Transcript of Kevin Butler, Ph.D.

Date: June 27, 2024
Case: Samsung Electronics -v- Headwater Research (PTAB)

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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SAMSUNG ELECTRONICS CO. LTD.,

Petitioner,

V.

HEADWATER RESEARCH, LLC

_____

In re Patent of: Gregory G. Raleigh, et al.

U.S. Patent No. 9,609,544

Attorney Docket No.: 39843-0160IP1

Deposition of DR. KEVIN R. B. BUTLER

Conducted Virtually

Thursday, June 27, 2024

Denver, Colorado

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Reported by: Melanie Giamarco, RMR, CRR, RPR

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I N D E X

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E X H I B I T S

(Previously marked)

EXHIBIT	DESCRIPTION	REFERENCED
Exhibit 1003	Declaration of Dr. Butler	5
Exhibit 1005	U.S. Patent Application Rao US20060039354A1	13
Exhibit 1006	U.S. Patent Application Araujo US20090217065A1	13

P R O C E E D I N G S

DR. KEVIN R. B. BUTLER,

after having been duly sworn, was examined and testified as follows:

EXAMINATION

BY MR. MILKEY:

Q. Good morning, Dr. Butler. Did you do anything to prepare for your deposition today?

A. Yes. I reviewed -- I reviewed my deposition -- or, sorry. I reviewed my report that I wrote, and my declaration.

Q. Okay. Did you do anything else to prepare for your deposition today?

A. I consulted with counsel prior to our meeting today.

Q. Approximately how long did you meet with counsel in preparation for today's deposition?

A. I only met twice in advance, so I think the first time was about 45 minutes, and the second was about an hour and a half.

Q. Do you have a copy of your declaration that you submitted in this proceeding?

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A. I saw that you loaded one through the Zoom channel. Is that the one that I should use?

Q. Yeah. You can use that, or if you have a clean copy, you're free to use whatever you have available.

A. Okay. Perfect. Thank you.

Q. So could you please open up your declaration that's Exhibit 1003 in this proceeding? And if you go to the first page of that, confirm that this is your signature?

A. Yes, I confirm that's my signature.

Q. And for what purpose were you retained in this proceeding?

A. I was asked to offer to opine on the patent in question, which was patent 9,609,544, to analyze the patent in light of prior art and to make a determination regarding validity.

Q. Could you please -- actually, before we get into that, approximately how long did you spend writing your declaration?

A. I'm not exactly sure, but I would say likely on the order of -- on the order of 40 hours

or so, maybe a little more, but somewhere in that time frame.

Q. And what was your process like for writing your declaration? How did you arrive at your opinions in this case?

A. I analyzed the prior work in light of questions about concepts such as obviousness and anticipation as informed by counsel.

Q. So I understand that all of the grounds of validity that you present in your declaration depend on some combination of at least the Rao and Araujo references.

Is that your understanding?

A. Yeah, I discuss in the report the -- the conclusions that I arrived at with regards to validity, and they are in light of -- in every claim that I've analyzed, I've looked at -- across all of the materials considered, but in every case, for the -- I arrived at a conclusion with regards to combination of Araujo and Rao.

Q. And how did you first become aware of the Rao reference?

A. I discussed, when I retained on this case, I -- we -- I had a conversation with -- with counsel to examine certain aspects of potentially relevant prior work.

Q. Okay. So is the Rao reference something that you found through your own independent investigation?

A. The reference was -- was discussed with counsel and myself, but, you know, my -- my opinions on it are -- are based on my analysis and read of the -- of the reference.

Q. So I understood that your opinions on it are based on your analysis, but is -- did you find the Rao reference through your own independent investigation in the first instance?

A. The Rao reference came about through -- through conferring with counsel as I took on this -- this matter.

Q. And is the same true of the Araujo reference?

A. Similarly to before, yes. Counsel and I discussed potentially relevant prior work in Araujo

as one of those references, but my opinions are based on my -- my analysis of the -- of the patent.

Q. Could you turn to paragraph 46 of your declaration? Just let me know when you're there.

A. Okay. Yes.

Q. And do you see three lines from the bottom of paragraph 46 there's a sentence that begins, "Because I do not know at what date the invention as claimed was made, if ever"?

The sentence continues on from there, but do you see the portion that I quoted?

