

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

CISCO SYSTEMS, INC.,)
)
Petitioner,)
)
vs.) CASE NO. IPR2018-01386
)
CENTRIPETAL NETWORKS,) U.S. PATENT NO. 9,565,213
INC.,)
)
Patent Owner.)

TELEPHONIC DEPOSITION OF MICHAEL GOODRICH
ATLANTA, GEORGIA
JULY 17, 2019

REPORTED BY: TANYA L. VERHOVEN-PAGE, CCR-B-1790
JOB NO: 164504

<p style="text-align: right;">Page 2</p> <p>1 2 July 17, 2019 3 12:41 p.m. 4 5 Telephonic deposition of 6 MICHAEL GOODRICH, held at the offices 7 of Merchant & Gould, 191 Peachtree Street, 8 Atlanta, Georgia before Tanya L. Verhoven-Page, 9 Certified Court Reporter and Notary Public of 10 the State of Georgia. 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25</p>	<p style="text-align: right;">Page 3</p> <p>1 2 APPEARANCES OF COUNSEL 3 4 On behalf of the Petitioner: 5 MERCHANT & GOULD 6 191 Peachtree Street Northeast 7 Atlanta, GA 30303 8 BY: JEFFREY BLAKE, ESQ. 9 10 On behalf of the Patent Owner: 11 KRAMER LEVIN NAFTALIS & FRANKEL 12 1177 Avenue of the Americas 13 New York, NY 10036 14 BY: JEFFREY PRICE, ESQ. 15 (By Telephone) 16 - - - 17 18 19 20 21 22 23 24 25</p>
<p style="text-align: right;">Page 4</p> <p>1 2 I N D E X 3 4 WITNESS: MICHAEL GOODRICH 5 (By Telephone) 6 7 Examination Page 8 BY MR. BLAKE 5 9 BY MR. PRICE 132 10 BY MR. BLAKE 140 11 12 EXHIBITS: 13 (None offered.) 14 15 16 17 18 19 20 21 22 23 24 25</p>	<p style="text-align: right;">Page 5</p> <p>1 M. GOODRICH 2 ATLANTA, GEORGIA; WEDNESDAY, JULY 17, 2019 3 12:41 P.M. 4 5 Thereupon -- 6 MICHAEL GOODRICH, 7 called as a witness, having been first duly sworn, 8 was examined and testified as follows: 9 10 EXAMINATION 11 BY MR. BLAKE: 12 Q Good morning, Dr. Goodrich. My name is 13 Jeff Blake. I am an attorney at Merchant & Gould, 14 and I work out of our Atlanta office, and I represent 15 the petitioner in this IPR2018-01386, and I'm 16 representing Cisco Systems, Inc. 17 It's nice to meet you. 18 A Nice to meet you, too. 19 Q Can you hear me okay? 20 A Yes. 21 MR. BLAKE: Okay. First, I'd like 22 to start by just stating for the record 23 that we are conducting Dr. Goodrich's 24 deposition today by telephone with myself 25 and a court reporter, Tanya Page, located</p>

2 (Pages 2 to 5)

1 M. GOODRICH

2 here in the Atlanta offices of Merchant &
3 Gould, and Dr. Goodrich is located out in
4 California on the other end of the line,
5 and he is represented there by counsel
6 Jeffrey Price of Kramer Levin, who
7 represents the patent owners, Centripetal
8 Networks, Inc.

9 So, Jeff, if we could start out by
10 giving Dr. Goodrich a copy of his
11 Declaration, Exhibit 2004, in the IPR.

12 MR. PRICE: Okay. He has it in
13 front of him.

14 BY MR. BLAKE:

15 Q Dr. Goodrich, do you understand why
16 you're here today?

17 A I believe so.

18 Q What's --

19 A I believe I'm here to be deposed with
20 respect to this Declaration that is in front of me
21 now.

22 Q It's a Declaration that you provided; is
23 that correct?

24 A Yes, that's correct.

25 Q Does the Declaration accurately represent

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2 your opinions in this matter?

3 A Yes.

4 Q Is there anything you'd like to change
5 about the Declaration?

6 A In reviewing it yesterday with counsel, I
7 noticed a few typos, but I believe those are going to
8 be clear from context. So other than that, I don't
9 have any substantial changes that I would like to
10 make at this time.

11 Q Well, if, as we're discussing anything
12 today, you come across the typos, you can feel free
13 to point them out to me and we'll make a note of
14 them, but otherwise I'll consider it that the
15 substance of your Declaration remains the same; is
16 that fair?

17 A Yes, that sounds fair to me.

18 Q Okay. I'd like to start, Dr. Goodrich,
19 by looking to Paragraph 216 of your Declaration,
20 which is on page 106.

21 A I'm there.

22 Q In Paragraph 216, do you see a reference
23 to Centripetal's QuickThreat Gateway?

24 A Yes.

25 Q Okay. Could you explain to me what that

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2 is?

3 A So that's something that I cite from this
4 Exhibit 2007, where it summarizes: The QuickThreat
5 Gateway appliance performs analytics and provides
6 threat alerts by leveraging Centripetal Network's
7 QuickThreat manager solution, which correlates and
8 visualizes threats by factors such as severity,
9 reliability, and geography.

10 Q Okay. Have you, yourself, ever used the
11 QuickThreat Gateway product?

12 A No, I have not.

13 Q Okay. Before this IPR, did you -- had
14 you ever heard of the QuickThreat Gateway product?

15 A No, I had not.

16 Q Later on in Paragraph 216, there's a
17 reference in the last sentence to a threat
18 intelligence gateway called RuleGate.

19 Do you see that?

20 A Yes.

21 Q Is the threat intelligence gateway
22 product different than Centripetal's QuickThreat
23 Gateway product?

24 A As I sit here today, I'm not recalling.

25 Q Have you ever used Centripetal's threat

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2 intelligence gateway product or RuleGate product?

3 A No, I have not.

4 Q Had you ever heard of it before this IPR?

5 A I believe it came up in a trial that I
6 was a part of last year, as I recall. It was
7 mentioned as a part of the technology that
8 Centripetal has developed and received industry
9 praise for.

