as Commissioner, on Thursday, August 29th, 2019, commencing at approximately 12:35 p.m., at the Law Offices of Merchant & Gould, 191 Peachtree Street Northeast, Suite 3800, Atlanta, Georgia, pursuant to the stipulations set forth herein.

JOB NO. 167304

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EXHIBIT INDEX

MARKED

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DR. MICHAEL GOODRICH,
the Witness, having been first duly sworn to
speak the truth, the whole truth, and nothing
but the truth, testified as follows:

EXAMINATION

BY MR. BLAKE:

Q. Good morning, Dr. Goodrich. Nice
to speak with you again.

A. Good morning.

Q. Do you understand that the
deposition that you are providing today relates
to your declaration in IPR2018-1512, which
relates to the '213 Patent?

A. Yes, that's correct.

Q. Okay.

MR. BLAKE: And before we go any
further, Jeff, you can go ahead and
give him a copy of the declaration if
he doesn't already have it in front of
him.

MR. PRICE: He has it.

BY MR. BLAKE:

Q. Okay. Dr. Goodrich, is this the
copy of your declaration that's marked as

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Exhibit 2004 in this proceeding?
(Exhibit No. 2004 was
previously marked for
identification.)

A. Yes.

Q. Are there any corrections that you
would like to make or changes you would like to
make to your declaration?

A. Not at this time other than, you
know, if we run across any possible typos today.
I believe the -- the corrections should be clear
from the context, but if not, I'd be happy to
clarify those.

Q. Okay. There was one I wanted to
ask you about. Let me see if I can find it. If
we turn to Paragraph 115 on Page 60 of your
declaration.

A. Okay. I am there.

Q. The second sentence begins, In my
opinion.

Do you see that?

A. Yes.

Q. All right. Could you review that
sentence and see if -- is there a typo in it?

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A. Okay. So there is reference here to the '213 Patent. I'm just double-checking that that reference is okay. Also even before that, there's -- there's a redact where it says, One or more PSGs that can automatically create.

Q. Yes, sir.

A. I think that should instead be an "and," because it's the SPM that does the automatic creation.

Q. That's what I was asking about is whether that "that" was a typo.

A. Yeah, the "that" is a typo. It should be "and."

Q. It should be "and"?

A. Yeah. I'll refer you back to the SPM if that's not clear.

Q. Okay. That's what I thought, but I just wanted to confirm it.

A. Yeah, that's correct.

Q. Okay.

A. And then just to double-check that citation at the end. Yeah, that citation looks right. So I think the correction is just the

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word "that" for "and."

MR. BLAKE: Okay. Jeff, if we could hand Dr. Jeffay a copy of the '213 Patent?

MR. PRICE: It's going to be hard to reach Dr. Jeffay.

MR. BLAKE: I mean, excuse me. Dr. Goodrich. I apologize.

MR. PRICE: No problem. I have given him a copy of the '213 Patent. (Cisco Exhibit No. 1001 was previously marked for identification.)

BY MR. BLAKE:

Q. Dr. Goodrich, do you recognize this copy of US Patent 9,565,213?

A. Yes. This indeed is the patent that I have referred to as the '213 Patent.

Q. If you would take a moment to look through the '213 Patent and tell me, does it give any specific examples in the specification of the claimed packet digest logging function?

A. Yes, it does.

Q. Okay. And where is that?

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A. It's -- at least one place I've found is -- just sitting here today, is starting in Column 22, beginning around Line 53 and then continuing from there.

THE COURT REPORTER: You said "I 63"?

MR. BLAKE: Line 53, I believe he said.

A. Yes, that's correct.

Q. So in Column 22, you would be referring to the sentence that says, At Step 1208, the packet security gateway may perform, on a packet-by-packet basis, the packet digest logging function on each of the packets corresponding to the packet-identification criteria.

Is that correct?

A. Yes, that's where it begins. And then the passage continues at least through Column 23, Line 18.

Q. Okay. And this is discussing the flow chart that's in Figure 12, correct?

A. Yes.

Q. Okay. Now, this section that

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you've cited, it discusses how the packet digest logging function can be used, but does it provide any specific examples of what a packet digest logging function would look like?

A. Yes, that's -- that's the whole passage that comes in the next paragraph after that. So that begins on Column 22 at Line 60, and continues to Column 23 at Line 18.

Q. Okay. But it doesn't provide an example packet digest logging function, does it?

A. I disagree with that statement.

Q. Well, do you see one that shows you what the actual entries would be in a packet digest logging function?

A. Yes, it's saying so in paragraph form, but that's -- that would be sufficient to a person of ordinary skill in the art.

Q. Okay. Is there any other description in the '213 Patent that you've seen of a packet digest logging function?

A. Without having a computer to do a keyword search, I would be reluctant to say that there's not other places here, but as I sit here today, I'm not immediately recalling any others.

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Q. If you would look in your declaration to Paragraph 99 on Page 51.

A. I'm there.

Q. And if you need a moment, take a minute to refresh yourself on the paragraph. But it's discussing the use of the DSE, the differentiated services code point selector.

A. Yes, that's correct.

Q. The last sentence says, quote, In my opinion, viewing DSCP fields as an indication of a possible security threat or as an attack remedy is to improperly import teachings from the '213 Patent to ACNS in apparent hindsight, close quote.

Do you see that?

A. Yes.

Q. How does the '213 Patent teach a person of ordinary skill in the art that the DSCP is an indication of a possible security threat or as an attack remedy?

A. So there's a reference in the '213 Patent to using the DSCP. It described it in the specifications. I don't have a computer printout to do a keyword search, so I'm just

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going to look for that unless you want to highlight it yourself.