A. Yes, I do.

Q. What do you mean by that you do know at what date the invention as claimed was made, "if ever"?

A. I'm -- again, because my analysis is limited to a read of the -- if you don't mind me calling it the '544 patent for ease of expediency, the '544 patent, my read was limited to -- well, I looked at a variety of materials as discussed in my report, but the discussion of, you know, whether the invention was made was outside the scope of my

analysis, so I have no particular ability to opine on that -- the making of the invention.

Q. Okay. And by "the making of the invention," are you referring to the physical making of the invention?

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

MR. MILKEY: Counsel, I'm asking about his -- what he means by a statement in his report it.

Q. (By Mr. Milkey) So I'll re-ask the question.

By referring to, "the making of the invention," are you referring to the physical making of the invention?

MR. CHOWDHURY: Same objection.

A. I'm referring to any -- any interpretation that involves making of the invention itself, be it a physical embodiment or any other interpretation of what it means for the invention to be made.

Q. (By Mr. Milkey) Would that include, for

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example, explaining the invention in words?

A. I'm unaware of -- and that wasn't part of my analysis was to understanding any other documentation regarding the invention apart from the patent, which is what I am using the critical date of the patent for interpretation, for claim interpretation purposes.

Q. So you haven't offered an opinion as to whether the claimed invention was described by the patentee, ever; is that fair?

A. I did look at the prosecution history of the patent, but my analysis as described in the report is primarily about the -- the patent document itself based on that critical date.

Q. And you're not aware of any description in the patent document itself that describes the invention, correct?

A. I think I may be a little unclear on the question. Do you mind rephrasing for me?

Q. Yeah. So I'm trying to understand if you provided -- if you performed any analysis to determine whether the patent document itself

describes the claimed invention.

A. And my analysis was based, as I write in my report, on providing an independent analysis of the '544 patent based on prior art publications and the declaration -- that are cited within the declaration.

Q. So you don't have any opinion as to whether the '544 patent document itself describes the claimed invention, correct?

A. In my document, I analyze the patent in light of prior art, and my conclusions are -- my analysis is based on -- on the prior art publications.

Q. And was your analysis based on the description in the '544 patent document itself?

A. I did discuss the written description of the '544 patent, the one I describe -- as I describe the patent within the report, I discuss its -- the objective of the patent. And then, as I discuss in my report, I -- I perform an analysis based on the claims of the patent.

Q. So other than the claims of the patent,

you don't have any opinion as to whether the '544 patent document itself describes the claimed invention, correct?

A. My analysis is -- is described in the report. And as I mentioned, it's -- the focus is on an analysis of the patent in light of the prior art claims, the claims in light of the prior art.

Q. So I'm not asking about opinions based on the prior art. I'm asking if you have any opinion as to whether the '544 patent document itself describes the claimed invention.

Do you have any opinion as to whether the '544 patent document itself describes the claimed invention?

A. That's -- that's beyond the scope of what I discussed in my declaration. I would likely need some time to perform such an analysis.

Q. Thank you. I'm going to upload the Rao reference into the chat. You may not need to access it immediately. I just want it available to you as you answer questions. And while I'm at it, I'll also upload the Araujo reference.

For the record, Rao is Exhibit 1005 in this proceeding and Araujo is Exhibit 1006. And feel free to refer to these as necessary throughout your testimony today.

A. Okay. Thank you.

Q. Okay. If you could go -- so for context, I'm going to ask you about questions in the very next section of your declaration, in the "Summary of Relevant Prior Art," starting with Rao. This is at the bottom of page 33 of your declaration.

Specifically going to ask about paragraph 52, which your paragraph 52 has a sentence starting with, "The remote access client 120 includes a filter 322 that uses a 'filtering table to determine what action to take against packets.'" And the sentence goes on, but that's specifically what I want to ask about.

And specifically, where in Rao is the remote access client located?

A. As shown -- so paragraph 52 is making reference to Figure 1C, which is on that page as

well, a little higher up on the page, that gives a diagram of the overall -- the Rao architecture with regards to a client. So there's a client, which is 105, and within that client resides the remote access client 120. And then that remote access client, as I discuss in paragraph 52, includes the filter, that it uses a filtering table to determine what action to take against packets.

Q. And where is the modem located with respect to Figure 1C in Rao?

A. The modem is going to be -- the modem is going to be involved with the transmission of data to the network in the Rao system.