10 Q Who were the -- who were the parties in
11 that trial?

12 A That was Centripetal and the defendant.
13 I'm blanking on the defendant right now.

14 Q Was it Keysight Technologies?

15 A That was it, Keysight, yes. Sorry.

16 Q Before the -- what I'll call the Keysight
17 litigation, had you heard of Centripetal threat
18 intelligence gateway RuleGate product?

19 A No, I had not.

20 Q Okay. I think, as you'll recall from
21 your Declaration, we have all agreed that the
22 priority date for the '213 patent that's at issue in
23 this IPR is August -- is -- excuse me -- April 16th,
24 2014. And I believe that is confirmed in Paragraph
25 46 of your Declaration, on page 18.

<p style="text-align: right;">Page 10</p> <p>1 M. GOODRICH</p> <p>2 Does that sound right to you?</p> <p>3 A Yes, that is accurate. Wait. Say the</p> <p>4 dates again?</p> <p>5 Q Sure. Well, your Declaration in</p> <p>6 Paragraph 46 says August 16th, 2014.</p> <p>7 A Yes, that's correct.</p> <p>8 Q Okay. Just one second.</p> <p>9 MR. BLAKE: Jeff, could you provide</p> <p>10 Dr. Goodrich with a copy of Exhibit 1001,</p> <p>11 which I believe is United States Patent</p> <p>12 No. 9,565,213.</p> <p>13 MR. PRICE: Yes. He has it in</p> <p>14 front of him.</p> <p>15 MR. BLAKE: Okay.</p> <p>16 BY MR. BLAKE:</p> <p>17 Q Dr. Goodrich, do you recognize this</p> <p>18 patent?</p> <p>19 A Yes. This appears to be the patent I</p> <p>20 referred to as the '213 patent.</p> <p>21 Q And do you see in the left-hand column of</p> <p>22 the front page, by line number 22, where it says</p> <p>23 Filed April 16th, 2014?</p> <p>24 A Yes, I see that.</p> <p>25 Q Do you understand that to be the filing</p>	<p style="text-align: right;">Page 11</p> <p>1 M. GOODRICH</p> <p>2 date of the application for this patent?</p> <p>3 A Yes.</p> <p>4 Q Okay. Comparing what it says there to</p> <p>5 Paragraph 46 of your Declaration, where you say the</p> <p>6 '213 patent was filed on August 16th, 2014, whereas</p> <p>7 the patent itself says it was filed on April 16th of</p> <p>8 2014, do you see that?</p> <p>9 A Yes.</p> <p>10 Q Is that a typo in your Declaration?</p> <p>11 A Yes. Yes, this is one of the typos I had</p> <p>12 mentioned earlier.</p> <p>13 Q Okay.</p> <p>14 A It should be April 16th.</p> <p>15 And likewise, I repeat that same typo in</p> <p>16 Paragraph 47.</p> <p>17 Q Okay. No problem. So let's use</p> <p>18 April 14th, 2014 -- or excuse me. Let me start over.</p> <p>19 Let's use April 16th, 2014 as what we</p> <p>20 call the priority date; is that fair?</p> <p>21 A Yes.</p> <p>22 Q Before the priority date for the '213</p> <p>23 patent, had you ever herd of Centripetal Networks?</p> <p>24 A Not to my recollection as I'm sitting</p> <p>25 here today.</p>
<p style="text-align: right;">Page 12</p> <p>1 M. GOODRICH</p> <p>2 Q Have you ever, at any point in time, used</p> <p>3 any of their products?</p> <p>4 A No.</p> <p>5 Q Have you ever implemented any of their</p> <p>6 products in any way?</p> <p>7 A Not to my recollection as I sit here</p> <p>8 today.</p> <p>9 Q In 2014, do you know how many of</p> <p>10 Centripetal's products were sold on the market?</p> <p>11 A I don't recall, as I sit here today.</p> <p>12 Q Okay. Do you have any idea now, at the</p> <p>13 current time, what are the annual sales of</p> <p>14 Centripetal products?</p> <p>15 A No, it's not something that I have</p> <p>16 studied.</p> <p>17 Q Okay. Are you aware of who are the major</p> <p>18 competitors of Centripetal's products?</p> <p>19 A I'm aware of obviously Cisco, who is in</p> <p>20 this -- party of this litigation; Keysight, which was</p> <p>21 a party in the litigation we just mentioned.</p> <p>22 Those are the two that are immediately</p> <p>23 coming to mind.</p> <p>24 Q Have you ever performed any comparison of</p> <p>25 the Cisco products to Centripetal's products?</p>	<p style="text-align: right;">Page 13</p> <p>1 M. GOODRICH</p> <p>2 A I'm not sure I understand your question,</p> <p>3 what do you mean by comparison?</p> <p>4 I've done some evaluations as a part of</p> <p>5 my, you know, analysis in that previous case to other</p> <p>6 products.</p> <p>7 Q Okay. Outside the scope of litigation</p> <p>8 consulting, have you performed any analysis of the</p> <p>9 capabilities of, say, Cisco products against the</p> <p>10 Centripetal products?</p> <p>11 MR. PRICE: Objection to the extent</p> <p>12 that it calls for privileged</p> <p>13 communications, but otherwise you can</p> <p>14 answer.</p> <p>15 THE WITNESS: I'm not recalling, as</p> <p>16 I sit here today, having ever done that.</p> <p>17 BY MR. BLAKE:</p> <p>18 Q Okay. Outside the scope of litigation</p> <p>19 consulting, have you ever performed a comparison of</p> <p>20 the capabilities of Keysight Technologies' products</p> <p>21 versus the Centripetal products?</p> <p>22 A As I'm sitting here today, I'm not</p> <p>23 recalling having done that outside of litigation.</p> <p>24 Q In your experience over time, have you</p> <p>25 ever, yourself, designed an intrusion detection</p>

4 (Pages 10 to 13)