Q. I would reference you to Column 10 around Lines 26 to 37.

A. I'm there. So this -- that -- that -- that phraseology that is mentioning the DSCP locators and how you can have multiple priorities would be understood by a person of ordinary skill in the art from this reference. In the context of a paragraph -- if you go up to Line 20 of Column 10, it says, Such an enqueueing service may be utilized during or following a network attack or, generally to provide prioritized service to critical network devices, e.g., when network resources are strained.

Q. Okay. So what does that teach you as a person of ordinary skill in the art?

A. That, in this context, the DSCP field is being used either during or to -- to thwart an attack or to recover from an attack. That's what that sentence is -- is stating literally.

Q. Okay. How would the DSCP field be

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used to thwart an attack?

A. That there could be some packets that are not a part of the attack that could be used as a part of a remedy, and so then you would use the DSCP field to allow for those high-priority packets to get through even during the attack, and then, you know, their contents could be then used to stop the attack.

Q. So how could packets be used as part of a remedy?

A. So then the remedy is -- and this -- this goes to other disclosures from the '213 Patent about how -- if you're, say, in a denial-of-service attack, and you have some packets that you know are not a part of that attack, now you could use this DSCP field to tag those packets, allow them to get through, and they will not be subject to that denial of service.

Q. Would that have been known by a person of ordinary skill in the art before the priority date of the '213 Patent?

A. That's something that's disclosed in the '213 Patent. I'm not sure I understand

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your question.

Q. No, that's something that's disclosed in the '213 Patent, but would the concept of using the DSCP field to tag certain packets to allow them to get through during a network attack to help remedy the attack, would that concept have been known to a person of ordinary skill in the art before the priority date for the '213 Patent?

A. I -- I don't recall I've ever seen that. That's why I had that sentence in my declaration that appears to be using the patent as hindsight.

Q. So it's your position as a person of ordinary skill in the art that the '213 Patent introduced the idea of using the DSCP as an aid to assist in the recovery from a network attack; is that correct?

A. That's -- based on the evidence that I saw, that's -- that's the conclusion that I reached.

Q. Okay. And it's your position that that was not known in the art before the priority date for the '213 Patent?

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A. I don't have any recollection of having seen that prior to the priority date of the patent, and I don't recall having seen any evidence in this case that showed that that was something that was known before the priority date. That's why I had that sentence in my declaration. I believe that to do it -- use it in that way is -- is to use hindsight.

Q. Okay. And how would the DSCP field be used to recover from a network attack?

A. I -- I just explained that. So elsewhere, also, the patent talks about how you can be letting out in this sort of judicious way more and more packets after denial-of-service attacks, and now to recover from it, just to be safe, you know, we're going to say, These, we really know are good. One way to do that was this incremental way that talks about in another way as here, is using the DSCP field, you can prioritize packets you know are good, and now recovering from that denial-of-service attack, you can send them out safely and quickly.

Q. Okay. And if I was using the DSCP field as a remedy to an attack, why would I want

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to log packets that are associated with the DSCP field?

A. There's multiple reasons.

Q. What are they?

A. So, for example, one is that you want to be careful about where you're sending the packets. They're coming in now, because in this scenario we're -- we're talking about in the '213 Patent, there could be multiple packet security gateways. So if you're getting one from -- you know, packets from another packet security gateway, you want to make sure that those indeed are safe, and logging is just a way of sort of keeping track of this stuff so you can come back later and see if maybe that was a mistake perhaps, or maybe you could have done more, could have just tagged the ones that were tagged, this kind of stuff. Logging is very useful, and a person of ordinary skill in the art would recognize that.

Q. A person of ordinary skill in the art would have recognized the usefulness of logging even before the priority date of the '213 Patent, right?

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A. Logging in general was known. There's very specific types of logging functionality that's taught in the '213 Patent that I believe is novel, but logging, just generally as a concept, was known prior to the '213 Patent.

Q. What's novel about the logging in the '213 Patent?

A. A number of things. So at least the way that it's doing this packet security -- I mean, the packet digest logging function, how that ties in with these packet security gateways and security policies, that whole framework is novel, in my opinion.

Q. What's novel about the implementation of the packet digest logging function?

A. So I speak to this in a number of places in my declaration. So for example, one distinction is that the packet digest logging function that's taught in the '213 Patent is being done on a packet-by-packet basis. That's novel. The way that it's -- for example, in Claim 1, talking about how it's got these three

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components, first identifying the subset of information, then generating the record, then reformatting according to a logging system standard, all this being done on a packet-by-packet basis. In my opinion, that's all novel.

Q. Anything else that you want to identify?

A. The same kind of things I've said in my declaration. I believe that's at least conclusive of those things I just mentioned.

Q. You mentioned before that logging itself was a generally known concept?

A. Yes, that's correct.

Q. In the prior art, the logging that was performed, would you always have logged the entire contents of a packet, or was it known that you could log a subset of the contents of a packet?

A. Do you have now a specific reference you're referring to? Because --

Q. No, I'm asking you since you say you're a person of ordinary skill in the art what you would have known in the prior art

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period.

A. Right. So with respect to the evidence in this case, I didn't see any logging of packets in ACNS at all. Instead, it's loggings of transactions, which is quite distinct from doing something on a packet-by-packet basis. Likewise, the Kjendal reference also, in my opinion, does not do -- does not teach packet logging. At best, it talks about sending packets to some other device called the network logger, which it never explains what it's doing. So just based on the evidence, I haven't seen anything that's doing packet logging from this -- this case, and if you're now asking me something more general beyond that, I would have to have better context on what you're asking.

