

Transcript of Michael T. Goodrich, Ph.D.
September 23, 2022

1 (1 to 4)

1 UNITED STATES PATENT AND TRADEMARK OFFICE 2 BEFORE THE PATENT TRIAL AND APPEAL BOARD 3 ----- x 4 PALO ALTO NETWORKS, INC., : 5 Petitioner, : Case No. IPR2022-00182 6 v. : U.S. Patent No. 7 CENTRIPETAL : 9,917,856 8 NETWORKS, INC., : 9 Patent Owner. : 10 ----- X 11 12 13 Deposition of MICHAEL T. GOODRICH, Ph.D. 14 Conducted Virtually 15 Friday, September 23, 2022 16 12:06 p.m. EDT 17 18 19 20 Job No.: 463806 21 Pages 1 - 86 22 Reported by: Debra A. Whitehead	1 A P P E A R A N C E S 2 ON BEHALF OF PETITIONER: 3 SCOTT A. McKEOWN, ESQUIRE 4 ROPES & GRAY LLP 5 2099 Pennsylvania Avenue, NW 6 Washington, DC 20006 7 (202) 508-4600 8 - and - 9 ANDREW RADSCH, ESQUIRE 10 KEYNA CHOW, ESQUIRE 11 ROPES & GRAY LLP 12 1900 University Avenue 13 Sixth Floor 14 East Palo Alto, California 94303 15 (650) 617-4000 16 17 ON BEHALF OF PATENT OWNER: 18 JEFFREY H. PRICE, ESQUIRE 19 KRAMER LEVIN NAFTALIS & FRANKEL LLP 20 1177 Avenue of the Americas 21 New York, New York 10036 22 (212) 715-9100
1 Deposition of MICHAEL T. GOODRICH, Ph.D., 2 conducted virtually. 3 4 5 Pursuant to notice, before Debra Ann Whitehead, 6 E-Notary Public in and for the State of Maryland. 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	1 A P P E A R A N C E S C O N T I N U E D 2 ON BEHALF OF PATENT OWNER: 3 JENNA FULLER, ESQUIRE 4 KRAMER LEVIN NAFTALIS & FRANKEL LLP 5 333 Twin Dolphin Drive 6 Suite 700 7 Redwood Shores, California 94065 8 (650) 752-1728 9 - and - 10 CRAIG W. KRONENTHAL, ESQUIRE 11 BANNER WITCOFF 12 1100 13th Street, NW 13 Suite 1200 14 Washington, DC 20005 15 (202) 824-3000 16 17 18 19 20 21 22

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5	7
1 C O N T E N T S	1 also Kramer Levin.
2 EXAMINATION OF MICHAEL T. GOODRICH, Ph.D. PAGE	2 MR. McKEOWN: Good.
3 By Mr. McKeown 6	3 Q Do you have access to the exhibits where
4	4 you are, Dr. Goodrich?
5 EXHIBITS MARKED IN TODAY'S SESSION	5 A No.
6 (Attached to the Transcript)	6 Q So like before, I'll upload those to the
7 PAN DEPOSITION EXHIBIT PAGE	7 Zoom chat window and we'll proceed that way.
8 Exhibit 1051 Network Working Group, Request 56	8 A Okay.
9 For Comments 3507	9 Q Before we start, do you have any edits to
10	10 your declaration, other than just sort of
11 EXHIBITS MARKED IN PRIOR SESSIONS	11 typographical errors or matters of form?
12 (Not attached)	12 A I did notice some typographical errors in
13 DEPOSITION EXHIBIT PAGE	13 reviewing my declaration, but nothing that I
14 Exhibit 1001 U.S. Patent 9,917,856 B2 8	14 thought was substantive.
15 Exhibit 1004 U.S. Patent 9,680,795 B2 8	15 Q Did you meet with anyone to prepare for
16 Exhibit 2026 Declaration of Michael 9	16 today's deposition?
17 Goodrich, Ph.D.	17 A Yes.
18	18 Q And who was that?
19	19 A That was Jeff Price and Jenna Fuller on
20	20 Zoom.
21	21 Q Were there any other meetings, either
22	22 virtual or in person?
6	8
1 PROCEEDINGS	1 A No.
2 MICHAEL T. GOODRICH, Ph.D.,	2 Q And how long were those meetings with
3 Having been duly sworn, testified as follows:	3 Mr. Price and Ms. Fuller?
4 EXAMINATION BY COUNSEL FOR PETITIONER	4 A Approximately two-and-a-half hours.
5 BY MR. McKEOWN:	5 Q And that was a single meeting?
6 Q Good morning, Dr. Goodrich. We've met	6 A Correct.
7 previously, but just so the record is clear, I'm	7 MR. McKEOWN: Let me upload some
8 Scott McKeown of Ropes & Gray, representing Palo	8 documents here to the chat window.
9 Alto Networks in IPR2022-00182. I'm joined today	9 Q All right. I have uploaded three
10 by Keyna Chow and Andrew Radsch. And I'm here to	10 documents. One is entitled Declaration, the other
11 ask you a couple of questions about a declaration	11 one is entitled '856, the other one is entitled
12 you submitted in that proceeding.	12 Buru.
13 Does that sound right to you?	13 Do you see those?
14 A Yes, that sounds accurate.	14 A I do.
15 Q Okay.	15 (Exhibit 1001 and Exhibit 1004,
16 MR. PRICE: Before we proceed, I'd like	16 previously marked, not attached.)
17 to just make our appearance.	17 Q So one of the references in this
18 MR. McKEOWN: I forgot.	18 proceeding is a patent that is Exhibit 1004. And
19 MR. PRICE: No problem. This is Jeff	19 the name of that patent is a bit complicated. I
20 Price for Patent Owner Centripetal Networks, Inc.	20 believe it's pronounced Buruganahalli, but I'm
21 And I am joined on the line today by Craig	21 going to call it Buru.
22 Kronenthal of Banner Witcoff and Jenna Fuller,	22 Is that okay with you?

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9 1 A That's fine. I'm not the inventor. 2 Q Okay. And I've already made this clear 3 with the court reporter, just so we don't have to 4 torture that name over and over. 5 A Okay. 6 Q If you could open up the document 7 entitled Declaration, that should be your 8 declaration Exhibit 2026 filed in this proceeding. 9 If you could just confirm that? 10 (Exhibit 2026, previously marked, not 11 attached.) 12 A Yes, that appears to be this document. 13 Q If you could turn to Paragraph 63, I'd 14 like you to just take a moment to read Paragraph 15 63 and any other paragraphs necessary to answer 16 some questions about that paragraph. And just let 17 me know when you're finished. 18 A All right, I have reviewed that. 19 Q Toward the end of that paragraph -- well, 20 I should say starting in the middle there is a 21 description of handshake messages including a 22 client hello message, that's the first sort of	11 1 comprise data corresponding to the network-threat 2 indicators based on data stored in logs 214 (e.g., 3 log data generated by packet-filtering system 200 4 in one or more of the steps numbered 6, 7, or 12 5 through 17), or the packets comprising one or more 6 handshake messages configured to establish session 7 308 that comprise unencrypted data (e.g. including 8 the domain name) corresponding to the 9 network-threat indicators, and one or more of the 10 log or drop of the packets. 11 Q So in that section of Paragraph 63, is 12 there correlating going on when you're filtering 13 the domain name? 14 A In the preferred embodiment of how things 15 are described in the specification of the '856 16 patent, there is some correlation processing going 17 on, as I read. 18 Q And that's in order to identify the 19 domain name from the hello message? 20 A I don't understand your question. 21 Q Well, I'm asking specifically what 22 "filter" means in that sentence.
10 1 middle sentence there. And then the next sentence 2 is, "Rule gate 120 using rules may filter the 3 handshake message based on the domain name." 4 Could you explain to me in a little more 5 detail what specifically is filtered? 6 A So this is described in the specification 7 for the '856 patent, in Column 8, beginning at 8 Line 65, and going through Column 9, Line 65, at 9 least. Let's see. Yes. That's describing the 10 Steps 17 and 18 as shown in Figure 3B of the '856 11 patent, which I'm citing here. 12 It's describing the handshake message, 13 and that the system as a part of that has these 14 rule gate devices that then will be doing various 15 filtering processes as a part of that; including 16 identifying the packets, determining (based on one 17 or more network addresses included in their 18 network-layer headers) that the packets comprise 19 data corresponding to the network-threat 20 indicators, for example, by correlating the 21 packets with one or more packets previously 22 determined by packet-filtering system 200 to	12 1 I understand that the entire process is 2 described in Column 9. But I'm asking 3 specifically, is it the domain name that's 4 filtered from the hello message? 5 Is that what filtered means? 6 A I disagree -- 7 MR. PRICE: Objection. 8 A I disagree with that characterization. 9 Q So "filter" there in that sentence refers 10 to correlation as well? 11 MR. PRICE: Objection. 12 A What I'm trying to describe here is just 13 the general process of filtering, which that 14 entire passage is talking about things that 15 comprise filtering. Again, I could read it again. 16 In fact, I didn't even read the whole thing. It 17 starts at Column 8, beginning at Line 65, and goes 18 in Column 9 through 65. So it's 67 lines that 19 describe various things that go into the filtering 20 in the preferred embodiment as described in the 21 specification of the '856 patent. 22 Q Well, just to be clear, I'm not asking