<p style="text-align: right;">Page 14</p> <p>1 M. GOODRICH</p> <p>2 device?</p> <p>3 MR. PRICE: Objection. Foundation.</p> <p>4 THE WITNESS: Didn't I -- I have</p> <p>5 over 300 publications that I've listed in</p> <p>6 my CV, some of which do deal with</p> <p>7 intrusion detection, and I include in</p> <p>8 those papers designs for possible</p> <p>9 intrusion detection systems.</p> <p>10 So if you want, I can go into</p> <p>11 details on any of those, if you are</p> <p>12 interested.</p> <p>13 BY MR. BLAKE:</p> <p>14 Q Have you ever built an intrusion</p> <p>15 detection system?</p> <p>16 A When you say built, are you talking about</p> <p>17 a physical product?</p> <p>18 Q Correct.</p> <p>19 A No. I have not built a physical product</p> <p>20 that would be an intrusion detection device.</p> <p>21 Q Okay. Have you ever worked with anyone</p> <p>22 in the industry to build a product like that?</p> <p>23 A I have worked in industry to build</p> <p>24 network devices that would be on the, you know,</p> <p>25 periphery of a network to do tasks that would be</p>	<p style="text-align: right;">Page 15</p> <p>1 M. GOODRICH</p> <p>2 related to intrusion detection, such as</p> <p>3 authentication and verifying digital certificates</p> <p>4 that could be part of an intrusion detection system.</p> <p>5 And we did build a prototype for that, in cooperation</p> <p>6 with some developers.</p> <p>7 But beyond that, I'm not recalling</p> <p>8 anything else as I sit here today.</p> <p>9 Q You said they did authentication and what</p> <p>10 else?</p> <p>11 A Verification of digital certificates.</p> <p>12 Q And is this one instance you're referring</p> <p>13 to or is this multiple different projects you're</p> <p>14 referring to?</p> <p>15 A This was one sort of series of projects</p> <p>16 that started with a patent that I'm a coinventor on,</p> <p>17 that then we had funding from the Department of</p> <p>18 Defense, the DARPA organization, that then we further</p> <p>19 developed that technology and spun it out to a</p> <p>20 startup that then built this prototype that I'm</p> <p>21 discussing now.</p> <p>22 Q Okay. Were you involved in the actual</p> <p>23 building of the prototype?</p> <p>24 A Yes.</p> <p>25 Q Okay. What's the name of the spin-out --</p>
<p style="text-align: right;">Page 16</p> <p>1 M. GOODRICH</p> <p>2 spin-off company that ultimately -- well, I guess the</p> <p>3 startup company that built the prototype?</p> <p>4 A It's called Algomagic, A-l-g-o-m-a-g-i-c.</p> <p>5 Q Was the product ever marketed?</p> <p>6 A Yes. It was marketed.</p> <p>7 Q What's the name of the marketed product?</p> <p>8 A I think we called it the IM Device,</p> <p>9 something like this, as I recall.</p> <p>10 Q When did this take place?</p> <p>11 A So this was in the range of years from</p> <p>12 2000 to 2005.</p> <p>13 Q How many of the IM Devices were</p> <p>14 ultimately sold?</p> <p>15 A We did not sell any of the devices, we</p> <p>16 just built the prototype. It never was a commercial</p> <p>17 success.</p> <p>18 Q Did the IM Device perform intrusion</p> <p>19 detection?</p> <p>20 A It could be part of an intrusion</p> <p>21 detection system because it's -- its task was in</p> <p>22 verifying and validating data and digital</p> <p>23 certificates that they would be correct.</p> <p>24 So if somebody was coming in and trying</p> <p>25 to intrude into a system with invalid credentials,</p>	<p style="text-align: right;">Page 17</p> <p>1 M. GOODRICH</p> <p>2 our system would detect that.</p> <p>3 Q Was the IM Device ever implemented as</p> <p>4 part of an intrusion detection system?</p> <p>5 A We did implement prototypes that --</p> <p>6 focusing exclusively on intrusion detection.</p> <p>7 Q Explain what you mean by that.</p> <p>8 A Our primary potential market was the</p> <p>9 single sign-on market, where people could sign on and</p> <p>10 present their certificates as a part of an</p> <p>11 enterprise, let's say -- maybe a dongle that they</p> <p>12 carry in their pocket -- and then not have to repeat</p> <p>13 that over and over again as they surf the web. So we</p> <p>14 were working on technology that would be a part of</p> <p>15 that.</p> <p>16 And if by intrusion detection you mean</p> <p>17 people that would be trying to break into such a</p> <p>18 system with invalid certificates, then that would</p> <p>19 qualify; otherwise, it would not.</p> <p>20 Q Okay. If I restrict it to packet</p> <p>21 filtering technology, was the IM Device ever used or</p> <p>22 implemented as part of a system that did packet</p> <p>23 filtering?</p> <p>24 A Not to my knowledge.</p> <p>25 Q Have you ever developed any other devices</p>

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that were used for packet filtering technology?

A I have written research papers on that subject, but in terms of developing physical devices, no.

Q If we look at Paragraph 207 of your Declaration --

A I'm there.

Q -- the sentence there reads: The '213 patent satisfied a long-felt need in the industry that others have failed to solve - namely how to provide proactive network protection that could scale to larger networks.

A I see that.

Q What's your basis for concluding that the patent satisfied a long-felt need in the industry? In other words, what examples of that satisfying need do you know of?

A Yeah, so the basis for that is, first, the statement in the patent itself. So that's -- at least it's claiming to satisfy a long-felt need.

And then, the following paragraph where I cite this report that talks about and implies -- for example, looking at this chart on page 101 of my report, that speaks to that long-felt need.

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Q Okay. So the report you're referring to would be the presentation by Stanley Chincheck, which is at Exhibit 2013?

A That is correct.

Q If we could take a look at Exhibit 2013.

For the record, it is a presentation entitled Computer Network Defense/Information Assurance (CND/IA) Enabling Capability (EC) Industry Day, BAA 10-004 by Stanley Chincheck, C-h-i-n-c-h-e-c-k.

A I see that. I have that in front of me.