Q. Okay. So would that be between the remote access client 120 and network 104?

A. The figure that we have here in Figure 1C, you know, with the exception of the network component, is primarily discussing the software that's used. Application, network stack, agent, frame monitor, kernel, filter are all software components. The modem is a hardware component, so the software will, you know -- when

data is transmitted, it will be transmitted through the modem to the network.

Q. Would the modem include any of the software components within remote access client 120, or would the modem, instead, be completely separate from those software components?

A. The modem would be involved in the transmission of the packet. So as discussed in paragraph 52 about Rao, the frame monitor 360 transmits a packet to a gateway 340 responsive to a policy-based determination made by the frame monitor. So from the frame monitor, a transmission would occur, and the modem would -- would be involved in the -- in the actual transmission of -- the physical layer transmission of that data.

Q. Okay. So is it fair to say that the frame monitor would either be part of the modem or would send packets to the modem for transmission?

A. I think that would come down to the specific implementation as to which component was specifically involved in interaction with the -- with the modem, but it is clear that the modem

is -- is certainly involved, sorry, the frame monitor is involved in the transmission of data. So at some step, there's an interaction between the frame monitor and the modem.

Q. Are there any other components within remote access client 120 that interact directly with the modem?

A. I think that this is -- this is likely an implementation question, but the modem will be involved in the physical transmission of data to the network, but the way in which the modem interacts with various elements may be -- may be implementation-specific.

Q. Okay. Did you discuss any particular implementation of how the modem would be configured in your analysis in your declaration?

A. Yes, I did. So as an example, when discussing -- I discuss the way in which the modem interacts with Rao in paragraph 87 of the declaration. "Specifically, in Rao, a computing device includes a network interface, which can comprise a 'wireless network adapter,' a 'modem or

any other device suitable for interfacing the computer device 102 to any type of network capable of communication.'"

Q. Okay. And that particular implementation that you describe, is that an implementation in which the frame monitor would either be part of the modem or would send packets directly to the modem for transmission?

A. Well, I would go back to the -- the discussion of -- as discussed in Rao where the frame monitor transmits packets to -- I'll go back to that. I believe it's paragraph 85 that . . .

Q. Okay. You can go back to that paragraph.

My question is, in the implementation you describe in paragraph 87, is that an implementation in which the frame monitor would either be part of the modem or would send packets directly to the modem for transmission?

A. I think that's likely an implementation-specific question that -- it would depend on the particular implementation.

Q. Okay. But you said that paragraph 87 does describe a particular implementation, so I'm asking, in your paragraph 87, is that an implementation in which the frame monitor would either be part of the modem or would send packets directly to the modem for transmission?

A. I believe there's certainly -- there's certainly a pathway by which the frame monitor transmits data and communicates to the modem. That's -- but again, this is a -- this would be a -- this would be one potential -- it would be speculative for me to say exactly. This seems like a question of implementation as to whether there are intermediary components between the frame monitor and the modem, but it's clear that a transmission from the frame monitor would be transmitted through the modem.

And once again, this is an architectural diagram that we're seeing in Figure 1. -- 1.3, or the figure on the top of that. Yeah, Figure 1.3. And it's describing, you know, at a software level, how Rao is -- the various components and how data

will be transmitted based on that software.

Q. And still thinking about Rao's Figure 5C, do any of the components shown in Figure 5C describe the device driver for the network?

MR. CHOWDHURY: Objection; vague.

A. Could you -- it would be helpful if you could rephrase that to be specific about the --

Q. (By Mr. Milkey) I'm sorry. I'll re-ask. I think I was referring to the wrong figure.

So referring still -- and I'll direct you to page 36 of your declaration. This has Rao's Figure 1C reproduced.

Do any of the components shown here describe or include the device driver for the network?

A. Figure 1C describes the network stack and packet capture mechanism as -- as shown in the frame monitor. As I mentioned, the frame monitor itself will transmit a packet to the gateway responsive to policy-based determination. So the role of the driver would be sort of implicit in the

transmission of a packet to the gateway.

Q. So would the frame monitor be part of the device driver in that example?

A. In general, the -- well, the frame monitor is transmitting -- is, at the application level, transmitting the packet. Packets are transmitted, you know, through -- through socket APIs that happen through the kernel. So the -- the trans- -- the transmission of the -- of a packet in a network communication happens generally based on a call that's interpreted by the kernel. So the monitor will connect, you know, to the kernel, and transmission will happen through the driver interface. And drivers are generally supported by -- through -- at the kernel level.