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13 1 about all of the filtering that's done. I'm 2 asking specifically about the sentence, "rule gate 3 120 using rules may filter the handshake message." 4 So how -- what is filtered from the 5 handshake messages? 6 MR. PRICE: Objection. 7 A Yeah, so it's -- that -- I know it sounds 8 like that's more than just the handshake message. 9 But that passage I just cited to, Column 8, Line 10 65, through Column 9, Line 65, is just talking 11 about the handshake messages 17 and 18. And so 12 that whole description is talking about the 13 various processes that comprise filtering as a 14 part of setting up those messages. 15 Q And I'm just trying to make clear. To 16 get the domain name from the handshake message, 17 does that require correlation? 18 A I'm not following the question. 19 Q Well, what's the confusion? 20 A The context of your question, what is -- 21 the presumption of the question even, it doesn't 22 make sense to me.	15 1 Right? 2 A There is a domain name that is included 3 as a part of the handshake message in this 4 example. 5 Q And how does the rule gate obtain the 6 domain name? 7 A It reads it from the handshake message. 8 Q And is reading it from the handshake 9 signal filtering? 10 A It's a part of what comprises filtering. 11 You have to be reading things to be able to do the 12 filtering. 13 And also as a part of this disclosure, 14 this passage, there's another patent, patent U.S. 15 patent -- or no, U.S. Patent Application 16 13/795,822, filed March 12, 2013, entitled 17 Filtering Network Data Transfers, the disclosure 18 of which is incorporated by reference into the 19 specification of the '856 patent in its entirety. 20 So that's also a part of the 21 specification of the '856 patent that also goes to 22 this description of filtering.
14 1 Q Well, you've read Column 9 and you talked 2 about a correlation process. Right? 3 A There is potential correlation going on, 4 because there could be potentially multiple 5 packets that are happening. 6 Q Right. And my question is, is that 7 correlation part of filtering the handshake 8 message? 9 A It is a part of the entire process that 10 comprises filtering. 11 Q Is the correlation necessary to extract a 12 domain from the handshake message? 13 A Not in this case. Because in this case 14 the handshake messages themselves include the 15 domain name. 16 Q Right. So -- 17 A At least some of them do. 18 Q How do you get the domain name from the 19 handshake message? 20 A I'm not following your question, I'm 21 sorry. 22 Q Process operates on the domain name.	16 1 Q In the next paragraph, Paragraph 64, 2 towards the middle, there's mention of a proxy 3 device 112. 4 Do you see that? 5 A Yes. 6 Q What is the proxy device being used for 7 in this arrangement? 8 A So here in particular I'm referring now 9 to the step 19 in the preferred embodiment, as 10 shown in Figure 3B. So this is described in the 11 specification beginning at Line -- at Column 9, 12 beginning at Line 66, and going to Column 10, Line 13 14. 14 So this is describing communications 15 between the host 106 and the proxy device 112. 16 Q Right. And my question is, why is 17 traffic forwarded to the proxy? 18 A I'm not -- I'm not following your 19 question, I'm sorry. 20 Q In Paragraph 64 it says, "For example, 21 encrypted packets are sent from hosts 106 filtered 22 by rule gate 120 using rules and delivered to

17 1 proxy device 112." 2 Do you see that? 3 A Yes. 4 Q Why are they delivered to proxy device 5 112? 6 A That's how things were set up in this 7 preferred embodiment. 8 So just to kind of get a big picture of 9 how the preferred embodiments in the '856 are 10 described. It has at a high level four different 11 scenarios of how communications would be set up 12 between, let's say, a client device and a server 13 device. 14 And this is one of those preferred 15 embodiments that includes proxy devices that are 16 set up in between the communications that happen 17 from the client to the server. So this is one of 18 those proxy devices, 112, that I'm describing 19 here. 20 Q Okay. 21 A And what's important is -- to note is 22 that the rule gate 120 sits in between the client	19 1 Q Right. We've established that the 2 packets are sent and the proxy receives them. My 3 question is, what function is the proxy performing 4 after it receives the packets? 5 MR. PRICE: Objection. 6 A So that is described in the patent 7 beginning at Line 15 in Column 10. Where it 8 states, Proxy device 112 may receive the packets 9 and decrypt the data in accordance with the 10 parameters of session 306. And then it goes on 11 and talks about what it can do with that decrypted 12 data. 13 Q Well, there's also a paragraph above 14 that, right, that sends traffic to a proxy. 15 Do you see that? 16 A We just described -- yeah, I just 17 discussed that. 18 Q Right. So what function is the proxy 19 performing in Column 9, Line 66, through Column 20 16? 21 A It is receiving the encrypted packets in 22 that step.
18 1 device and the proxy. And since those 2 communications along that communication are 3 encrypted, that necessarily implies that rule gate 4 120 is filtering encrypted packets. 5 Q Well, let's get back to the question. 6 What function is the proxy performing? 7 A So in this case it's receiving -- 8 MR. PRICE: Objection. 9 A -- the encrypted packets from the client 10 that have gone through this communication channel 11 that includes the rule gate 120. 12 Q Right. Because the packets are sent 13 there. But I'm asking you, aside from receiving 14 packets, why is the proxy there? What function is 15 it performing? 16 A So it's serving this -- in this preferred 17 embodiment, it's a proxy that then, like I said, 18 it receives the encrypted packets from the client. 19 That's what it's describing here. 20 Again, in Column 9, for Step 19, 21 beginning at Line 66, and then going into Column 22 10, through Line 14.	20 1 Q So in that step it's just an interface 2 that receives packets; it doesn't provide any 3 other function? 4 A I wouldn't describe it that way. I'd say 5 it's a proxy, and now it's performing the step of 6 receiving the encrypted packets from the host that 7 have gone through the rule gate 120. 8 Q Does it do anything else other than 9 receive the packets? 10 A In Step 19, it's described as receiving 11 the packets. Then it's -- again in Column 10, at 12 Line 15, it talks about further functions that the 13 proxy performs. 14 Q And what are those further functions? 15 A So again, beginning at Line 15 of Column 16 10, Proxy device 112 may receive the data packets 17 and decrypt the data in accordance with the 18 parameters of session 306. The packets may 19 comprise a request (e.g., a hypertext transfer 20 protocol (HTTP) request), and proxy device 112 may 21 comprise an ICAP client, which, at Step 20, may 22 communicate the packets to ICAP server 132.