Q Dr. Goodrich, were you present when this presentation was given by Mr. Chincheck?

A No, I was not.

Q Okay. Were you aware of this presentation prior to the priority date for the '213 patent?

A Not as I recall sitting here today.

Q Okay. Did you locate this presentation or was it provided to you by Centripetal's counsel?

A This presentation was provided to me.

Q Okay. Are Centripetal's products ever discussed in Exhibit 2013?

A I'm not seeing that these presentation

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slides are mentioning the products of any company, which is, in my experience, not uncommon for BAA, which is what is being listed on the first page for this presentation.

Q Why would you say it's not uncommon for BAA?

A Because a BAA is what the Department of Defense refers to as a Broad Agency Announcement, where it's announcing an area -- a broad area of interest that's -- could be a subject that they want to fund, such as when I got funding from the Department of Defense. And so in industry and academia will respond to these BAAs by submitting either pre-proposals or full proposals that then are funded or not.

But the purpose of a BAA isn't necessarily to review technology of specific companies, but instead to lay the foundation of a problem -- in this case, what I'm opining is a long-felt need -- that needs to be solved.

Q Are you familiar from your work in the IPR with what we have referred to as the Narayanaswamy patent application, which is Exhibit 2012?

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A Yes, that's one of the materials that I studied for this work.

Q Is the Narayanaswamy reference mentioned in the BAA that is Exhibit 2013?

A I'm not seeing it as I'm leafing through it sitting here today.

Q Similarly, you're familiar with the Kapoor patent application in this IPR that's Exhibit 2013?

A That is correct.

Q And Kapoor is not mentioned in the BAA that's Exhibit 2013, is it?

A I'm not seeing it here as I sit here today.

Q All right. We can put Exhibit 2013 to the side, and I'd like to then move to -- back to your Declaration, Paragraph 209.

A I'm there.

Q The last sentence of Paragraph 209 reads: This inability for traditional systems to provide proactive, scalable network protection services was the same problem identified in the Background section of the '213 patent.

Do you see that?

<p style="text-align: right;">Page 22</p> <p>1 M. GOODRICH</p> <p>2 A I do see that.</p> <p>3 Q Is it your position that, as of the</p> <p>4 priority date for the '213 patent, no one else in the</p> <p>5 industry had marketed a security product that</p> <p>6 provides proactive network protection?</p> <p>7 A Not in the way that's described in the</p> <p>8 '213 patent, no.</p> <p>9 Q Okay. But putting aside the way that</p> <p>10 it's described in the '213 patent, were there any</p> <p>11 other network intrusion detection products being</p> <p>12 marketed as of the priority date for the '213 patent</p> <p>13 that would have provided proactive network protection</p> <p>14 services?</p> <p>15 MR. PRICE: Objection.</p> <p>16 THE WITNESS: Could you repeat the</p> <p>17 question, please.</p> <p>18 (The last question was read back into the record.).</p> <p>19 THE WITNESS: I believe the passage</p> <p>20 that I'm citing to here in the '213</p> <p>21 patent is acknowledging the existence of</p> <p>22 what could be called proactive solutions</p> <p>23 before that, but they weren't scalable to</p> <p>24 larger networks.</p> <p>25 And that's -- when I'm talking</p>	<p style="text-align: right;">Page 23</p> <p>1 M. GOODRICH</p> <p>2 about the way that the '213 patent is</p> <p>3 providing a proactive solution, it's a</p> <p>4 scalable solution. That also speaks to</p> <p>5 this ESG paper that talks about the</p> <p>6 scalability of the Centripetal solution.</p> <p>7 BY MR. BLAKE:</p> <p>8 Q So it's your position that the</p> <p>9 scalability of the solution in the '213 patent was</p> <p>10 the novel feature?</p> <p>11 MR. PRICE: Objection. Misstates</p> <p>12 testimony.</p> <p>13 THE WITNESS: That's not what I'm</p> <p>14 saying. I'm saying, instead, that that</p> <p>15 is a novel feature and a benefit of the</p> <p>16 patent, but there are others.</p> <p>17 BY MR. BLAKE:</p> <p>18 Q What others?</p> <p>19 A I cite to many in my report. Many of the</p> <p>20 claims of the '213 patent work in concert to provide</p> <p>21 several benefits, such as the logging features</p> <p>22 together with the processing in a packet-by-packet</p> <p>23 basis, which I also found novel, and others, as I</p> <p>24 mentioned in my report, or my Declaration rather.</p> <p>25 Q So can we look at the '213 patent, which</p>
<p style="text-align: right;">Page 24</p> <p>1 M. GOODRICH</p> <p>2 is Exhibit 1001?</p> <p>3 A I have that in front of me.</p> <p>4 Q Okay. Column 25 has Claim 1.</p> <p>5 A I am there.</p> <p>6 Q And in Claim 1, from lines -- which is in</p> <p>7 column 25 -- lines 32 through 50, there is a</p> <p>8 discussion of implementing a packet-transformation</p> <p>9 function that includes packet digest logging.</p> <p>10 Do you see that?</p> <p>11 A Yes, I see that.</p> <p>12 Q These specific packet digest logging</p> <p>13 features that are claimed in Claim 1, where are they</p> <p>14 discussed in the ESG paper that's Exhibit 2006?</p> <p>15 A So I cite to that in my Declaration in</p> <p>16 Paragraph 210. I cite to this portion from the ESG</p> <p>17 paper which is Exhibit 2006, page seven, which talks</p> <p>18 to -- and I even bolded this -- logging, content</p> <p>19 capture, mirroring, redirection, shielding and</p> <p>20 advance threat detection.</p> <p>21 And that's in summary form. Obviously,</p> <p>22 this is a report that's trying to summarize the</p> <p>23 benefits of the Centripetal technology. It's</p> <p>24 addressing the same things that now are being claimed</p> <p>25 in Claim 1 in that passage that you just directed me</p>	<p style="text-align: right;">Page 25</p> <p>1 M. GOODRICH</p> <p>2 to.</p> <p>3 Q So part of that passage of Claim 1, in</p> <p>4 column 25, lines 38 to 41, recites: Identifying a</p> <p>5 subset of information specified by the packet digest</p> <p>6 logging function for each of the one or more packets</p> <p>7 comprising the application-layer packet-header</p> <p>8 information.</p> <p>9 Do you see that?</p> <p>10 A Yes.</p> <p>11 Q Where is that taught in the ESG paper?</p> <p>12 A It's what I just read to you. The</p> <p>13 logging, content capture, mirroring, redirection,</p> <p>14 shielding and advance threat detection.</p> <p>15 Q So just by using the word logging, it's</p> <p>16 your position that you would understand that that</p> <p>17 includes identifying a subset of information</p> <p>18 specified by the packet digest logging function for</p> <p>19 each of the one or more packets comprising the</p> <p>20 application-layer packet-header information?</p> <p>21 MR. PRICE: Objection. Misstates</p> <p>22 testimony.</p> <p>23 THE WITNESS: No, that's not what</p> <p>24 I'm saying.</p> <p>25 I'm saying that that entire</p>