Q. I'm asking you, outside the context of the references, your knowledge as a person of ordinary skill in the art -- do you believe yourself to be a person of ordinary skill in the art with respect to the '213 Patent?

A. Yes.

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Q. So as a person of ordinary skill in the art, prior to the priority date of the '213 Patent, would it have been known that you could log a subset of the information found in a packet?

A. Just sitting here today, I'm not recalling anything from that time. I did study the references for this case. It's not in those. Otherwise, I'd -- I'd need more time to think about and put myself back to that time frame to try to answer that question.

Q. Did any of the devices that you helped build and implement in your career have logging functionality?

A. I don't recall as I sit here today. It was a -- it was awhile ago for some of those devices.

Q. If we look at Claim 4 of the '213 Patent --

A. I'm there.

Q. -- it's a claim that depends from Claim 1, correct?

A. Yes.

Q. The first part of Claim 1 -- of

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Claim 4, excuse me -- says, quote, Wherein the application-layer packet-header information identifies one or more hypertext transfer protocol (HTTP) packets.

Do you see that?

A. Yes.

Q. What does that mean to you?

A. So this is referring to this -- this general concept, which, again, I think is a point of novelty in the '213 Patent of using application-layer packet-header information to identify packets. Rather than say it was done at ACNS, to wait until an entire HTTP message has been reassembled and then do analysis on it, it's doing that analysis much more quickly here and using this HTTP information to identify as a packet.

Q. Okay. How does the application-layer packet-header information identify an HTTP packet?

A. There's multiple ways. So there's indicators -- so just to kind of back up a little bit, of course, any time we have a packet that's arriving at, say, Layer 2 or Layer 3 as

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is taught in the '213 Patent, it will have embedded in it -- in its payload, information that may be meant for the higher layers in the network stack such as, for example, HTTP header information. And so here, this is now teaching that you -- you can use that HTTP packet-header information that is embedded inside of a Layer-3 or Layer-2 packet to then identify that packet as being for the HTTP protocol.

Q. Okay. And Claim 4 says that the application-layer packet-header information -- and that's the header information that's first defined in Claim 1, correct?

A. Yes, that's correct.

Q. And it says that that application-layer packet-header information in Claim 4 identifies one or more HTTP packets, correct?

A. Correct, yes.

Q. So how does the application-layer packet-header information identify more than one HTTP packet?

A. Oh, so what that's referring to is still we're doing things on a packet-by-packet basis, but the identifier, the -- what you're

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using to say, Oh, this is, you know, the packets I'm interested in for, say, this packet digest logging function, you're identifying and using this HTTP packet-header information, so you have some kind of a pattern or string that you're looking for as a part of that application-layer packet-header information. And that string or pattern that you're using for could be identifying more than one packet. So that's what's being specified here in Claim 4. So even though you're doing things on a packet-by-packet basis, you know immediately as soon as you see a packet if it satisfies this condition. That condition itself may identify more than one packet.

Q. Okay. And that's what I wanted you to, I guess, explain to me a little bit. If I have application-layer packet-header information in one packet, how does that identify other HTTP packets?

A. I don't understand your question.

Q. Well, how can the specific application-layer packet-header information identify more than one packet, right? The

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information is going -- the application-layer information is going to be embedded in one packet?

A. I still don't understand your question.

Q. How exactly does the application-layer header information identify more than one HTTP packet?

A. Right. So I think -- I think the confusion in your question is in reference to what is Claim 4 referring to as the application-layer packet-header information. So for that, we have to go back to Claim 1. And we see already in the -- in -- in Claim 1, if you go to Column 25 starting around Line 18, we have this reference to a dynamic security policy that comprises at least one rule specifying application-layer packet-header information and a packet transformation function comprising a packet digest logging function, and then it goes on. So when Claim 4 is referring to this application-layer packet-header information, it's talking about application-layer packet-header information that's inside of a rule.

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Your question was asking about information in the packet. The information in the packet is what might potentially match the information in the rule.

Q. So your position is that application-layer packet-header information from the rule can identify other HTTP packets that have that same header information?

A. Yes, precisely.

Q. Okay. Can that application-layer packet-header information be used to identify Layer-3 packets that would include, say, the payload information from an application-layer packet?

A. I'm -- I'm not quite following all that. That was quite a long question.

Q. Well, an application-layer packet is going to have headers and payload, right?

A. Say that again?

Q. An application-layer packet will have headers and a payload, correct?

MR. PRICE: Objection.

A. So I guess I'm still not quite understanding your question. I thought we were

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talking about the packets from the thing described in the '213 Patent, and it's my position that those are Layer-2 or Layer-3 packets that then have information inside of them that could be from application layers. But now you're asking about an application-layer packet --

Q. Correct.

A. -- which I don't think is part of the claim language.

Q. I didn't ask that. You're a person of ordinary skill in the art, and these are fairly simple straightforward questions about how packets are structured.

Application-layer packets are going to be structured such that they have headers, and they have a payload, correct?

A. It depends on the context. So that -- when you -- when you -- when you get up to the application-layer and -- and -- and Dr. Jeffay agrees with me on this point -- the word "packet" starts to become, perhaps, overused a little, so it really depends on the context. What you're referring to now is an

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application-layer packet. People could mean different things by that, so I want to be very precise in my answer to understand what you are meaning by an application-layer packet.

Q. Well, how do you understand it to mean -- what do you understand the claim to mean when it says, Application-layer packet-header?