21 1 And it goes on talking about other 2 functionality that the proxy can perform as well. 3 Q So why is the proxy decrypting packets? 4 A That's -- so again, just to go back to 5 the big picture again. There's three -- there's 6 four scenarios that are described as preferred 7 embodiments in the '856 patent. And this is one 8 of the preferred embodiments that involves proxy 9 device in the -- as a part of the communication 10 from a client, to a server. 11 Q The question is, why does the proxy 12 device decrypt the packets sent to it? 13 A That's -- it does so because of the 14 instructions in its programming. These are 15 computers in this preferred embodiment. 16 Q And what are the reasons for those 17 instructions? 18 A I'm not following your question, I'm 19 sorry. 20 Q So the computer instructs the proxy to 21 decrypt the packets. 22 You understand why that's done, or it's	23 1 So these are described and then illustrated in 2 these Figures 3A through 6B. 3 And in the first scenario we use -- 4 that's described as using this proxy system. Then 5 in the second scenario there's an additional proxy 6 called the web proxy. 7 Then in the third scenario there is -- 8 yeah, I don't believe that there's a proxy in that 9 scenario. So in that scenario I don't -- oh, no, 10 there's still a proxy in that one. 11 But then in the last scenario, for 12 figure -- no, in the Figure 5 scenario there's 13 no -- the proxy devices are not being utilized; 14 they're being bypassed. 15 And then in the sixth scenario there's a 16 web proxy, but the proxy device 112 is being 17 bypassed. 18 So you're asking for, like, the 19 reasons -- the reasons have to do with these 20 different scenarios. So it's because in scenario 21 number -- what I'm calling Number 1 that's 22 illustrated in Figure 3B, that one is utilizing
22 1 just in the programming? 2 A Still not following your question. 3 Q Well, presumably the proxy device isn't 4 decrypting the packets just because. Right? 5 There's a design reason for that. Correct? 6 A I presume. I mean, there's -- like I 7 said, there's four scenarios. So in this 8 scenario, after -- if your question is getting to 9 what does the proxy device do after it decrypts, 10 there's a number of other steps that happen after 11 that that are also part of the system as disclosed 12 here. 13 Q That's not my question. My question is, 14 why is decryption necessary? 15 A Well, are you asking in the context of 16 the '856 patent or generally? 17 Q I'm asking in the context of Column 10, 18 Line 15 through 34, why the proxy is decrypting 19 the traffic sent to it? 20 A Because that's how it is configured. 21 Again, there's three -- like I said, there's four 22 broadly described scenarios in the '856 patent.	24 1 the proxy. 2 Q Dr. Goodrich, you understand the claims 3 of this patent require sending packets to a proxy. 4 Correct? 5 A Yes, I speak to that in my declaration. 6 Q Okay. Does Column 10, Line 15 through 7 34, support those claims? 8 A It generally does, because it's talking 9 about preferred embodiments that include sending 10 packets to a proxy. 11 Q And aside from because the instructions 12 and the programming require decryption, do you 13 have any understanding as to why the proxy device 14 as described in Column 10, Line 15 through 34, 15 performs a decryption function? 16 A And what do you mean by the why? That -- 17 so, for example, what you just described, I don't 18 see that in the claims, for example. At least not 19 in claims that are being challenged. So, for 20 example, Claim -- 21 Q I'm asking you -- go ahead. 22 A Claim 1 says, Routing by the packet

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25 1 filtering system filtered packets to a proxy 2 system based on the determination that the 3 filtered packets comprise data that corresponds to 4 the one or more network-threat indicators. 5 So that's what my analysis is addressing. 6 Q Okay. And the packets sent to the proxy 7 device in Line 15, are they filtered packets? 8 A In this case, yes. 9 Q Okay. So, once again, why are they being 10 decrypted? Do you understand the rationale behind 11 that functionality? 12 A Yes. So in this case they're being 13 decrypted so that they can then be set on to yet 14 another rule gate device, which is rule gate 15 device 124. 16 Q And why can't they just be sent in 17 unencrypted form? 18 A I'm not following that question. 19 What do you mean. 20 Q The packets are decrypted by the proxy 21 device 112 in Column 15. Right? 22 A Yes.	27 1 Q No, it's not. We've already established 2 the claims are directed to proxy. So we can 3 forget about the disclosure that doesn't discuss 4 proxies. 5 Can Step 122 be performed with 6 unencrypted data? 7 A I don't recall there being a Step 122. 8 Q Excuse me, Step 22. 9 A So you're asking can it be done on an 10 unencrypted data? It is disclosed as being done 11 on encrypted data. 12 Q My question is, it can be done? 13 A It can be done with unencrypted data. 14 That's how it's disclosed. 15 Q Step 22 uses unencrypted data. Correct? 16 A It uses decrypted data. 17 Q Okay. 18 A So it's no longer encrypted. 19 Q And those packets when they come into the 20 proxy are encrypted. Correct? 21 A Correct. 22 Q Absent that decryption step, could Step
26 1 Q And then you said they're sent to the 2 next rule gate. Correct? 3 A Yes. 4 Q So presumably there's a reason that 5 they're decrypted. What is that reason? 6 A I'm not quite following the question. 7 Could ... 8 It's disclosed as performing it so that 9 it's sending now the decrypted packets to this 10 other rule gate. We can go in and talk about 11 those steps. They're described in Step 22. So 12 the purpose is so that it can then perform Step 13 22, which I can go into more details of if you are 14 interested. 15 Q Can it perform Step 22 on unencrypted 16 data? 17 A That's not how it's disclosed. There's a 18 different – like I said, there's a different 19 disclosure – a different embodiment, rather, 20 where a rule gate is not using – where the system 21 is not using the proxies; they're bypassing them, 22 if that's your question.	28 1 22 be performed? 2 A You're asking me now about something 3 that's not even disclosed in the patent? I'm not 4 following your question. I'm sorry. 5 Q I'm asking you your understanding of Step 6 22. 7 A Step 22 – 8 Q It takes the unencrypted data that's 9 decrypted by the proxy device. Correct? 10 A Yes. 11 Q Why can't it just take the encrypted 12 data? 13 A That's not what is disclosed. Instead, 14 what is disclosed is that proxy device 120 did 15 filtering using the encrypted data. That's part 16 of the novelty of the '856 patent. So if you're 17 asking why doesn't it do it, one reason could be 18 that the rule gate 120 already did that. 19 Q Already did what? 20 A Filtering based on encrypted data. 21 Q And how would it do that? 22 A It's described in Step, for example, 19,

29 1 and also again in Step 26. 2 Q And that would be correlation to logs. 3 Correct? 4 MR. PRICE: Objection. 5 A So it's described in this passage that I 6 cite to, beginning in Column 9, at Line 66, and 7 going into Column 10. Again, it's coming from the 8 host 106, which I'm calling the client in this 9 context. Host 106 may generate packets comprising 10 data encrypted in accordance with one or more 11 parameters of session 306 and, at Step 19, may 12 communicate the packets to proxy device 112 via 13 Session 306. 14 Rules 212 may be configured to cause rule 15 gate 120 to one or more of identify the packets, 16 determine (e.g., based on one or more network 17 addresses included in their network-layer headers) 18 that the packets comprise data corresponding to 19 the network-threat indicators, for example, by 20 correlating the packets with one or more packets 21 previously determined by packet-filtering system 22 200 to comprise data corresponding to the	31 1 A Yes. 2 Q What's the other example? 3 A E.g., based on one or more network 4 addresses, including -- included in their network 5 layer headers. 6 Q Which line are you reading? 7 A I was reading from Line 4 of Column 10. 8 Q So Column 4 of Line 10 to you describes a 9 filtering process or a filtering parameter? 10 A Well, it's part of -- I was just reading 11 one little excerpt from the whole sentence. The 12 whole sentence is talking about the rules, the 13 whole session, the whole process of filtering, and 14 giving these as examples of things that are done 15 as a part of that. 16 Q But the step of correlating requires the 17 packet logs. Correct? 18 A In this case, yes. But that's itself 19 also set off as a for-example. 20 Q What other examples are there? 21 A Based on one or more network addresses 22 included in their network layer headers. That
30 1 network-threat indicators based on data stored in 2 logs 214 (e.g., log data generated by 3 packet-filtering system 200 in one or more of the 4 steps numbered 6, 7, or 12 through 18), and one or 5 more of log (as indicated by the triangles over 6 the line extending downward from rule gate 120) or 7 drop the packets. 8 Q So getting back to the question. The way 9 encrypted packets are filtered prior to the 10 getting to the proxy is by comparison to a log? 11 A No, that's not -- 12 MR. PRICE: Objection. 13 A No, that's not accurate. It's the full 14 disclosure as I just read it to you. 15 Q Do you see Line 7 it says, "For example, 16 by correlating the packets with one or more 17 packets previously determined by packet filtering 18 system"? 19 Do you see that? 20 A Yes. I just read it to you. 21 Q Okay. Are there any other examples in 22 that section?	32 1 data -- that the packets comprise data 2 corresponding to the network-threat indicators. 3 Q That's a different correlation example to 4 you? 5 A No, that's not necessarily correlation. 6 Q That's what I'm asking. 7 A Yes. It's not necessarily correlation. 8 Q Is there any example you can give me 9 where it would be correlation? 10 A Yes; where it says, "For example, by 11 correlating the packets with one or more packets 12 previously determined by packet filtering system 13 200 to comprise data corresponding to the 14 network-threat indicators based on data stored in 15 logs 214." 16 Q Well, that's the example that's in there. 17 I'm asking for other correlation 18 examples. 19 A Yes. And then there's another one, "And 20 one or more of log" -- I think I meant logs -- "as 21 indicated by the triangles over the line extended 22 downward from the rule gate 120."