7 (Pages 22 to 25)

<p style="text-align: right;">Page 26</p> <p>1 M. GOODRICH</p> <p>2 paragraph, in the context of describing</p> <p>3 Centripetal's technology, is inclusive of</p> <p>4 now this step of the patent that you just</p> <p>5 read.</p> <p>6 BY MR. BLAKE:</p> <p>7 Q So would a person of ordinary skill in</p> <p>8 the art understand that this particular limitation in</p> <p>9 column 25, part of Claim 1 in the '213 patent, is</p> <p>10 disclosed in this citation from Paragraph 7 of the</p> <p>11 ESG paper?</p> <p>12 A I don't believe that's what I'm</p> <p>13 explaining.</p> <p>14 Instead, what I'm explaining is that this</p> <p>15 limitation of the identifying step is inclusive in</p> <p>16 this praise that is coming from the ESG Paper. It's</p> <p>17 a part of that system that is the Centripetal network</p> <p>18 solution.</p> <p>19 Q How do you know that?</p> <p>20 A Based on this -- this statement. It's --</p> <p>21 the purpose -- as I read this white paper, it's not</p> <p>22 to try to give a detailed summary of every step of a</p> <p>23 solution, but instead to take a high level picture</p> <p>24 and provide an assessment of that, which, in this</p> <p>25 case, is providing praise to the Centripetal network</p>	<p style="text-align: right;">Page 27</p> <p>1 M. GOODRICH</p> <p>2 solution.</p> <p>3 And based on that high level description</p> <p>4 and my reading of the patent and my analysis of the</p> <p>5 patent, I believe that there is, indeed, a connection</p> <p>6 there or a nexus, as some people say, between the</p> <p>7 limitations of the patent, the benefits of the</p> <p>8 patent, and what is being described here in this</p> <p>9 white paper.</p> <p>10 Q You would agree that the white paper</p> <p>11 doesn't specifically disclose the limitation,</p> <p>12 correct?</p> <p>13 A Correct. It doesn't have those words</p> <p>14 from the patent itself.</p> <p>15 Q But it's your --</p> <p>16 A I think that it wouldn't it be implicit,</p> <p>17 as a part of that, all those steps that go into those</p> <p>18 things, like logging, content capture and mirroring.</p> <p>19 Q Okay.</p> <p>20 A And redirection.</p> <p>21 Q Okay. So similarly, the next limitation,</p> <p>22 the generating, for each of the one or more packets</p> <p>23 comprising the application-layer packet-header</p> <p>24 information, a record comprising the subset of</p> <p>25 information specified by the packet digest logging</p>
<p style="text-align: right;">Page 28</p> <p>1 M. GOODRICH</p> <p>2 function is a limitation that's in column 25, lines</p> <p>3 42 to 45.</p> <p>4 Do you see that?</p> <p>5 A I do see that.</p> <p>6 Q And you would agree that that limitation</p> <p>7 is not disclosed in the ESG Paper, correct?</p> <p>8 A Not word by word, but instead in summary.</p> <p>9 As I mentioned, this white paper is a high level</p> <p>10 description that's talking about the benefits of the</p> <p>11 Centripetal technology that that's -- that specific</p> <p>12 limitation now is one part of.</p> <p>13 Q Okay. The next limitation which</p> <p>14 discloses in column 25, Claim 1 of the '213 patent,</p> <p>15 lines 46 to 51 discloses: Reformatting, for each of</p> <p>16 the one or more packets comprising the</p> <p>17 application-layer packet-header information, the</p> <p>18 subset of information specified by the packet digest</p> <p>19 logging function in accordance with a logging system</p> <p>20 standard.</p> <p>21 Do you see that?</p> <p>22 A I do.</p> <p>23 Q That's not specifically disclosed in the</p> <p>24 ESG Paper, is it?</p> <p>25 A Not word for word, no. Again, at a high</p>	<p style="text-align: right;">Page 29</p> <p>1 M. GOODRICH</p> <p>2 level, as I mentioned for the other limitations.</p> <p>3 Q Okay. But it's your position that it</p> <p>4 would be understood to be there by a person of</p> <p>5 ordinary skill in the art?</p> <p>6 A That there would be --</p> <p>7 MR. PRICE: Objection.</p> <p>8 THE WITNESS: It's my opinion that</p> <p>9 there would be this connection that</p> <p>10 you'd -- that a person of ordinary skill</p> <p>11 in the art would see, that what is being</p> <p>12 described and praised here in this ESG</p> <p>13 paper is this invention. It's, again, at</p> <p>14 a very high level, but it's being</p> <p>15 described here.</p> <p>16 BY MR. BLAKE:</p> <p>17 Q Okay. And looking to the last element of</p> <p>18 Claim 1 of the '213 patent, which is in column 25,</p> <p>19 lines 51 through 55, the element recites: Routing by</p> <p>20 the packet security gateway on a packet-by-packet</p> <p>21 basis to a monitoring device, each of the one or more</p> <p>22 packets corresponding to the application-layer</p> <p>23 packet-header information in response to performing</p> <p>24 the packet-transformation function.</p> <p>25 Do you see that?</p>