Q. Okay. So I'm looking at Figure 1C, and there's a -- actually, I'll ask a back question first.

So you're referring to the kernel and an application, or application level. So within client 105 in Figure 1C, there are two, I'll call then, sub-boxes. One has application 338 within

it, the other one has network stack 310 within it.

Is it fair to say that the top of those two sub-boxes is the application level, and the bottom of those two sub-boxes is the kernel level?

A. Yes, that'd be fair to say that the top box represents a user space and the bottom -- the bottom box represents kernel space.

Q. Okay. And then Figure 1C also shows network 104 having a bi-directional Arrow between the user space and the network.

Is that correct? Or would the network 104 actually be connecting to the kernel space?

A. I believe what's implied by this figure is that the transmission at the application level happens, you know, in a user space. So logically, the communication is, you know, from the agent, or from the frame monitor to the network, but -- so from a software standpoint, or from an application standpoint, that's what it would look like. But, yes, there's a network driver in kernel space, and that -- that network driver is what would be responsible for interfacing with the modem, as you

asked previously, and transmitting to the network.

Q. Okay.

A. And from the standpoint of the application, that frame monitor would be where the transmission would -- would originate.

Q. Okay. So in terms of the physical transmission that's happening, the kernel level is actually involved in sort of implementing that bi-directional arrow; is that correct?

A. The sending of -- the actual physical sending of packets is -- is generally a kernel-level activity, but again, the -- I believe the -- the arrow there makes it clear that the frame monitor is where the -- that these -- the transmission of a packet goes through, you know, from the application layer where the request originates to -- through the -- through the network stack and is -- and a transmission happens at the kernel level. So it happens through the -- the device driver, and device drivers are controlled by kernels.

Q. And so in Figure 1C, where is the device

driver located within these components?

A. I'm sorry. Can you repeat the question, please?

Q. Yeah. Which, if any, components in Figure 1C would the device driver be included within?

A. The device driver itself is an element that's generally found in the kernel space, so it would be -- it would reside -- it would reside somewhere in the kernel, likely as part of the -- because -- because device drivers are how the kernel communicates with -- with the actual network device, it would be -- it would likely be in the kernel. It would be speculative to -- I think there are potential multiple embodiments within the kernel where things could occur, but likely within the kernel itself.

In general, just to add to that response, where packets -- where packet activity occurs is generally where the connection of the driver would be, so a likely place to find the driver would be an interface with the packet capture mechanism.

Q. Okay. And what do you mean by "an interface with the capture packet mechanism"?

A. Well, the packet capture mechanism itself could be responsible for -- it could encompass the driver, the interface to the driver that -- that interfaces with the networking device such as the modem itself.

Q. And to the extent that there is a queue of packets involved in this implementation, how would the queue of packets relate to the device driver?

A. I'm sorry. I'm not entirely sure what you mean by "relate to the device driver."

Q. So you mentioned that the packet capture mechanism could have an interface to the device driver.

Does the device driver itself implement queues of packets, or is that something that would be implemented outside of the driver? Let me re-ask -- let me ask a slightly different question.

I understand that, at a high level, aspects of your combination of Rao and Araujo involve

placing packets in different queues.

And what I want to know is whether, in your combination, those packets are placed in queues before or after the packets arrive at the device driver.

A. I think there -- there are potentially multiple implementations, so I'd be speculating on the specifics of any particular one, but I can -- I can give an example of one embodiment, which would be that the packet capture mechanism -- that the driver itself contains the potential for -- contains queues for the network packets that are kept as structures.

But again, this is -- this is -- this is speculative in terms of a specific implementation, by which I mean the details of how a queue is implemented is sort of beyond what I -- the specifics of a queue implementation are beyond what I examined and discussed in the declaration.

Q. Okay. You mentioned one example of where the driver itself contains queues for the network packets.

Is another potential implementation a structure in which the queues for the packets are kept outside of the device driver?

MR. CHOWDHURY: Objection; calls for speculation.

A. I didn't really -- I didn't analyze that -- that particular scenario in the -- in my declaration, so I didn't have time to really consider what -- what that might look like, or whether there was a reasonable embodiment.