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33 1 So this is referring back to Figure 3B. 2 It's using this visual icons of triangles to talk 3 about the filtering that can go on as a part of 4 these arrows, when they're going across are 5 communication channels, connections of some kind 6 that are then -- packets are flowing through. So 7 these triangles are talking about the filtering 8 that can go on. And in some cases it even 9 illustrates how there will be a break in the line, 10 it will start as a solid line and then it goes 11 dashed after that to indicate that, for example, 12 packets may be dropped. 13 Q Other than using logs, can you identify 14 any other examples of correlation? 15 A So "correlation" is a broad term. I 16 don't recall it being a claim term. So I could go 17 into more analysis to talk about various kinds of 18 correlations, but that would require some more 19 time to analyze the specification of the '856 20 patent. And this is a place in my declaration 21 where I believe I've addressed that. 22 Q I'm not asking about correlation in	35 1 the correlation is not just with logs. 2 Q Other than correlation with logs and 3 threat indicators, is there any other correlation 4 described in that passage of Column 10? 5 A Of course there is, yes. 6 Q What is that? 7 A It also talks about correlation based on 8 one or more network addresses, including in the 9 network layer headers. 10 Q And in that context, the network address 11 would be a threat indicator. Correct? 12 A It may be. It depends on the context of 13 what are the network-threat indicators. 14 Q My question was whether, aside from 15 correlation with network-threat indicators and 16 logs, if there's any other correlation described 17 at Column 10 in the passage we're discussing. 18 A I don't understand your question in this 19 case. 20 Q What's confusing about it? 21 A I've lost the context of what you're 22 asking about.
34 1 general. I'm talking about in the context of 2 Column 10. Aside from correlation with logs, is 3 there any other correlation described? 4 A I'm not -- I'm not accepting the basis of 5 that question, I'm sorry. 6 Q And what is your understanding of the 7 basis of the question? 8 A You're saying that there's only 9 correlation with logs. 10 Q If there's not -- 11 A That's not what's described here. 12 Q If there's not, then please explain. 13 A Yeah. So it's -- again, the court -- so 14 this is itself an example of how the processing is 15 done. And it says, For example, by correlating 16 the packets with one or more packets previously 17 determined by packet filtering system to comprise 18 data corresponding to the network-threat 19 indicators. 20 So this -- this is a claim term, and I 21 talk about this in my declaration, that you also 22 have to have the network-threat indicators. So	36 1 "Correlation" is a broad term. 2 Correlation of data, X and Y axes, all kinds of 3 different things. That I've lost the context of 4 what you're asking. 5 Q So you think we're talking about X and Y 6 axes, Dr. Goodrich? 7 A No. But you've excluded things that are 8 included in correlation, I don't know what else 9 you're asking about anymore. 10 Q I'm asking you examples of correlation 11 between threat indicators and logs. We've 12 established that that's described in Column 10. 13 Aside from that correlation, is there any 14 other correlation described in this section? 15 A I'm still not quite getting the context. 16 Because, like I said, network-threat indicators 17 itself is something that I believe that there's a 18 construction for, a proper construction. And that 19 is addressed in my declaration. 20 So, for example, I believe the proper 21 construction for network-threat indicators is 22 indicators of packets associated with network

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37 1 threats; such as, network addresses, ports, domain 2 names, uniform resource locators (URLs), or the 3 like. 4 So in this context when it talks about 5 network-threat indicators, it is including all of 6 those things. And then you could be doing that 7 based on correspondences and correlations or other 8 analyses. It doesn't have to only be 9 correlations. 10 Perhaps this is the misunderstanding I'm 11 having with your line of questioning. 12 Q So let's take your definition of 13 network-threat indicators and use it in my 14 question. Whatever you consider network-threat 15 indicators to be, aside from comparing those to 16 logs, is there any other correlation described in 17 that section? 18 A Yes. You're also comparing 19 network-threat indicators and the logs to the data 20 that's being communicated at Step 19. 21 Q And what data is that? 22 A The packets.	39 1 A You keep asking about network-threat 2 indicators. 3 Q And in my last question I told you to 4 accept whatever definition you had to answer the 5 question. So why are we still talking about 6 network-threat indicators? 7 A Because then you asked about the 8 correlations. I'm confused by your line of 9 questioning. 10 Q How are the logs created? 11 MR. PRICE: Objection. 12 A There are so many places where logs are 13 described. Do you have -- do you want me to go 14 through all of them? 15 Q I'm talking in Column 10, there's a 16 comparison -- or excuse me, it says, Line 7, 17 "Correlating the packets with one or more packets 18 previously determined by the packet-filtering 19 system 200 to comprise data corresponding to 20 network-threat indicators based on data stored in 21 logs 214." 22 So I'm talking about that sentence, those
38 1 Q So you think that's a separate 2 correlation? 3 A I'm not following this question, this 4 line of questioning, I'm sorry. 5 Q The network-threat indicators come from 6 the packets. Correct? 7 A Okay. Now -- maybe this is the 8 fundamental misunderstanding. I was going by the 9 claim language. So in the claim, let's say Claim 10 1, it talks about receiving by a packet-filtering 11 system comprising a hardware processor and a 12 memory and configured to filter packets in 13 accordance with a plurality of packet-filtering 14 rules, data indicating a plurality of 15 network-threat indicators. 16 And then in the specification it talks 17 about how there can be these third-party 18 network-threat indicator services that provide 19 network-threat indicators to the rule gates as a 20 preferred embodiment. 21 Q And what does that have to do with my 22 question?	40 1 logs in 214. How are they created? 2 A Okay. 3 All right. So they can be created, logs 4 214 can be created and are described first in 5 Column 3, at Line 4 through 5. Talks about how 6 they are stored. 7 And then there's a process 202. In 8 accordance with the rules 212, it says, Logs 214 9 may include one or more entries generated by 10 processors 202 in accordance with the rules, 212, 11 for packets received by packet-filtering system 12 200 via communication interface 206. 13 Then it talks about how in the Step 5, 14 the rule gate may generate log data, (e.g. one or 15 more entries in logs 214) for the packets. 16 Then there's other steps. Step 7, rule 17 gate may generate log data, one or more entries in 18 log 214, for the packets in Step 7. 19 Then in Column 5, it talks about log data 20 that could be generated in Steps 5, 6, and 7. And 21 then it talks about how -- in Column 5 how there 22 could be a DNS lookup. And then, Logs 214 may

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41 1 comprise one or more entries indicating one or 2 more of network layer information (e.g., 3 information derived from one or more network-layer 4 header fields of the packets, such as a protocol 5 type, a destination network address, a source 6 network address, a signature or authentication 7 information (e.g., information from an internet 8 protocol security (IPsec) encapsulating security 9 payload (ESP)), or the like), transport-layer 10 information (e.g., a destination port, a source 11 port, a checksum or similar data (e.g., error 12 detection or correction values, such as those 13 utilized by transmission control protocol (TCP) or 14 user datagram protocol (UDP)), or the like), 15 application-layer information (e.g., information 16 derived from one or more application-layer header 17 fields of the packets, such as a domain name, a 18 uniform resource locator (URL), a uniform resource 19 identifier (URI), an extension, a method, state 20 information, media-type information, a signature, 21 a key, a timestamp, an application identifier, a 22 session identifier, a flow identifier, sequence	43 1 identified by packet-filtering system 200. 2 Q Let's get back to Column 10. In line, it 3 looks like about Line 8, it states that 4 "Correlating packets with one or more packets 5 previously determined." 6 What's your understanding of "previously 7 determined" in that context? 8 A In that context, I understood it to be 9 something that happened in the previous step, like 10 I was reading to you earlier, one of the earlier 11 numbered steps in this preferred embodiment. 12 Q So a log is previously determined 13 packets? 14 A I just read to you what log data 15 comprises as preferred embodiments. Would you 16 like me to read it again? 17 Q No. I'd like you to answer the question. 18 A To answer your question would require me 19 to read that passage again to tell you what logs 20 comprise. 21 Q Aside from previously determined data, do 22 the logs include anything else?
42 1 information, authentication information, or the 2 like), other data in the packets (e.g. payload 3 data), or one of more environmental variables 4 (e.g., information associated with but not solely 5 derived from the packets themselves, such as one 6 or more of arrival (or receipt) or departure (or 7 transmission) times of the packets (e.g., at one 8 or more of the rule gates, tap devices, or network 9 devices, one or more of ingress or egress 10 identifiers (e.g., associated with one or more 11 physical or logical network interfaces, ports, or 12 communication-media types of one or more of rule 13 gates, or tap devices, or network devices via 14 which the packets were one or more of received or 15 transmitted), one or more device identifiers 16 (e.g., associated with one or more of the rule 17 gates, tap devices, or network devices via which 18 the packets were one or more of received or 19 transmitted), or the like), and packet-filtering 20 system 200 may utilize such entries to correlate 21 one or more packets identified by packet-filtering 22 system 200 with one or more packets previously	44 1 A They include all those things I just read 2 to you. It's a long list. If you want me to read 3 it again, I can. 4 Q The question is whether that -- 5 A It seems like that's already on the 6 record. 7 What is your question again? 8 Q Is that data from previously encountered 9 communications? 10 A In this case the actual data that is 11 being stored would be stored from previous steps 12 in this preferred embodiment. 13 Q Are there any embodiments where the log 14 does not include previously determined data? 15 A Well, it also talks about metadata that 16 comes from those previous steps, right, like -- 17 such as the time they happened, the machine 18 identifiers that are there. There's other things 19 that go into that log data besides just the 20 previous data itself. 21 Q But all that data is derived from 22 previously determined data. Correct?