8 (Pages 26 to 29)

<p style="text-align: right;">Page 30</p> <p>1 M. GOODRICH</p> <p>2 A I do see that.</p> <p>3 Q That's not specifically disclosed in the</p> <p>4 ESG Paper, is it?</p> <p>5 A Not word for word. Again, it's</p> <p>6 describing technology that includes that at a very</p> <p>7 high level.</p> <p>8 Q If we could look at Paragraph 211 of your</p> <p>9 Declaration.</p> <p>10 A I'm there.</p> <p>11 Q Last line on page 103, running over to</p> <p>12 the first line of page 104, there is a sentence that</p> <p>13 is talking about the dynamic security policy that's</p> <p>14 distinguished from prior art dynamic security</p> <p>15 policies.</p> <p>16 Do you see that sentence?</p> <p>17 A I do see the sentence that begins, The</p> <p>18 dynamic security policy is distinguished from prior</p> <p>19 art security policies, and then goes on.</p> <p>20 Q Correct. I want to talk briefly about</p> <p>21 that sentence.</p> <p>22 There is a parenthetical here that talks</p> <p>23 about CTI. Do you see that?</p> <p>24 A Yes.</p> <p>25 Q What does CTI stand for?</p>	<p style="text-align: right;">Page 31</p> <p>1 M. GOODRICH</p> <p>2 A It stands for cyber threat intelligence.</p> <p>3 Q Okay. And at the top of the next page,</p> <p>4 there's the acronym SPM.</p> <p>5 Do you see that?</p> <p>6 A Yes.</p> <p>7 Q What does that refer to?</p> <p>8 A Oh, that's an acronym I use for the</p> <p>9 security policy management, and then we could add an</p> <p>10 S and say it's a security policy management server.</p> <p>11 Q Okay. When talking about the CTI, you</p> <p>12 have a -- you refer to it -- an explanatory</p> <p>13 parenthetical here that explains it to be: CTI as</p> <p>14 new network addresses associated with malicious</p> <p>15 network traffic.</p> <p>16 Do you see that?</p> <p>17 A Yes, I do see that.</p> <p>18 Q As of the priority date for the '213</p> <p>19 patent, were there other security products on the</p> <p>20 market besides anything from Centripetal Networks</p> <p>21 that would receive new network addresses associated</p> <p>22 with malicious activity as part of their packet</p> <p>23 filtering processes?</p> <p>24 A As I sit here today, nothing is coming</p> <p>25 immediately to mind, but if you had a reference, I'd</p>
<p style="text-align: right;">Page 32</p> <p>1 M. GOODRICH</p> <p>2 be happy to examine that.</p> <p>3 Q And as of the priority date of 2000 --</p> <p>4 well, the priority date of the '213 patent, were</p> <p>5 there other security products on the market that made</p> <p>6 use of a security policy management server?</p> <p>7 A Not to my knowledge as I'm sitting here</p> <p>8 today.</p> <p>9 Q In your Declaration in Paragraph 213,</p> <p>10 there's a sentence at the bottom of page 104 that</p> <p>11 starts: The best-in-class performance of</p> <p>12 Centripetal's TIG.</p> <p>13 Do you see that?</p> <p>14 A Yes.</p> <p>15 Q What does the acronym TIG stand for?</p> <p>16 A My recollection is that it's intelligence</p> <p>17 gateway, but -- that's what I'm recalling as I sit</p> <p>18 here today.</p> <p>19 Q What's the basis for your conclusion that</p> <p>20 Centripetal's threat intelligence gateway had</p> <p>21 "best-in-class performance"?</p> <p>22 A Where are you citing that? I'm sorry. I</p> <p>23 didn't see that.</p> <p>24 Q Sure. In Paragraph 213 of your</p> <p>25 Declaration?</p>	<p style="text-align: right;">Page 33</p> <p>1 M. GOODRICH</p> <p>2 A Yes.</p> <p>3 Q The sentence -- last sentence on page 104</p> <p>4 recites: The best-in-class performance of</p> <p>5 Centripetal's TIG owes much to the fact that the</p> <p>6 claimed dynamic security policies implement rules on</p> <p>7 a packet-by-packet basis.</p> <p>8 Do you see that?</p> <p>9 A Yes, I do see that.</p> <p>10 Q What's the basis for your conclusion that</p> <p>11 Centripetal's TIG had "best-in-class performance"?</p> <p>12 A It's this passage that I cited just</p> <p>13 before that sentence. It's the ESG paper, pages</p> <p>14 seven and eight. For example, the paragraph on the</p> <p>15 bottom of page seven speaks to that.</p> <p>16 Q Okay. Anything else?</p> <p>17 A There's also this paragraph on page eight</p> <p>18 that talks about how the ESG validated their</p> <p>19 performance.</p> <p>20 Q Okay. Turning back to your Declaration,</p> <p>21 I want to turn to much earlier in the Declaration, to</p> <p>22 discuss the section about person of ordinary skill in</p> <p>23 the art on page 18 -- pages 18 and 19, paragraphs 47</p> <p>24 to 49.</p> <p>25 A I'm there.</p>

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2 Q In Paragraph 48 of your Declaration, you
3 provide your definition of a person of ordinary skill
4 in the art; is that correct?

5 A Yes, that's correct.

6 Q Do you believe that you qualify as a
7 person of ordinary skill in the art under this
8 definition?

9 A I believe I'm at least a person of
10 ordinary skill in the art, yes.

11 Q And your definition has two prongs to it.
12 It says that a person would be someone with a
13 Bachelor's degree in computer science or a related
14 field and either two or more years of industry
15 experience and/or an advanced degree in computer
16 science or related field.