A. So that's talking about the application-layer packet-header information.

Q. Okay.

A. It has a number of examples of that from inside the specification of the patent.

Q. And is that information -- is that header information that would be part of an application-layer message?

A. It would -- it would be just what the -- what the claim is saying. Application-layer packet-header information.

Q. Okay. And would the application-layer packet-header information be part of an application-layer packet?

A. So now you're referring to application-layer packets as the term is used in

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the '213 Patent, which is a context we can then look to. There's teachings about the kind of information that could be contained in such a thing. So, for example, if we go to Column 7, beginning around Line 49, it starts giving examples of things that could be information that is in an application-layer packet as defined by the '213 Patent.

Q. Okay. And that refers to application-layer HTTP packets, correct?

A. Yes.

Q. Okay. And those application-layer HTTP packets would have header information within them, correct?

A. Yes.

Q. And would those packets, those HTTP packets, also have a payload within them?

A. They could. It's possible.

Q. Okay. If such application-layer HTTP packets had a payload, could that payload, when those packets are embedded in a Layer-3 packet, would the payload be in the same packet as the application-layer packet-headers?

A. It depends on how things got

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divided up.

Q. Okay. Is it possible such that all of an application-layer HTTP packet, both its headers and its payload would all be embedded within one Layer-3 packet?

A. That may occur. That could happen. I don't see a reason why, just sitting here today, that would not be possible.

Q. And, in fact, if we look at Claim 5 of the '213 Patent, it reads, The method of Claim 4, wherein the one or more HTTP packets comprise an HTTP GET method call.

Do you see that?

A. Yes.

Q. So that contemplates that an HTTP GET method call could be embedded in one Layer-3 packet, correct?

A. It's possible. That -- I don't see how that's ruled out by this claim.

Q. Okay. And Claim 7 says, The method of Claim 4, wherein the one or more HTTP packets comprise an HTTP PUT method call.

Do you see that?

A. Yes.

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Q. So a person of ordinary skill in the art would understand from this claim that an HTTP PUT method call, the entirety of it could be embedded within one Layer-3 packet, correct?

A. I think that's allowed, because the language of Claim 7 itself allows for one packet.

Q. And in your experience as a person of ordinary skill in the art, is it a frequent occurrence that application-layer -- or HTTP GET method calls -- would be of such a size that they could be embedded in one Layer-3 packet when they're being transmitted?

MR. PRICE: I'm sorry, Jeff. You came in and out there. We missed that question.

BY MR. BLAKE:

Q. Okay. Strike that. I'll start over.

As a person of ordinary skill in the art, is it your experience that it's frequently the case that an HTTP GET method call can be embedded within one packet for purposes of transmission?

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A. I -- I -- I don't want to try to speculate about statistics without having done another study, but that is possible. We've already -- I've already acknowledged that that's possible.

Q. Okay. And if it's the case -- just one second. Strike that.

Looking back at Column 5 -- Claim 5, excuse me, the '213 Patent, if you look towards the end of the claim, the last three lines in Column 26, Lines -- it looks like 17 through 19 -- recites, One or more packets comprising the application-layer packet-header information are associated with the HTTP GET method call.

Do you see that?

A. Yes.

Q. What does that mean to you?

A. Just what the language says, that we're talking about packet-header information that's now at the application-layer describing this HTTP protocol, and now within that protocol there's a GET method. So it's -- there's a specific GET method call that's being referenced here in Claim 5, and the

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packet-header -- the application-layer packet-header information that's associated with that particular GET method call.

Q. So what application-layer packet-header information would be associated with an HTTP GET method call?

A. So again, if we go back to that passage in the patent specification, it talks about, as you just continue down Column 7, you know, lots of details. I mean, we could go through all of them, but lots of examples of different kinds of application-layer packet-header information that would be associated either with a GET or a PUT in this HTTP protocol.

Q. Okay. And earlier in Claim 5 where it refers to one or more packets comprising the application-layer packet-header information are amongst the one or more HTTP packets.

Do you see that?

A. No, sorry. Say that again?

Q. Claim 5.

A. Yep.

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Q. There's a wherein clause that says, Wherein determining that the one or more packets comprising the H -- the application-layer packet-header information are amongst the one or more HTTP packets.

Do you see that?

A. Yes, I do see that.

Q. What does it mean to say that the application -- the packets comprising the application-layer packet-header information are amongst the one or more HTTP packets?

A. Could you repeat that question again?

Q. Sure. That wherein clause that I read to you.

A. Yes.

Q. What's your interpretation of what it means in Claim 5?

A. Sure. So if we go to the beginning of it, it's talking about wherein determining, so this thing about are amongst is -- is referencing back to that word "determining." So it's determining -- again, we're looking at this application-layer packet-

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header information to identify which packets belong to this HTTP GET method, again, doing this on a packet-by-packet basis, so that determination is then, again, looking at the packets and trying to determine which ones are amongst the one or more HTTP packets comprises, and then what does that determining mean? It goes on and has even more details about that.

Q. So it says, Are amongst the one or more HTTP packets.

Does that mean that not all of the HTTP packets are going to have application-layer packet-header information in them?

A. No, no, no. What that's referring to is -- so just to back up again, Claim 5 is talking about how one could be using this application-layer packet-header information, which is in a rule, to then determine, given a whole bunch of packets that could be coming in, which ones belong to a specific HTTP GET method. So it's got to be using these -- this packet information to make that determination, and then Claim 5 further limits that to say that determining how or whether or not packets belong

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to this HTTP GET method could comprise determining, you know, that -- to determine if those packets are among the ones that go for this HTTP GET method, that process could also determine -- and comprise determining that the one or more packets comprising the application-layer packet information are associated with the HTTP GET method call.