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45 1 A If you are also including network-threat 2 indicators as previously received data, then yes. 3 The logs are not prophetic or trying to predict 4 the future. They don't contain data that they 5 haven't received yet, or data from the future. 6 Q So if traffic came in that had not been 7 previously encountered, there would be no 8 corresponding log. Correct? 9 MR. PRICE: Objection. 10 A No, that's not necessarily true. 11 Q Why not? 12 A Because it may be a repeat packet, for 13 example. So as I just -- the talk was -- reading 14 from you -- reading to you, there was some of the 15 data could come from TCP packets. And in TCP, 16 packets are sometimes resent. So even though it's 17 coming in the future, it could be a repeat of a 18 packet that already happened in the past. 19 Q Right. But that repeated packet by 20 definition would have been previously received. 21 Right? 22 A A copy of it would be. But now this	47 1 So in this protocol, the idea is that you 2 would be able to do requests through a proxy, and 3 that maybe you're not -- I mean, the analog is 4 like going through somebody who's translating your 5 words for you. 6 So, you know, if you want to speak to 7 somebody in France but you don't know French, so 8 you need to go through a proxy to take your 9 English words and transfer them into French. 10 Sometimes we use these ICAP servers as a way to 11 interface between different systems that are 12 speaking slightly different language. 13 And so it can do, like, changing the 14 headers around, make sure they're all kosher for 15 the next step in the line, this sort of thing. 16 Q Do you have an understanding of what the 17 ICAP server is doing in this particular example? 18 A Yeah. Because it talks about that in 19 Column 10, Line 34. ICAP server 132 may generate 20 packets comprising data responsive to the request; 21 e.g., a response, modified request, or the like. 22 And then it can communicate those packets to the
46 1 would be, like, a new version of it. 2 Q What would be knew about it? 3 A There may be other header information 4 that's different, depending on how you're 5 implementing the TCP. 6 Q But if it's a copy, it necessarily 7 includes information of the original packet. 8 Right? 9 A It does include come of that data, yes, 10 that was there before. 11 Q Let's go further down into Column 10. 12 What is your understanding of an ICAP 13 server, ICAP? 14 A This is a type of a server that does 15 proxy-like things. It -- when you're doing 16 proxy -- an implementation that involves proxying, 17 sometimes this includes this ICAP protocol. 18 Q What are the situations where you would 19 use the ICAP protocol? 20 A It talks about some here; that you 21 have -- that there can be, like, requests that 22 occur.	48 1 proxy device 112. 2 Q What is your understanding of the purpose 3 of that message exchange? 4 A What I just explained to you previously. 5 Q So the purpose is to exchange 6 communications? 7 A Yes. According to, you know, the 8 protocols that, you know, each side is expecting. 9 That's why it talks about here in Line 35 10 you may have a modified request. So, you know, 11 it's a -- it's a weak analogy, but it's the one 12 that I think is apt. That I'm speaking English, I 13 want to talk to a server that only knows French, I 14 go through the ICAP server to convert my request 15 in English to a request in French so it can 16 understand it. So it could be sending this 17 modified request on on my behalf. 18 Q So is it your testimony that the ICAP 19 server is providing translation services? 20 A It's doing what ICAP servers do. I just 21 did that as an analogy to help you understand what 22 the ICAP servers are doing.

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49 1 So they might be modifying the request as 2 a part of their processing, which is yet another 3 type of proxy service. 4 Q Do ICAP servers scan content? 5 A I don't -- what do you mean by "scan 6 content"? I'm not sure what you're -- what you're 7 asking. 8 Q Look for viruses, look for malware? 9 A Are you asking the context of the '856 10 patent? I don't recall that being said. 11 Is there a passage in the patent 12 specification you'd like to point me to? 13 Q Well, you said you understand the ICAP 14 server to be doing what ICAP servers do. And I'm 15 asking you if ICAP servers scan content for 16 viruses or malware? 17 A Yeah, but ICAP server also needs a 18 context. So that's too broad a question. I 19 thought you were asking about questions in the 20 context of the '856 patent. 21 Q I'm asking about your statement that ICAP 22 servers do what ICAP servers do. And I'm asking	51 1 A Because I was asked -- answering this 2 whole line of questions about ICAP servers in the 3 context of the '856 patent, and how a person of 4 ordinary skill in the art would understand that. 5 And now you seem to be asking a broader question 6 than that. 7 Q No. I'm asking you, as one of skill in 8 the art, is it your understanding that ICAP 9 servers provide content scanning functions such as 10 scanning for malware or viruses? 11 A I would answer that the same way I did 12 before. That I was answering the questions about 13 ICAP servers in the context of the '856 patent, as 14 would be understood by a person of ordinary skill 15 in the art. And now it sounds like you're asking 16 a broader question than that. And to answer that 17 broader question would require more time and 18 analysis. 19 Q How much more time and analysis? 20 A I would want to have other documents that 21 talk about ICAP servers in a broader context than 22 just the specification of the '856 patent. So
50 1 you if ICAP servers are known to scan content for 2 malware and viruses? 3 A Yeah, so to clarify my answer, I was 4 answering in the context of the '856 patent. And 5 so if there's a place in the patent that it talks 6 about scanning for viruses, could you please point 7 me to that? Because I don't recall having read 8 that. 9 Q So in the context of the '856 patent, you 10 don't understand the ICAP server to be an ICAP 11 server as known in the art? 12 MR. PRICE: Objection. 13 A No; that mischaracterizes what I just 14 said. 15 Q Are ICAP servers known in the art for 16 providing content scanning, including virus and 17 malware scanning? 18 MR. PRICE: Objection. Foundation. 19 A Is there a place in my declaration where 20 you feel that I've addressed that? Because I 21 don't recall being asked that question. 22 Q Why does that matter?	52 1 it's hard for me to speculate about how much 2 additional time that would require. 3 Q So you don't have an understanding of an 4 ICAP server as one of skill in the art. 5 MR. PRICE: Objection. 6 A No; that's incorrect. I just explained 7 to you how a person of ordinary skill in the art, 8 reading the '856 patent, would understand this 9 disclosure of ICAP servers. 10 Q And as part of that analysis, as one of 11 skill in the art, you have to have an 12 understanding of ICAP servers. 13 Isn't that right, Dr. Goodrich? 14 A Yes, which I do from the context of the 15 intrinsic evidence and the '856 patent itself, 16 it's sufficient. 17 Q Then why would you need more time and 18 more documents to review to answer a basic 19 question about the known functionality of an ICAP 20 server? 21 A Because now you're asking a question that 22 does not seem to be addressed by the intrinsic