17 Do you see that?

18 A Yes.

19 Q Which of these two prongs do you qualify
20 under to be a POSA?

21 A I qualify under both.

22 Q Okay. Could you detail for me the two or
23 more years of industry experience that you have?

24 A It's that work with that startup company
25 that we spoke of earlier from 2000 to 2005.

1 M. GOODRICH

2 Q Okay. Anything else.

3 A I've also done consulting on a scientific
4 basis throughout my career. Some of that is
5 highlighted in my CV when I talk about my scientific
6 consulting work. So, for example, I've consulted
7 with Disney Animation Studios, working on things that
8 would go into their products, which are movies, and
9 other -- other work I've done.

10 It's on page 27 of my CV, going to page
11 28, which are pages 140 and 141 of Exhibit 2004.

12 Q So the consulting that you're -- that you
13 note here on pages 27 and 28, which of these specific
14 consulting assignments related to packet filtering
15 technology?

16 A I'm not recalling, as I sit here today,
17 which of those.

18 The APAC Security, obviously, involves
19 some security. Algomagic involved the processing of
20 credentials on a network. We talked about that
21 earlier today already. The others, I'm not recalling
22 if it involved packet security.

23 Q Okay. And APAC Security, what type of
24 work did that specifically involve?

25 A I'm not recalling the details of that, as

1 M. GOODRICH

2 I sit here today.

3 Q Was it intrusion detection work?

4 A As I say, I'm not recalling. That was a
5 long time ago, so I'm not recalling the details of
6 that as I sit here today.

7 Q On page -- do you recall if it -- excuse
8 me.

9 The APAC work, do you recall if it
10 involved any packet filtering technology?

11 A I don't recall, as I sit here today.

12 Q On page 28 of your CV, you list some
13 technical expert consulting relationships.

14 Do you see that?

15 A Yes.

16 Q Is this still current? Are there any
17 updates to it?

18 A There might be some updates. Yeah. No,
19 there are some updates. This is an older CV.

20 Q Additional litigations or IPR work for
21 which you're providing consulting?

22 A That's correct.

23 Q How many new cases are out there?

24 A I think one or two, you know, just a
25 small number.

1 M. GOODRICH

2 Q Any additional cases for Centripetal
3 Networks?

4 A Possibly. It's an open contract, so as
5 work comes along they -- they're allowed to ask me to
6 do other tasks.

7 Q Okay. Are you doing other litigation
8 work for them?

9 A Let's see. It's possible. It would be
10 on hold right now, but there's things that could be
11 coming in the future. Like I say, it's an open
12 contract.

13 Q Okay. Are you doing any work in any
14 litigations for Centripetal other than the Cisco and
15 Keysight litigations that have already been filed?

16 A Not to my recollection, as I'm sitting
17 here today.

18 Q Are you doing any work for Centripetal
19 for IPRs that have been filed other than the IPRs
20 that were filed by Cisco Systems?

21 A I think all the ones that I'm on are ones
22 that are filed by Cisco, but I'm not immediately
23 recalling this. There's been several of them.

24 Q If you look at your Technical Consulting,
25 about a little past halfway down there's a case that

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 2 started in 2016 for Acceleration Bay, LLC.
 3 Do you see that?
 4 A Yes.
 5 Q And you were working with counsel at
 6 Kramer Levin.
 7 Do you see that?
 8 A Yes.
 9 Q And then there's another matter on 2016
 10 for Finjan, right below it, where you're working with
 11 Kramer Levin?
 12 A That is correct.
 13 Q And obviously, the current matter you're
 14 working with Kramer Levin, correct?
 15 A Yes.
 16 Q Are there any other matters on which you
 17 are working with Kramer Levin for clients?
 18 A I think I just signed a retention
 19 agreement to do another one, the very recent one
 20 that's not on this list.
 21 Q Okay. If we look at the front page of
 22 your CV --
 23 A Okay. I'm there.
 24 Q -- it lists that you got a Ph.D. in 1987;
 25 is that correct?

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 2 been a full-time employee of anyone in industry?
 3 A No.
 4 Q Looking back in your -- along the same
 5 lines, back in your Declaration at Paragraph 3 --
 6 A I'm there.
 7 Q -- it refers to -- maybe about the third
 8 sentence -- that you're the technical director for
 9 the Center of Algorithms and Theory of Computation in
 10 the Donald Bren School of Information and Computer
 11 Sciences at the University of California Irvine.
 12 Do you see that?
 13 A Yes.
 14 Q What's involved with your work as the
 15 technical director for the Center for Algorithms and
 16 Theory of Computation?
 17 A So that work is related to the research I
 18 do with graduate students. I oversee the technical
 19 work of several Ph.D. students working in our center.
 20 I also run a weekly seminar where we have the
 21 students present research papers and discuss them and
 22 then we give feedback on their presentations. I also
 23 invite invited speakers to come in and give
 24 presentations on a technical basis to the members of
 25 our center, as well as the broader community at the

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 2 A Yes, that's correct.
 3 Q And you immediately went to work as an
 4 assistant professor at Johns Hopkins; is that right?
 5 A Yes, that is accurate.
 6 Q And you were there until -- I can't tell
 7 if -- that you were there until June of 2001 or 2002?
 8 A So, this is a very common -- faculty will
 9 leave one place. They'll cease being a full-time
 10 employee, but then be what's called on leave, which
 11 means that the position that they vacated is held
 12 open and they can immediately return to it and become
 13 an employee again.
 14 So that's what occurred in July of 2001.
 15 I went on leave from Johns Hopkins, but technically
 16 still had an employee relationship. There was no a
 17 salary attached to it, no time, but then I officially
 18 resigned in June of 2002.
 19 Q Okay. That makes more sense. I just did
 20 not know that.
 21 So it's fair to say that since the time
 22 you got your Ph.D. you've been working in academia,
 23 correct?
 24 A Primarily, yes, that's correct.
 25 Q And at that -- since that time, have you

1 M. GOODRICH
 2 University of California Irvine.
 3 Those are some of the tasks that are
 4 included in being the technical director.
 5 Q Got it. Got it.
 6 So I want to look a little deeper in your
 7 Declaration to Paragraph 69.
 8 A Could you repeat that, please.
 9 Q I'd like to look at Paragraph 69 of your
 10 Declaration.
 11 A I'm there.
 12 Q Oh, you beat me. Give me just a second.
 13 I'm catching up.
 14 Okay. And of course, feel free to look
 15 at any surrounding paragraphs that you think are
 16 necessary as we're talking about this, but I want to
 17 talk about this concept of reassembly that you have
 18 in your Declaration.
 19 Is that fair?
 20 A You're the one asking the questions. Go
 21 ahead and ask.
 22 Q Okay. When I use the term reassembly,
 23 what does it mean to you?
 24 A I don't understand your question. I'm
 25 sorry.