Q. I guess that's where I'm getting a little bit confused, because the claim doesn't say that the HTTP GET method packets are amongst the one or more HTTP packets. It says that packets that comprise application-layer packet-header information are amongst the HTTP packets, correct?

A. Yeah, I don't -- I don't see the contradiction there. I don't see why you're confused.

Q. So if application-layer -- if packets comprising the application-layer packet-header information are some of the packets that are amongst the HTTP packets, what other HTTP packets will be out there? Is it HTTP packets that have the payload?

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A. I don't -- I don't think you're parsing that sentence correctly.

Q. Why?

A. It's -- it's admittedly a lot of, you know, subordinate conditions, some clauses, but I was trying to explain that before. That part about the "amongst" is referring back to this process of determining. So -- because it's -- it's -- it's trying to modify what is this notion, so determining that one or more packets comprising the application-layer packet information are amongst the one or more HTTP packets. That phrase -- what does that mean here? That is referring now to a specific type of determination that's now making a determination that those belong to the HTTP GET method column. Because again, we're talking about dependent claims, so Claim 5 depends on Claim 4. And so there's -- it's exact words cut and pasted, essentially, from Claim 4 to then, say, further limitations whether that phrase from Claim 4 now being further limited in Claim 5.

Q. And so if the entire HTTP GET

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method call is embedded within one L-3 packet, that L-3 packet would contain the entire transaction, correct?

A. Yes, but that still does not necessarily imply, for example, that things are being done on a packet-by-packet basis. You have to look at the exact way things work to see if it would satisfy that condition.

Q. If we could pull out the -- hold on just one second. There was one other question I wanted to ask you about -- well, two other questions I wanted to ask you about the '213 Patent.

In Claim 1, in Column 25, if we could look at the performing limitation that is in Lines 32 to 37.

A. I'm there.

Q. Would you agree that the packet transformation function that is discussed in this limitation is only performed on packets that comprise the application-layer packet-header information?

MR. PRICE: Objection.

A. I guess I'm not quite following

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your question. What do you mean by "only performed"?

Q. Well, the limitation says that you're performing by the packet security gateway and on a packet-by-packet basis, the packet transformation function on each of the one or more packets comprising the application-layer packet-header information.

Do you see that?

A. Yes.

Q. So as literally read, it says that you're performing the packet transformation function on packets comprising the application-layer packet-header information; is that right?

A. Yes.

Q. So the claim does not require performing the transformation function on packets that do not contain the application-layer packet-header information, correct?

A. It -- I -- I don't see any reference to things that do not have that information. I'm not understanding your question.

Q. That was my question, right? My

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question is: The claim doesn't actually reference performing the packet transformation function on anything other than packets that comprise the application-layer packet-header information; don't you agree?

A. I don't see any -- any reference to the other types of packets. It's just now referring to ones that do have that property, then you have these three steps that would have to occur. I think -- of course, things that do not have that property still would have other implications from some of the other elements from Claim 1. But this one now is talking about this performing on each of the one or more packets comprising the application-layer packet-header information.

Q. Okay. And if we could look to Column 23 of the '213 Patent.

A. I'm there.

Q. I'd like to look at the sentence that is at Lines 6 through 12.

A. Okay.

Q. And it reads, quote, In some embodiments, packet security gateway 112 may be

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configured to temporarily store data comprising the subset of information for each of the identified packets, and to utilize the stored data to generate a message comprising the subset of information (or a portion thereof) for each of the identified packets.

Do you see that?

A. Yes, I see that.

Q. And is that part of the logging function that is disclosed in the specifications of the '213 Patent?

A. This is a possible embodiment that could include that functionality.

Q. Looking at that quote that I just gave you from Column 23 of the '213 Patent, how does the packet security gateway temporarily store data comprising the subset of information for each of the identified packets?

A. I'm not sure I'm following that. There are well-known multiple ways to do that. That's not -- that's not something that would be not understood by a person of ordinary skill in the art.

Q. Okay. What are some of the ways

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that it would have been known to temporarily store data?

A. You could use the data structure commonly referred to as a buffer as one way. That's a very common way of doing that.

Q. Any other ways?

A. There's other ways to do temporary storage, so it's any way that would be considered a temporary storage would -- would -- would suffice. A buffer is one. There's other data structures you could use as well, as long as you were using them this temporary way.

Q. Could you use a record and a database as a temporary storage?

A. I -- I -- I don't see that ruled out by this embodiment.

Q. If we pull out the -- if we can put the '213 Patent aside, and let's pull that ACNS Manual, which is Exhibit 1008.

(Cisco Exhibit No. 1008 was previously marked for identification.)

A. Okay. Just a second. This is a pretty big one.

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MR. BLAKE: No problem, and I guess before I get started, do you need to take a break? We've been going about an hour.

THE WITNESS: Actually, now is a good time for a break, yeah.

MR. BLAKE: Okay. Why don't we take a break then?

THE WITNESS: Okay.

(A brief recess was taken.)

BY MR. BLAKE:

Q. Dr. Goodrich, as we go back on the record here, I'd like to turn in your declaration to Paragraph 73, which runs from Page 36 to 37.

A. I'm there.

Q. The second sentence in your -- in Paragraph 73 of your declaration reads, quote, For instance, ACNS must reassemble application-layer messages to authenticate HTTP requests or to log transactions between the content engines and their clients, close quote.

Do you see that?

A. Yes.

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Q. And you cite Pages 823 to 824 of Exhibit 1008, which is the ACNS guide, correct?

A. Correct.

Q. Where on those two pages does it use the term "reassemble"?

A. On those two pages, it does not use the word "reassemble." Instead, that would be understood by a person of ordinary skill in the art from the words that is used.