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53 1 evidence and the '856 patent. So that would 2 require more time and analysis to answer that 3 question. 4 Q The intrinsic evidence describes an ICAP 5 server, does it not? 6 A Yes. 7 Q Do you have an understanding of what an 8 ICAP server is? 9 A Yes. ICAP server -- 10 Q An ICAP server -- 11 A -- 132 may generate packets corresponding 12 data responsive to the request, e.g., a response, 13 modified request, or the like. And at Step 21 may 14 communicate the packets to proxy device 112. 15 That's describing in very good detail to 16 a person of ordinary skill in the art what the 17 ICAP server is doing in the context of the '856 18 patent. 19 And I was giving you this analogy of the 20 French and the English to talk about what could be 21 meant by the modified request. And even I went 22 into details about that for you.	55 1 scenario for an ICAP server is to do -- you know, 2 modifying the request so that they're in the right 3 syntax, or semantics, for the next step on. So in 4 this case if there's an ICAP server that's being 5 used as a part of this scenario, then that is a 6 part of that flow. That's what's being described 7 here. 8 And that then that is going on to the 9 proxy device in this case. 10 Q So you do understand what a typical ICAP 11 server does. 12 A When it's being described here in the 13 context of the '856 patent, yes, as a -- as a 14 person of ordinary skill in the art would, based 15 on the intrinsic evidence in the '856 patent. 16 Q So the messages are exchanged for 17 translation. 18 Is that your testimony? 19 A That's one of the ways that the messages 20 can be exchanged in order to convert a request 21 into a response or a modified request or the like. 22 Q What are the other ways?
54 1 Q In Column 10, Lines 15 through 34, there 2 is an ICAP server. You've testified that you 3 understand that it exchanges messages. 4 What is the purpose of the message 5 exchange? 6 A To be able to do this functionality that 7 then is described in Line 34. ICAP server 132 may 8 generate packets comprising data responsive to the 9 request; e.g., a response, modified request, or 10 the like, and at Step 21 may communicate the 11 packets to proxy device 112. 12 Q And what kind of data would be responsive 13 to the request? 14 A A response, modified request, or the 15 like. 16 Q Do you have an understanding, aside from 17 the message exchange, what the point of that 18 message exchange is in this context? 19 A I thought I just explained that to you, 20 yes. 21 Q And what is the purpose? 22 A As I mentioned earlier, the typical	56 1 A I would need more context to understand, 2 to answer that question. 3 Q The context we're talking about is Column 4 10, Lines 15 through 34. 5 A Yeah, I'm not following your question. 6 Q Aside from -- 7 A I thought -- I thought I already answered 8 that question, so I'm not following what else 9 you're asking for now. 10 Q No, you haven't. 11 A I disagree with that characterization. 12 THE WITNESS: Is now a good time for a 13 break? 14 MR. McKEOWN: Sure. Let's break for ten 15 minutes. 16 (A recess was taken.) 17 BY MR. McKEOWN: 18 Q Dr. Goodrich, I've uploaded a new 19 document, which I'm going to mark Exhibit 1051. 20 (PAN Exhibit 1051 marked for 21 identification and is attached to the transcript.) 22 Q And it is entitled RFC 3507.

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57 1 Can you open that document, please? 2 A I have it open now. 3 Q Okay. 4 MR. PRICE: Counsel, is this a document 5 of record in the case? 6 MR. McKEOWN: It is a new document. 7 MR. PRICE: Okay. We're just going to 8 object to the entry of evidence into the record at 9 this point in this matter. 10 Go ahead. 11 MR. McKEOWN: Based on what? 12 MR. PRICE: Based on the fact that this 13 is not -- hasn't been made of record in the case. 14 We're objecting to -- 15 MR. McKEOWN: Well, it will be of record. 16 Q Dr. Goodrich, do you have an 17 understanding of what an RFC document is? 18 A Yes. 19 Q And what is an RFC document? 20 A The RFC stands for request for comments. 21 It's generally something that's put out with 22 respect to internet specifications, generally.	59 1 client, can ask an external server to check the 2 executable for viruses before accepting it into 3 its cache." 4 Q Then go to Page 10, please. 5 A I'm there. 6 Q There's a subheading 2, "Return an 7 error." 8 Do you see that? 9 A Yes. 10 Q There's a paragraph under that that 11 begins, "The response modification." Can you read 12 that paragraph out loud, please. 13 A "The response modification method is 14 intended for post-processing performed on an HTTP 15 response before it is delivered to a client. 16 Examples include formatting HTML for display on 17 special devices, human language translation, virus 18 checking, and so forth." 19 Q Going back to the '856 patent. 20 You understand the ICAP server there to 21 be operating in a nonstandard manner? 22 A I don't follow what you mean by that.
58 1 Q And I'll represent to you that this is 2 RFC 3507, which is entitled Internet Content 3 Adaptation Protocol. 4 Do you see that? 5 A I do. 6 Q Can you turn to Page 4 of this document. 7 Just let me know when you're there. 8 A I'm there. 9 Q There's some bullet points here like 10 small ellipses. One begins with "Surrogates or 11 origin." 12 Do you see that? 13 A Yes. 14 Q Can you read that paragraph out loud, 15 please? 16 A "Surrogates or origin servers can avoid 17 performing expensive operations by shipping the 18 work off to other servers instead. This helps 19 distribute load across multiple machines. For 20 example, consider a user attempting to download an 21 executable program via a surrogate (e.g., a 22 caching proxy). The surrogate, acting as an ICAP	60 1 Q Is the ICAP server described at Column 10 2 operating outside of the internet specification? 3 A To answer that request would require more 4 time. I'd want to review this document, the RFC 5 3507, to double-check that. 6 Q But sitting here today, you can't say one 7 way or the other if it operates outside this 8 internet specification? 9 A No; I can say -- 10 MR. PRICE: Objection. Beyond the scope. 11 A No; I can say. It would just take more 12 time. I want to review this document. I don't 13 being asked to review RFC 3507 as a part of my 14 work for this case. And I don't want to just 15 speculate, without looking at the details, whether 16 or not it -- the description in the '856 patent 17 conforms to this. 18 Q So you're not familiar with the internet 19 specification on ICAP servers? 20 A I don't recall having seen this document 21 before. Like I said, I had a general 22 understanding of ICAP, and I explained that to you

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61 1 in earlier questions. But I don't recall having 2 seen this RFC before today. 3 Q So your general understanding is not 4 based upon the internet specification. 5 Is that your testimony? 6 A No, that's not -- 7 MR. PRICE: Objection. 8 A No; that's also incorrect. I believe 9 that my understanding was -- is based on things 10 that themselves are based on this. But I don't 11 recall having seen this document. And to answer 12 your question of whether or not the description in 13 the '856 patent conforms to this would require 14 more time. 15 Q Can you direct me to any aspect of the 16 '856 patent that explains that the ICAP server is 17 operating outside of your general understanding of 18 an ICAP server's functionality? 19 MR. PRICE: Objection. Scope. 20 A That would also require more time for me 21 to do an analysis of all the descriptions of ICAP 22 servers in the '856 patent. I don't recall being	63 1 A Because now you're asking the question in 2 the context of RFC 3507, as I understood your 3 question. 4 Q And you understand ICAP server operation 5 does not follow the internet specification? 6 Is that what you're saying? 7 MR. PRICE: Objection. 8 A No, that's not what I'm saying. That's 9 mischaracterizing what I'm saying. 10 Q But you're not familiar with RFC 3507. 11 Correct? 12 A Not directly. I don't recall having read 13 it before. 14 Q Let's go back into your declaration. It 15 might take a couple minutes to reread Paragraphs 16 60 through 64. I'll have some questions about 17 those. Just let me know when you're finished. 18 A I've reviewed that. 19 Q Okay. So it's fair to say that 20 Paragraphs 60 through 64 walk through, starting at 21 Paragraph 60, Step 3 of the figures of Buru 22 through Step 19, Step 19 being the last step in
62 1 asked that in my -- for my declaration, either. 2 Q So in preparing your declaration, you did 3 not consider the operation of the ICAP server as 4 described in the '856 patent? 5 A No; that's incorrect. I read the 6 specification of the '856 patent, and I've 7 explained to you what an understanding based on 8 that would be, looking at the intrinsic evidence 9 from the '856 patent. 10 Q What you just answered -- and I'll read 11 it back to you. You said that that would also 12 require more time for me to do an analysis of all 13 the descriptions of ICAP servers in the '856 14 patent. 15 Have you not performed that previously? 16 A I did review the '856 patent as a part of 17 my work for this case. 18 Q And did you review the aspects of the 19 '856 patent that relate to ICAP servers? 20 A Yes. 21 Q And so then why would you state that you 22 need more time to reread what you already read?	64 1 Paragraph 64? 2 A No, that is inaccurate. 3 Q What other steps are mentioned? 4 A In this passage I am referring to the 5 '856 patent. 6 Q Sorry, the '856 patent. 7 A So in the -- if you're now revising your 8 question to ask is this talking about Steps 3 9 through -- 10 Q Sure. Let me ask it again. 11 So is it fair to say that starting at 12 Paragraph 60, which identifies Step Number 3 in a 13 parenthetical, going through to Paragraph 64, 14 which ends at Step 19, that you've described Steps 15 3 through Step 19 in these paragraphs? 16 A In a broad brush, yeah, high level, yes. 17 Q And then in step -- or excuse me. Strike 18 that. 19 And then in Paragraph 65, Step 19 is 20 mentioned again in the first sentence, as well as 21 Step 27. And then following Paragraph 65 onto the 22 next page, Steps 23, 24, 29, and 30.