Q. (By Mr. Milkey) Okay. I want to jump around a little bit, so paragraph 155 of your declaration. And just let me know when you're there. And also feel free to orient yourself to the context of this. This is the section starting at paragraph 149. But I do want to ask you specifically about paragraph 155.

A. Okay.

Q. So in paragraph 155, you refer to Rao's 322a and 322b as being the filter modifications to the network stack interface.

And my question is, at a high level, what

are Rao's 322a and 322b?

A. These are filters that help enforce traffic policy with -- based on Rao's description, and so that's an example where filtering would be used in Rao.

Q. And if we go up a page to your annotation on page 95 of your declaration of Rao's Figure 1C, do the functionalities of 322a and 322b have any relationship to this diagram, this modified interface diagram of Figure 1C?

MR. CHOWDHURY: Objection; vague.

A. Can you be more specific about the particular relationship you're describing, or you're asking about?

Q. (By Mr. Milkey) Does it have any relationship to Figure 1C?

MR. CHOWDHURY: Same objection.

A. Well, the -- the Figure 3A is a -- provides a -- a figure of the network stack, which is -- which is shown in the figure on page 95 as element 310.

Q. (By Mr. Milkey) So do 322a and 322b --

actually, I'll just ask about 322a. Strike that.

Does 322a have any of the functionality of remote access client 120?

A. I'm sorry. Can you just -- so I'm clear on the specific question, do you mind -- do you mind repeating it, or slightly rephrasing it so I can give you the best possible answer?

Q. Yeah. Does 322a include any of the components shown in remote access client 120 of Figure 1C?

A. I make a reference in the declaration to where this -- where the filter is described in Rao. And I think that might be the best -- the best answer as it provides -- it discusses that -- multiple embodiments where -- of the role of the ways in which the filter may interact with the -- either a remote access client or potentially be embodied within it.

Q. So would 322a be a part of filter 322?

MR. CHOWDHURY: Objection; vague.

A. 322a and 322b, I believe, are discussed in Rao. And again, they're making reference to

them in my declaration. And Rao is clear about the role of these -- these particular pieces as being shims of the remote access client. So they are related to -- they are related to remote access client 120.

And there are different ways in -- there are different embodiments in which they can be -- in which they relate with the -- the remote access client with -- but -- so that's -- to that extent, there is -- there are multiple embodiments. And in one of them, there may be a relation- -- there may be indeed a relationship with the filter. I can discuss, you know, Rao's embodiments of that -- those network stacks, if that would be helpful.

MR. CHOWDHURY: Counsel, I just wanted to note that we've been going on for about an hour.

MR. MILKEY: Yeah, if we want to take a break, we could actually take a 15-minute break. That'd be great. We shouldn't be here the whole time allotted.

(Recess taken from 11:08 a.m. until 11:25 a.m.)

Q. (By Mr. Milkey) Okay. So, Dr. Butler, before the break, we were talking about generally how Rao's components 322a related to Rao's filter 322. And you mentioned that you could discuss Rao's embodiments of the network stacks, if that would be helpful.

Can you clarify what you meant by that?

A. And Rao describes the role of network stacks within -- within the patent in that these -- where they relate -- how they relate to the remote agent, because your question was about the relationship between the remote access client in those filters, and that's clarified in Rao.

Q. Okay. So are Rao's -- strike that.

Is Rao's component 322a part of Rao's remote access client?

A. So Rao describes the network stacks as including a shim of the remote access client 120. And that shim may comprise any portion of the remote access client and some embodiments comprises the network driver -- network driver interface or other network layer or related mechanism for

providing an acknowledgement technique.

So that's -- there are a number of ways in which Rao makes it clear that the embodiment -- there are potential multiple embodiments of 322a and its relationship, sorry, which relates to your original question to the remote access client 120.

Q. Okay. Looking at, again, at page 96 of your declaration which shows 22A as being part of the network stack, would the device driver be included within 322a, or would the device driver be somewhere else?

A. There are a number of places where the network driver could be potentially implemented. And I think Rao is clear about that in their description of the network stack, that there are potentially multiple embodiments relating to where the driver -- network driver is relative to the network stack itself. Once again, these are software components of the specific -- the location of the software hardware interface can differ in different embodiments of Rao.

Q. Do you have any opinion that the device

driver is within the network stack itself in your proposed combination of Rao and Araujo?

MR. CHOWDHURY: Objection; scope.