Q. But you agree it doesn't use the term "reassemble," correct?

A. Correct.

Q. And you also cite in Paragraph 73 -- to support this concept of reassembly, you cite Page 9.1 of the -- 9-1 of the ACNS guide; is that correct?

A. Let me double-check that. That one might be a typo. Hold on. Yeah, I think that should have been 19-1.

Q. 19-1?

A. Yeah, sorry for the typo.

Q. That's okay. Where does Page 19-1 use the term "reassembly"?

A. I -- it does -- it also doesn't

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use that phrase, but that would be understood by a person of ordinary skill in the art from the phrases it does use.

Q. Okay. You agree though it doesn't say anything about the word "reassembly" itself, right?

A. It doesn't have that word, but instead uses words that would be understood by a person of ordinary skill in the art to imply that.

Q. Is there anywhere in your declaration that you cite a portion of the ACNS guide that uses the word "reassembly"?

A. Not in that exact words, but instead uses other words that implies that word.

Q. In Paragraph 71 of your declaration which is on Page 35, there's a sentence that starts at the very beginning, The ACNS guide discloses that it provides content caching.

Do you see that?

A. Yes.

Q. In that sentence you would acknowledge, correct, that the ACNS guide

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discloses that it has an application for, quote, System security; is that right?

A. Yeah, it uses that word "system security."

Q. So you would acknowledge that the content engines in the ACNS system have a functionality by which they provide system security, right?

A. Right, what they're referring to as system security, which is dealing more with authentication.

Q. Well, on Page 1-9, when talking about system security in the ACNS guide, it doesn't refer only to authentication. Instead it refers to authentication, monitoring, logging, or controlling web access from end users to implement corporate policies regarding work environment and system security, right?

A. Yes.

Q. So it's referring to more than just authentication?

A. That is correct.

Q. And further on down the -- on Page 1-9, you would acknowledge that the ACNS guide

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says that its system can be used to monitor for viruses such as Code Red, correct?

A. No, that's not really what that's saying. This is still primarily focused on authentication because it's talking about, you know, all these bullets. Only full-time employees can access the web, that's an authentication question and authorization that's associated with that. No employee can access objectionable content. That, again, is our, you know, authentication and authorization to objectionable content. And then this phrase next to them that you referred to, Viruses such as Code Red are prevented from being propagated inside the corporate network. So this is something that's not saying that it's necessarily monitoring for viruses, but instead, its processes that it is using would hopefully prevent a -- a -- a Code Red type of a virus.

Q. It's preventing a virus from being propagated inside the network, is what it says, right?

A. Viruses such as Code Red, so it's -- it's a little bit more specific than

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just viruses in general.

Q. It gives Code Red as an example, but it doesn't limit Code Red to the only type of virus that could be prevented, correct?

A. It literally says, Viruses such as Code Red.

Q. Right. "Such as" is just one example, wouldn't you agree?

A. It's talking about a type, so it's the Code Red type of virus.

Q. And that would be a security function to try to prevent that type of virus, correct?

A. I would agree with that. It says that in the -- in the leading sentence that is before those bullet points.

Q. In Paragraph 70 -- or the end of Paragraph 71 of your declaration, you have a sentence that reads, quote, The ACNS guide further explains that ACNS 5.5 software relies on third-party software to implement content filtering.

And you cite Page 1-10 of the ACNS guide, correct?

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A. Yes.

Q. You would acknowledge that the third-party software that's implementing the content filtering could be integrated with the ACNS software, correct?

A. I -- it's possible, because it gives two examples here on Page 1-10.

Q. And that would be Websense and SmartFilter?

A. Right. But depending on what you mean by "integrated," it says it supports it. So whatever ACNS is referring to as the notion of how it's being used, that's how it's being used.

Q. If we turn to Page 19-1 of the ACNS guide -- which I know takes a minute because it's a pretty big document --

A. I'm getting there.

Q. -- but it's on the page that's Bates-numbered 697.

A. I get -- I'm there.

Q. You would acknowledge that the ACNS guide on Pages 19-1 to 19-3 show a variety of logging formats; is that right?

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A. Yes, I would agree with that.

Q. And in those formats, they give examples of log entries in each different type of format; is that right?

A. Yes. I cite to some of this in my declaration.

Q. And each format that you see, the examples on Pages 19-1 to 19-3, contains HTTP application-layer packet-header information in them, don't they?

A. I would say it definitely includes HTTP information, but these are not packets, so I'm not sure I would go all the way to say it contains HTTP packet-header information, no.

Q. How do you know that they're not packets?

A. Oh, they're -- because they're complete messages. And as I opined in my report, or my declaration rather, the example of a log entry on Page 19-3 strongly suggests that its data spans multiple packets.

Q. That's because of the number of bytes that are implemented -- that are indicated in the log entry that you cited?

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A. Correct.

Q. So if I look on Page 19-1 under squid-style transaction logging, do you see on the last two lines of the page, there's an example of a squid log form?

A. Yeah, I see that.

Q. And here, the number of bytes listed is 1100?

A. That's correct.

Q. So this -- the byte size here is smaller than what you would understand to be the limit in a standard packet, correct?

A. Yeah. That doesn't mean it did -- it didn't span multiple packets, but that number is less than the maximum transmission unit of a standard packet.

Q. So in this example, it could be inside one packet, correct?

A. Right. But now it's been reassembled, even though it could have been one packet, it -- and various packet-header information has been removed, and now it's been formatted as a part of the -- as the message in this squid format, not a packet.