65 1 Do you see that? 2 A Yes. 3 Q Why did you skip over Steps 20 through 4 22? 5 A Because I'm talking about giving a 6 high-level description of this scenario as a 7 preferred embodiment. But I'm doing so in the 8 context of this IPR, where the challenged claims 9 are one, 24, and 15, as I recall. And in those 10 challenged claims there's no discussion of an ICAP 11 server, as I recall just sitting here today. So 12 it didn't seem relevant to talk about the ICAP 13 server's functionality in those, in this 14 high-level description. 15 Q Let's go to Paragraph 67. At the end of 16 Paragraph 67, you mention Step 35. 17 Do you see that at the end? 18 A Yes. 19 Q And in that step you cite to the '856 20 patent, at Columns -- at Column 14, Line 19 21 through 34. 22 Do you see that?	67 1 patent. 2 Q And that's despite the fact that those 3 steps involve the proxy? 4 A I'm just giving this as an example. 5 Again, as I testified earlier, there's four broad 6 scenarios that are described in the specification 7 of the '856 patent. Three of those involve 8 proxies of different flavors, at least three of 9 those. I'd have to review the forth and 10 double-check if it does not. It might also. 11 So I'm just giving this as an example, 12 high-level description that then, you know, reads 13 on various issues that are addressed in the 14 challenged claims. 15 Q Paragraph 43 of your declaration. 16 A I'm there. 17 Q In the heading there, you use the term 18 "white list embodiment." 19 Do you see that? 20 A Yes. 21 Q What do you mean by "white list"? 22 A So now I'm referring to the white list of
66 1 A Yes. 2 Q And if you go to the '856 patent at 3 Column 14, Line 19-34. I'll give you a minute to 4 get there. 5 A I'm there. 6 Q At the end of that paragraph, there is -- 7 I'm trying to see the beginning of the sentence 8 there. 9 Well, at the end of that paragraph there 10 is a parenthetical, "e.g., log data generated by 11 packet filtering system 200 in one or more of 12 steps 6, 7, or 12 through 32." 13 Do you see that? 14 A Yes. 15 Q And so that would include Steps 20 16 through 22. 17 Is that right? 18 A Yes. 19 Q Okay. 20 A I wasn't trying to say that 20 through 22 21 are irrelevant; it just wasn't necessary for my 22 high-level review of the steps from the '856	68 1 Buruganahalli. So it -- Buruganahalli describes 2 various embodiments of its invention. And so now 3 I'm referring to the one that involves the white 4 list. 5 Q Right. And what is the white list? 6 A Oh, yeah. So if we turn to 7 Buruganahalli, there's various disclosures from 8 Buruganahalli that describe the white list. I 9 cite to some of them here in my Paragraph 43 that 10 are, for example, Column 5, 43 to 51; Column 6, 11 one through 11; Column 7, 52 to 59; Column 10, 12 Line 54 to 11:6; Column 16, 35 to 41; and Figure 13 5A, which I then excerpt and annotate. 14 Q In that same -- 15 A Did I say five? I meant Figure 3A. 16 Q In that same paragraph, towards the very 17 bottom of Page 19 it states, "If a destination 18 domain is on the white list, the firewall allows 19 the client hello message to pass through the 20 server and allows a secure connection to be 21 established between the client and server." 22 Do you see that?

69 1 A Yes. 2 Q In that sentence, can you provide a bit 3 more clarification on "allows"? 4 A So, yeah. This is described in 5 Buruganahalli. 6 Yeah. So, for example, Column 7, 7 beginning at Line 39 of Buruganahalli, In some 8 embodiments destination domain extraction for 9 secure protocols further include supplying a 10 security policy based on the destination domain to 11 filter traffic at the security device. 12 For example, a -- the security policy can 13 conclude a malware detection policy, a white 14 list/black list policy; e.g., in which a session 15 associated with a network communications between 16 the client and the remote server are not decrypted 17 if the destination domain is included in the white 18 list. And a session associated with the network 19 communications between the client and the remote 20 server are decrypted if the destination domain is 21 included in the black list and/or uniform research 22 locator/category filtering policy.	71 1 And then the black list, on the other 2 hand, is a list of domains where the functionality 3 of the trusted man in the middle is applied. And 4 monitoring occurs. 5 But as I explain in my declaration, this 6 would not be understood by a person of ordinary 7 skill in the art to satisfy what would be 8 network-threat indicators. 9 Q Let's go to -- so Paragraph 47 of your 10 declaration. 11 A I'm there. 12 Q Okay. In Paragraph 47 you say, "None of 13 these three scenarios." Is it fair to say that 14 those three scenarios are outlined in the 15 annotated figures that come before this passage? 16 A Yes, that's reasonable. 17 Q Paragraph 92. Let me know when you're 18 there. 19 A I'm there. 20 Q You say, the first sentence of Paragraph 21 92, "Although petitioner never asserts a 22 combination of" -- I'm just going to call it
70 1 Then it goes on, Column 7, Line 52. In 2 some embodiments, destination domain extraction 3 for secure protocols further includes applying a 4 security policy based on the destination domain to 5 filter traffic at the security device in which the 6 security policy includes a while list/black list 7 and in which a session associated with the network 8 communications between the client and the remote 9 server are not decrypted if the destination domain 10 is included in the white list of the white 11 list/black list policy. 12 Q What is your understanding of the 13 difference between a white list and a black list? 14 A So in the context of Buruganahalli, a 15 white list is a list of the destination domains 16 for which the trusted man-in-the-middle 17 functionality is not applied, and the packets are 18 just sent and not decrypted, not monitored, not 19 analyzed. And, indeed, the white list would not 20 be any indication of -- of anything bad; it's just 21 good stuff, apparently, is how a person of 22 ordinary skill in the art would read that.	72 1 Buru -- "Figures 3A and 3B," and then it goes on 2 from there. 3 Do you see that? 4 A Yes. 5 Q So you did not explain a combination of 6 Figures 3A and 3B because it's your understanding 7 the petitioner never asserted that combination in 8 the petition? 9 Is that right? 10 MR. PRICE: Objection. 11 A I'm sorry, I don't understand your 12 question. 13 Q You say petitioner never asserts a 14 combination of Bur's Figures 3A and 3B. 15 Do you see that? 16 A Yes. 17 Q Where does that opinion come from? 18 A Oh, now I'm addressing what the board 19 said in their Institution Decision. So it's 20 things that at least I was not able to see in the 21 petition. And instead, it seemed to be now I'm 22 addressing an analysis from the board that I did

73 1 not find in the petition. 2 Q So that first sentence there is 3 addressing a conclusion you believe the board 4 made. 5 Is that right? 6 A No. It's leading up to that. So I am 7 citing to the petition here, and then addressing 8 how the board is interpreting this. 9 Q I'm just trying to determine if that 10 conclusion is yours or it comes from somewhere 11 else. 12 A Right. Could you please upload the 13 petition? 14 Q Sure. You have the petition and the 15 Institution Decision. 16 A Okay. So here in -- when I -- said here 17 what I meant is for this whole entire section, 18 talking about, you know, how the Institution 19 Decision was addressing things that were written 20 in the petition. 21 And then specifically, I'm addressing 22 then the petition at 38. So if we go to the	75 1 Q Okay. 2 A So here I'm citing to -- yeah, I'm citing 3 to Exhibit 1004, which I believe is the 4 Buruganahalli. Yeah. Right. So, yeah. So what 5 Buruganahalli is saying here is that -- yeah, let 6 me just pull that up. 7 Yeah. So Buruganahalli is talking here 8 about its handshake message. And, you know, 9 talking about how it has to do, you know, its 10 analysis only on unencrypted or decrypted data. 11 And, indeed, at the top of Column 11 it 12 says, As the secure tunnel session traffic is 13 encrypted and passes through a firewall 304, the 14 firewall 304 typically cannot decrypt the 15 encrypted secured tunnel session traffic and, 16 thus, cannot detect such firewall policy/rule 17 violations. 18 Q Let's get back to the question. On 19 Paragraph 92, is that your conclusion, or are you 20 relying on somebody else? 21 A That's based on my reading of the 22 petition.
74 1 petition at 38, we see this -- what's being 2 described as a claim chart. It doesn't really 3 have much in the way of analysis. So that's what 4 I'm addressing here. That there's just conclusory 5 statements here without really giving any what I 6 would consider expert analysis. 7 Q So let's just get back to the question. 8 Is this your conclusion here, or did it come from 9 someplace else? 10 A This is -- this is a part of my 11 declaration. 12 Q So it is your conclusion that the 13 combination of 3A and 3B has never been asserted? 14 A So I was reading from a different 15 paragraph. I got lost. 16 Q So we're on -- 17 A We're on Paragraph 92. Correct? 18 Q Yes. 19 A I got lost, I'm sorry. My previous 20 answer was with respect to Paragraph 96. 21 Q No. 22 A So let me revise that.	76 1 Q And that's based on your reading of the 2 entire petition? 3 A Yes. 4 Q Let's turn to the petition at Page 39. 5 A I'm there. 6 Q Okay. You see Figure 3B there at the 7 bottom of Page 39? 8 A Yes. 9 Q Okay. And let's go over to Page 40. So 10 we're still in the same cell. There's a paragraph 11 that begins, "A POSITA would have understood." 12 Do you see that? 13 A Yes. 14 Q Can you read that paragraph out loud? 15 A "A POSITA would have understood that 16 these techniques are used by the decrypt engine of 17 the firewall, in addition to and/or in combination 18 with various techniques described for destination 19 extraction for secure protocols, such as, for 20 example, provided in Figure 3A above." 21 Q Is it still your testimony that 22 petitioner never asserted a combination of Figures