A. I haven't made any particular opinion on -- on that specific implementation, so I'd need some time to think about all of the potential combinations. I would say, in general, you know, the network stack often has the APIs for the communication with -- with driver software, but then again, there are potentially multiple combinations that could work. That's strictly one example. I should also say that the packet capture mechanism itself can also potentially comprise a network drive.

Q. (By Mr. Milkey) Okay. In the event that the packet capture mechanism comprises a network driver, is that just like one component of the packet capture mechanism?

A. The network driver would likely be one component. Again, I'd need to think through all of the potential combinations, but in one embodiment, I could anticipate the network driver be, you know,

a component and there being other components within the packet capture mechanism.

Q. Okay. You don't have any opinion, right, that the packet capture mechanism would be part of the device driver?

A. I think that would be potentially implementation-specific as to whether the mechanism was part of a larger encompassing piece of software that included the network device driver. But the driver and the mechanism are two -- are two logically separated entities regardless of how they may be specifically implemented. In other words, the functionality of capturing is different from the functionality of interfacing with a -- the network card and the physical transmission of packets.

Q. And what do you mean by "the functionality of capturing"?

A. By capture I mean -- capture can mean a few things. I haven't, at this point, considered all of the ways in which capture could work, but as an example, the -- having a packet to be sent, you

know, from an API call within an application, or receiving that packet and making a decision on it primarily from the sending standpoint as an -- as a packet is formed and considered prior to its actual transmission, which would be done by the driver.

Also, the driver having that interface to the physical wireless card would be responsible for the actual physical sending of the -- of the packet, but those can be -- those could potentially be two separate activities such that the mechanism -- the capture mechanism, you know, as shown in Figure 5C, as we discussed previously, receives data and a packet to be sent from the application layer, but the actual physical transmission of the packet being done through the network, through the network driver.

Q. Okay. So you mentioned that the packet being formed and considered could be a separate activity from the mechanism of actually sending the packet.

Is that how the implementation that you're proposing for your combination of Rao and Araujo

would work?

MR. CHOWDHURY: Objection; misstates testimony.

A. I discuss in my report a means of combining Rao and Araujo that satisfies embodiments that are described in both -- in both patents. And I discuss that in paragraph 82 of my declaration, and which I'm happy to discuss.

Q. (By Mr. Milkey) Yeah. So in your proposed combination of Rao and Araujo, is the device driver the functionality of transmitting the packets separate from the packet capture functionality?

A. To clarify the proposed construction, it might be best for me to read paragraph 82, in particular, with regards to the Rao/Araujo device, or RAD for short. So, Since Araujo's request deflector is 'interposed between the program and the device driver' and Rao's filter 'may include a packet capturing mechanism 365, and the filter 322 and/or packet capturing mechanism 365 may comprise a network driver,' RAD's request deflector would

reside in the filter interposed between the other packet capture components and network device driver that provides traffic to the network stack, as shown in the figure above." And in this case, I'm making reference to the figure at the top of page 58.

Q. Okay. So in this implementation, the request deflector mechanism would be separate from the device driver mechanism, correct?

A. Well, as I write, it is -- it reside -- it would reside in the filter interposed between other packet capture components and the network device driver that provides traffic to the network stack.

Q. So in this implementation, the request deflector mechanism would be separate from the device driver mechanism, correct?

A. And if we're -- if we're talking about how this could be potentially implemented, I think that the implementation could take -- can take multiple forms. And I don't opine on a particular implementation in my declaration, but I will say

that, as I discuss in paragraph 82, that the deflector would reside in the filter interposed between the other capture components and the network device driver that provides traffic to the network stack.

Q. So in your opinion set forth in your declaration, do you have any opinion as to whether the request deflector mechanism would be separate from the device driver mechanism?

MR. CHOWDHURY: Objection; asked and answered.

A. I'd have to -- I would reiterate what I write in the declaration about the fact that the deflector would reside in the filter interposed between the other packet capture components and the network device driver that provides traffic to the stack.

Q. (By Mr. Milkey) So you wrote your declaration, right?

A. Yes, I did.

Q. Do you have an understanding of what your declaration means?

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

Q. So I've been asking what I think is a relatively straightforward question, and you keep just reciting a sentence from your declaration to me without answering my actual question.

I'm wondering if you could actually tell me what your opinions mean rather than just reading your opinions back to me. Is that fair?