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Q. How do you know it was reassembled in this squid-style transaction logging example instead of just taking the log information from the packet?

A. Because of the way all the -- the parameters are -- are specified here. There's a lot of stuff left out.

Q. Such as?

A. Such as, like, port numbers. I think that's being left out here. It looks like port numbers are being left out here, for example. This is one example.

Q. So your position is the fact that the port number is left out of the log entry indicates that the data must have been reassembled before it was logged?

MR. PRICE: Objection.

A. No, I'm just saying that, again, to a person of ordinary skill in the art looking at this, this is a complete message. Whether or not it was potentially existing as a payload inside one packet is not the main point. The main point is now it's been reassembled even though it was -- it was contained in one packet.

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And now it's been extracted and put together as a -- as the message, not as individual packets, and this is not operating on a packet-by-packet basis.

Q. How do you know it's been reassembled and put together as a full message before the log entry was created?

A. Just by the way that -- again, this is the way that a person of ordinary skill in the art would be looking at this. They'd be reading this whole document in its entirety, inclusive of Page 19-3, and would understand that all these things are being referenced to the actual transactions. And Chapter 19 literally never uses the word "packet." I did a keyword search. It doesn't use the word "packet." Instead, it always refers to --

Q. It also doesn't use the word "reassemble."

A. Sorry. It always refers to transactions. Again, they're not packets. They're full-line transactions. That's how a person of ordinary skill in the art would understand that word.

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Q. You would admit that Chapter 19 doesn't use the word "reassembled," correct?

A. That's also correct. It doesn't use that exact word but instead uses the word "transaction," which a person of ordinary skill in the art would understand requires reassembly.

Q. Specific to the squid format example on the last two lines of Page 19-1, what is it about that example, the formatting there, if anything, that would tell you that the packet was reassembled before this log format example was created?

A. It -- it's -- it's explained more on the next page, actually. So it's -- in the one on Page 19-1, there -- there's a dash. I know that's just a small little character, but there's a dash in that reference on 19-1, but then what's explained on the next page belongs to something called a "My login name," which is something that generally would not be in the -- the packet. So that's something that's actually now being reassembled from other information that is being stored on the content page.

Q. Okay. On Page 19-1, there are

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multiple log examples, so tell me specifically where you're talking.

A. The one on the bottom that you referred to, there -- there's -- there's two dashes in the very bottom line.

Q. Yes.

A. There's one right before the word "direct," then there's another one at the end. I'm referring to the one that's right before the word "direct."

Q. Okay. And what is it -- where do you see a portion of Chapter 19 that's talking about that dash?

A. That's on the next page, Page 19-2.

Q. Okay. Where is it?

A. At the top where it talks about extended squid log format, and it talks about how that -- that field always contains a dash if no user information is available, and then it says the extended format has the username there. So it's doing -- you know, it's not just operating on a packet here. It's doing reassembly and then looking at it at a

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transaction level, not at the packet level.

Q. Is there anything else about this that indicates to you that there's reassembly, beyond this My login name, that you see?

A. That's the one that's coming immediately to mind. There may be others, but I'm just not recalling as I sit here today.

Q. Is it possible that the My login name information would be included within a packet before assembly -- reassembly?

A. That's not usually something that would -- at least as I sit here today, I'm not recalling that being something that's usually in an HTTP GET message. Maybe I'm just not recalling. If you have another document you want to point me to, I'd be happy to look at it.

Q. No, I'm just asking you, is it possible it would be in an HTTP GET message?

A. Again, as I sit here today, I'm not recalling if that kind of information is there. That's why I point to that as being further evidence that this is not being done on a packet-by-packet basis. Instead, it's on a transaction basis.

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Q. The entry in this extended log -- extended squid log format that you point to on Page 19-2, does it list how many bytes are in the entry?

A. I don't see it here.

Q. Okay. In the Apache-style transaction logging, there's an example at the bottom of that section on Page 19-2 for an Apache-style log. Does that have the number of bytes?

A. I'm not seeing it here. But then it also has stuff that wouldn't necessarily be in the packet either, like the date and time. That's usually something that I -- again, just sitting here today, I'm not recalling that that's something in -- well, actually, the 632 might be a size. I'm not sure.

Q. I was going to ask, isn't the 632 the byte size?

A. Yeah, that might be the byte size. Excuse me. But then that date and time, I'm pretty sure that's not in the packet. So this is, again, reassembling stuff from the packet, adding in other stuff, looking at it now as a

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transaction, not a packet.

Q. Is that information that could be related to the packet even if it's not in the packet itself?

A. I'm not understanding your question. Sorry.

Q. Yeah, I mean, would this be information about the packet such as when the packet message -- when the message that's embedded in the packet was issued, even though it's not information that's in the packet itself?

A. That's presupposing that this came as one packet, which again, that's not my opinion. I believe it could -- even though if it's just a small number of bytes, it could still have been coming as multiple packets, and here it's now been reassembled into one transaction. That's what Chapter 19 is about. Transactions, not packets.

Q. The 632 bytes is less than the standard packet size limit for a Layer-3 packet, correct?

A. Yes, that is correct.

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Q. So it's possible that this message was -- this HTTP message was handled in one packet, correct?

A. Yes, that is correct. It's still not on a packet-by-packet basis.

Q. But the entry for Apache-style transaction logging does not indicate anywhere that -- it does not use the word "reassembly," right?

A. Yeah, we've already established that. It instead uses the word "transaction," which a person of ordinary skill in the art would understand implies reassembly.