77 1 3A and 3B? 2 A Yeah, so this Paragraph 92 in my 3 declaration has to be understood in the context of 4 the heading that precedes that; namely, in my 5 opinion, petitioner has not identified a single 6 instance where Buruganahalli teaches filtering 7 encrypted packets. And then I talk about the 8 board's analysis, citing to the Institution 9 Decision at 71, which is addressing that issue; 10 namely, what is Claim Limitation 1G, which 11 recites, Filtering the determined packets 12 comprising the encrypted data that corresponds to 13 one or more network-threat indicators. 14 And indeed in that analysis, it's not 15 citing to any support from the petition to say 16 that one would combine 3A and 3B. And instead, 17 the passage that you just pointed me to from the 18 petition is about Claim Limitation 1H, which is 19 about sending to the proxy device. 20 So that's -- that's what I meant by, 21 never asserted a combination of Buruganahalli's 22 Figure 3A and 3B; namely, that there's never a	79 1 there, did you? 2 A Not there. I addressed that issue here 3 instead. 4 Q And that is paragraphs -- what were they, 5 again? 6 A Ninety-two through 104. 7 Q Is there any other place in your petition 8 that you address this combination? 9 A I did not write the petition. 10 Q Excuse me, the declaration. 11 A I don't recall as I sit here today. If 12 there's other parts of my declaration you'd like 13 to point me to, I'd be happy to address any other 14 questions for that. 15 Q Let's go to Paragraph 137. 16 A I'm there. 17 Q In Paragraph 137 you mention a verdict. 18 Do you see that? 19 A Yes. 20 Q Do you know if that verdict has been 21 vacated? 22 A I have heard some discussion of that.
78 1 combination that's asserted that then would read 2 on this very important element of filtering 3 encrypted packets. 4 Q Well, to be clear, your conclusions in 5 this declaration are not based upon a combination 6 of Figures 3A and 3B. 7 Is that correct? 8 A I'm not -- I'm not following your 9 question. What do you mean? 10 Q You did not analyze combination of 11 Figures 3A and 3B in arriving at your conclusions 12 that you just went through. 13 Is that right? 14 MR. PRICE: Objection. 15 A No; that's incorrect. That 16 mischaracterizes. Because then I go on to talk 17 about this alleged combination in my Paragraphs 18 93, 94, 95, and then in some aspects also 96, 97 19 through 104. 20 Q But again going back to the figures that 21 you laid out at Pages 20 through 23, you did not 22 walk through the combination of Figures 3A and 3B	80 1 Q And in Paragraph 138 in sentence -- the 2 second sentence there that you see, "Long-felt 3 need"? 4 Do you see that? 5 A Where are you at now? 6 Q So the next paragraph, Paragraph 138. 7 A I'm there. 8 Q So the second sentence, "The Cisco press 9 release is evidence of long-felt need." 10 Do you see that? 11 A Yes. 12 Q Do you have an understanding of the legal 13 standard for long-felt need? 14 A Yes. 15 Q What is that understanding? 16 A It's in the context of what are often 17 referred to as secondary considerations, objective 18 evidence of nonobviousness, that one of those is a 19 long-felt need for the claimed invention. 20 Q But what is the specific legal framework 21 for meeting long-felt need? 22 A It sounds like you're asking me a legal

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81 1 question. I'm not a lawyer. 2 Q Right. But you conclude in that 3 paragraph that long-felt need is met, do you not? 4 A Yes. 5 Q So then how can you make a legal 6 conclusion if you're not an attorney? 7 A I got my understanding from attorneys. 8 Q And where is that expressed in your 9 declaration? 10 A Yeah, it appears to have been omitted. I 11 got -- 12 MR. McKEOWN: Let's take a break. Let's 13 take a 15-minute break. 14 MR. PRICE: Fine. Dr. Goodrich, were you 15 finished with your answer? 16 THE WITNESS: Yeah, that's fine. 17 MR. PRICE: Fifteen minutes? 18 MR. McKEOWN: Yeah. 19 MR. PRICE: Very good. 20 (A recess was taken.) 21 BY MR. McKEOWN: 22 Q Dr. Goodrich, during any of the breaks	83 1 any further questions. 2 MR. PRICE: Okay. We don't have any 3 redirect. 4 COURT REPORTER: Mr. Price, do you need a 5 copy? 6 MR. PRICE: Yeah, we'll take a copy. 7 COURT REPORTER: Do you need a rough 8 draft? 9 MR. PRICE: We'll take the rough whenever 10 it is ready. We don't need anything expedited. 11 But we'll take the versions when they're ready. 12 (Off the record at 2:19 p.m. EDT.) 13 14 15 16 17 18 19 20 21 22
82 1 today did you have any discussions with counsel 2 about the merits of your testimony today? 3 A No. And I'd like to amend my previous 4 answer. 5 Q Okay. What answer was that? 6 A The answer with respect to the question 7 regarding long-felt need, and my understanding of 8 that. 9 Q Okay. 10 A I'd like to amend that I also got my 11 understanding of long-felt need from the 12 Institution Decision, specifically Pages 46 and 13 Pages 72 through 79. 14 Q Okay. 15 A And my opinions here are in part a 16 response to that. 17 Q And that is the Institution Decision in 18 this proceeding, IPR2022-00182? 19 A Yeah. That's the exhibit that you 20 uploaded. 21 Q Okay. 22 MR. McKEOWN: All right. We don't have	84 1 ACKNOWLEDGMENT OF DEPONENT 2 I, MICHAEL T. GOODRICH, Ph.D., do hereby 3 acknowledge that I have read and examined the 4 foregoing testimony, and the same is a true, 5 correct and complete transcription of the 6 testimony given by me, and any corrections appear 7 on the attached Errata sheet signed by me. 8 9 _____ 10 (DATE) (SIGNATURE) 11 12 13 14 15 16 17 18 19 20 21 22

85 1 CERTIFICATE 2 I, Debra Ann Whitehead, E-Notary Public in and for 3 the State of Maryland, do hereby certify: 4 5 That MICHAEL T. GOODRICH, Ph.D., the 6 witness whose deposition is hereinbefore set forth, 7 was duly sworn by me before the commencement of such 8 deposition and that such deposition was taken 9 virtually and is a true record of the testimony 10 given by such witness. 11 12 I further certify that the adverse party, 13 CENTRIPETAL NETWORKS, INC., was represented by 14 counsel at the deposition. 15 16 I further certify that the deposition of 17 MICHAEL T. GOODRICH, Ph.D., occurred virtually, on 18 Friday, September 23, 2022, from 12:06 p.m. to 2:19 19 p.m. EDT. 20 21 22	
86 1 I further certify that I am not related to 2 any of the parties to this action by blood or 3 marriage, I am not employed by or an attorney to any 4 of the parties to this action, and that I am in no 5 way interested, financially or otherwise, in the 6 outcome of this matter. 7 8 IN WITNESS WHEREOF, I have hereunto set my 9 hand this 30th day of September, 2022. 10 11 My commission expires: 12 April 30th, 2023 13 14  15 <u>Debra Ann Whitehead</u> 16 E-NOTARY PUBLIC IN AND FOR THE 17 STATE OF MARYLAND 18 19 20 21 22	