A. My opinion is expressed in my declaration, and so to the extent that I can clarify anything written in the declaration, I'm happy to do so. I'm not sure exactly how -- what -- what the question is that you're asking me to clarify.

Q. So in paragraph 82 of your declaration, is that an opinion that the request deflector mechanism would be separate from the device driver mechanism?

A. But, and my question is, when you say "separate," are we talking about logically separate? functionally separate? implementation-wise? I'm not clear what you mean

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specifically by "separate" in this case.

Q. For example, the request deflector isn't part of the device driver, right?

MR. CHOWDHURY: Objection; vague.

A. I mean, I think -- I hate to reiterate, you know, what I've said, because I've said it a couple of times, and I thought it was relatively clear in terms of this notion that paragraph 82 is clear that, since Araujo's request deflector was interposed between the program and the device driver, and then the further discussion as we've had before about where the request deflector resides, so I'm -- I'm just not sure explicitly what you mean by -- and this is my question about whether we're talking combination with regards to how it's implemented or logical functionality or what.

Q. In your proposed combination of Rao with Araujo, is the request deflector part of the device driver?

MR. CHOWDHURY: Same objection.

A. So that would be my -- again, my answer

is that the -- in terms of how the request deflector is implemented relative to the device driver, that's -- that's an implementation-specific decision. My larger point is that the request deflector has functionality that is separate, and it's why it's interposing between components, the packet capture components and the network device driver. So there is -- there is a separation, at least logically, in functionality between the two.

Q. So there's a separation, at least logically, in functionality between the request deflector and the device driver, right?

A. Right. And perhaps it'd be helpful to discuss the request deflector in more detail so that it's clear what its role actually is. And I believe I discuss that in some detail, especially in paragraph 80.

Q. Have you discussed during this deposition today the substance of your deposition with counsel?

A. No, I have not.

MR. MILKEY: I have no further questions.

MR. CHOWDHURY: No questions from us.

COURT REPORTER: Could I get transcript order, please?

MR. MILKEY: Yeah. Could we get a transcript by -- I don't know what's doable. If we could get it by Friday, that would be great. Otherwise, we can push it back a little bit, but if Friday is possible, that would be perfect.

COURT REPORTER: Absolutely.

MR. CHOWDHURY: And I have in my notes you have a rush order on that, right? Just in general.

MR. MILKEY: Yeah, I think we need to rush it a little bit more. Thank you.

COURT REPORTER: And did anybody want a rough draft?

MR. MILKEY: A rough would be great, if you could do that.

MR. CHOWDHURY: Same for us.

COURT REPORTER: Mr. Chowdhury, did you want to order an expedited transcript as well?

MR. CHOWDHURY: I don't think we need one.

//

(Whereupon, the within proceedings were concluded at 11:53 a.m. on June 27, 2024.)

Headwater Research LLC
Ex. 2004, IPR2023-01360
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I, DR. KEVIN R. B. BUTLER, do hereby certify that I have read the foregoing transcript and that the same and accompanying amendment sheets, if any, constitute a true and complete record of my testimony.

_____

Signature of Deponent

( ) No Amendments

( ) Amendments Attached

Subscribed and sworn to before me this _____ day of _____, 2024.

Notary Public: _____

Address: _____

_____

My commission expires: _____

Seal:

MLG

REPORTER'S CERTIFICATE

STATE OF COLORADO) ss.
COUNTY OF DENVER)

I, Melanie L. Giamarco, Certified Reporter and Notary Public within and for the State of Colorado do hereby certify:

That DR. KEVIN R. B. BUTLER, the witness whose deposition is hereinbefore set forth, was duly sworn by me before the commencement of such deposition and that such deposition was taken before me and is a true record of the testimony given by such witness.

I further certify that the adverse party, Petitioner, was represented by counsel at the deposition.

I further certify that the deposition of DR. KEVIN R. B. BUTLER, occurred virtually on June 27, 2024, commencing at 10:05 a.m.. to 11:53 a.m.

I further certify that I am not related to any of the parties to this action by blood or marriage, I am not employed by or an attorney

to any of the parties to this action, and that I am in no way interested, financially or otherwise, in the outcome of this matter.

In witness whereof, I have affixed my signature this 27th day of June, 2024.

Melanie L. Giamarco
Registered Professional Reporter
Registered Merit Reporter
Certified Realtime Reporter

Notary ID: 20014025991

My Commission expires: August 14, 2025

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