Q. Does Chapter 19 anywhere equate the term "transaction" to reassembly?

A. It wouldn't be necessary to a person of ordinary skill in the art, because they understand the way that networking is done, how network layers work. I review that in my declaration. They would understand that transactions are something that occur -- that concept occurs only after packet reassembly.

Q. Do you cite anything in your declaration that shows that transactions only

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occur after reassembly as understood by a person of ordinary skill in the art?

A. This is something that is based on my experience of over 30 years in computer science. That understanding comes from that experience.

Q. So the answer is no, you don't cite any information that equates transactions to reassembly, correct?

A. No, that's incorrect. I cite to my experience.

Q. Beyond your experience, you don't cite to any documents that equate transactions to reassembly, do you?

A. No, that wasn't necessary because, again, a person of ordinary skill in the art would understand that, based on my experience of over 30 years in the field.

Q. In the packet digest logging, one of the things that the system can log would be authentication errors in the ACNS guide, correct?

A. I'm sorry. I'm not understanding your question. Could you state that again?

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Q. Yeah. In the ACNS guide, it teaches that one of the things that you can log would be authentication errors; is that right?

A. Yeah, but you had -- you had used the claim term, I think, in the previous question, so that was what confused me. But yeah, overall, just in the general concept of logging, authentication errors can also be logged in ACNS.

Q. And you would agree that the code for authentication errors is an HTTP application-layer packet-headed -- packet-header information, correct?

A. Can you -- could you point me to a place that talks about that?

Q. No, I'm asking you.

A. Because I don't recall having said that as I sit here today.

Q. No, that's why I'm asking you. As a person of ordinary skill in the art, is the code that would indicate an authentication error an HTTP application-layer packet-header piece of information?

A. Are you now asking in the context

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of ACNS?

Q. No. I'm asking you as a person of ordinary skill in the art. Do you know if the code for an authentication error would be included in the application-layer packet-header information for an HTTP packet?

A. It -- it -- that is a really wide open question. It depends on the context. So if you're talking about ACNS, I'm happy to look at any passage you'd like to point me to. In general though, it really depends on the system, how it's doing the authentication. That -- that's a real wide open question.

Q. Could a system be set up such that the code for the authentication error would be HTTP application-layer packet-header information?

A. Yeah, again, I don't want to just sit here and speculate about that without looking at some specific systems. And if you have something in ACNS, I'd be happy to look at it, or even other documents. I'd be happy to look at those too, but I -- I don't feel comfortable just speculating off the top of my

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head about that question.

Q. If we look to Pages 823 and 824 of ACNS.

A. I'm there.

Q. This is disclosed -- discussing modification of HTTP request methods for the content engine, correct?

A. Yeah, it's talking about the set of HTTP GET -- I mean, HTTP request messages that content engines support. It talks about how the GET, HEAD, and POST methods are supported by default. Other nonstandard request methods are not supported by default. And then it deals with ways you can add or remove using commands of the ACNS, those various types of methods.

Q. And each time that the request methods are added by an administrator, that would be done through the content distribution module; is that right?

A. It would be done either on the content distribution module using this GUI interface, or it could be done using this command line interface, CLI command, which would

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go directly to the content engine.

Q. And how would the default settings of GET, HEAD, and POST as accepted request methods have been configured on the content engine?

A. Just the way it says here, that that -- that -- those are methods that are built in and supported by default.

Q. How would they be built in? Would the content distribution module program them as the default?

A. That's not what this is saying. This is saying that, basically, as soon as you power them up and tell them that they're a content engine, those are supported. There's a built-in rule, if you will, that says that those methods are supported.

Q. But the CDM has to tell the device that it is a content engine, correct?

A. No. That's also not correct, at least, to my understanding of how an ACNS works. Basically, as soon as you turn on the device it thinks it's a content engine right at the beginning. You have to tell it if it's a

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content distribution manager to go the other way.

MR. BLAKE: I think that's all the questions that I have.

MR. PRICE: I have no redirect.

MR. BLAKE: All right. That's it.

THE COURT REPORTER: Before we conclude, did both parties want a rough draft and a three-day rush?

MR. BLAKE: I do, yes.

THE COURT REPORTER: Okay.

Mr. Price, would you like a rough draft?

MR. PRICE: No, that's not necessary. Yes, just send it whenever it's ready.

THE COURT REPORTER: Sure. Thank you.

MR. BLAKE: Thank you, Dr. Goodrich.

THE WITNESS: Thank you.

(Whereupon, the deposition concluded at 2:06 p.m.)

* * * * *

MICHAEL GOODRICH
REPORTER'S CERTIFICATE

STATE OF ALABAMA
MONTGOMERY COUNTY

I, Patrick Miller, Alabama Certified Court Reporter No. 631 and Commissioner for the State of Alabama at Large, hereby certify that on Thursday, August 29th, 2019, I reported the deposition of DR. MICHAEL GOODRICH, who was first duly sworn or affirmed to speak the truth in the matter of the foregoing cause, and that the pages herein contain a true and accurate transcription of the examination of said witness by counsel for the parties set out herein.

I further certify that I am neither of kin nor of counsel to any of the parties to said cause, nor in any manner interested in the results thereof.

This 4th day of September, 2019.

PATRICK MILLER, ACCR-631
Commissioner for the State
of Alabama at Large
CCR EXPIRATION: 9/30/19
MY COMMISSION EXPIRES: 2/08/23

ERRATA SHEET

Case Name:

Deposition Date:

Deponent:

Pg. No. Now Reads Should Read Reason

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Signature of Deponent

SUBSCRIBED AND SWORN BEFORE ME

THIS ____ DAY OF _____, 2019.

(Notary Public) MY COMMISSION EXPIRES: _____

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