1 M. GOODRICH

2 Q Okay. In Paragraph 69, there's a quote
3 from Narayanaswamy that reads: IDP Device 4 may
4 identify the packet flows in the monitored traffic
5 and transparently reassembles application-layer
6 communications from the packet flows.

7 A Yes, I see that.

8 Q What does that mean to you?

9 A Oh, yeah. So what that means is, the way
10 that the internet works -- which I review a little
11 bit about these layers of networking in my
12 Declaration and, likewise, there's actually some
13 really nice discussion of that in Dr. Jeffay's
14 Declaration of that -- that talk about how packets --
15 you're using the term fairly broadly -- can come at
16 various levels in those layers.

17 And if we're talking about things that
18 happen at the application layer, those messages that
19 exist at the application layer typically are going to
20 be comprised of multiple -- in fact, sometimes many,
21 many -- different packets from the lower levels.

22 And in order for the Narayanaswamy
23 solution to be able to do its analysis and types of
24 classification that it does, it needs to reassemble
25 those lower-level packets, the data that's in those

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2 lower-level packets, to then rebuild, if you will --
3 that's why we say reassemble, because it was broken
4 apart at the beginning, it's now the -- as it's being
5 transmitted through the network, it reassembles
6 those -- that data back to the application-layer
7 message.

8 Q So it reassembles it back to a flow so
9 that it can differentiate, say, a flow for an FTP
10 message from a flow from an HTTP message; is that
11 fair?

12 MR. PRICE: Objection.

13 THE WITNESS: I -- I'm sorry. I
14 didn't catch that. Could you repeat that
15 or reexplain what you meant?

16 BY MR. BLAKE:

17 Q Sure. So if I have packets in a data
18 stream that are going over a network, and they arrive
19 at a router that is the border to a secured network,
20 the packets would be reassembled into their packet
21 flow such that you could differentiate, for instance,
22 the flow for an HTTP request response from, say, an
23 FTP request response; is that fair?

24 MR. PRICE: Objection.

25 THE WITNESS: I -- if that's the

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2 kind of classification that you're still
3 doing, I think that could be something
4 that could be done using that approach.

5 BY MR. BLAKE:

6 Q Well, let me ask another question.

7 In other words, you would reassemble the
8 packets into flows so that you could classify
9 different types of packet flows from each other,
10 fair?

11 MR. PRICE: Objection.

12 THE WITNESS: I think that's not
13 quite right. I think you're on the right
14 track, though. So it's -- this idea of
15 reassembling the data that's inside the
16 packets into the flow, that then is, you
17 know, the reassembled data at the other
18 end, and one of the things that
19 Narayanaswamy does is tries to, you know,
20 classify those flows into those various
21 types, such as you said, HTTP or FTP
22 types of flows.

23 BY MR. BLAKE:

24 Q You would agree that the packets that are
25 reassembled before filtering occurs can be filtered

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2 still on a packet-by-packet basis, correct?

3 A I'm sorry. I didn't understand that
4 question. Could you just -- I didn't understand what
5 you meant.

6 Q Sure. Would you agree that once the
7 packets are reassembled to the flows, you can still
8 classify them on a packet-by-packet basis?

9 A That is not something that I would agree
10 to, no.

11 Q Why not?

12 A Because now they're not being processed
13 on a packet-by-packet basis. You're doing it on a
14 flow basis. It's being reassembled.

15 Q Well, when they're reassembled under the
16 flows, are they still -- the flows themselves still
17 contain separate packets, right?

18 A No, not when they're reassembled.
19 Because you're losing the data from the lower layers
20 of the network stack at that point.

21 Q Well, it says here -- for instance, in
22 Narayanaswamy, it says it's -- transparently
23 reassembles the application-layer communications.

24 If you lose the packet structure, how
25 would the reassembly be transparent to the TCP

<p style="text-align: right;">Page 46</p> <p>1 M. GOODRICH</p> <p>2 protocol?</p> <p>3 A I'm sorry. Where in Narayanaswamy are</p> <p>4 you reading this from?</p> <p>5 Q We've been talking about Paragraph 69 of</p> <p>6 your Declaration.</p> <p>7 A Right. So let's go to the passage from</p> <p>8 Narayanaswamy that that is referring to. Do you know</p> <p>9 which exhibit is Narayanaswamy?</p> <p>10 Q Yes, I do. It is Exhibit 1012.</p> <p>11 A I believe I'm citing to Paragraph 0030 in</p> <p>12 Narayanaswamy.</p> <p>13 Q That's correct.</p> <p>14 A All right. So, again, what is the</p> <p>15 question?</p> <p>16 Q Sure.</p> <p>17 If the packet data flows are</p> <p>18 transparently reassembled, wouldn't the packet</p> <p>19 structure have to be maintained in order for the</p> <p>20 reassembly to be transparent to the TCP protocol?</p> <p>21 A I'm still not understanding your</p> <p>22 question. It doesn't sound like we're using the</p> <p>23 words in the same way that Narayanaswamy is using</p> <p>24 them.</p> <p>25 Where do -- do you see the Paragraph</p>	<p style="text-align: right;">Page 47</p> <p>1 M. GOODRICH</p> <p>2 03 -- 0030, what you're talking about there?</p> <p>3 Q Yes. I have it right in front of me.</p> <p>4 A All right. So what -- what are you</p> <p>5 directing me to in that paragraph?</p> <p>6 Q Let me see if I can break it down for you</p> <p>7 this way.</p> <p>8 A Okay.</p> <p>9 Q When the data is being transmissioned</p> <p>10 across a transmission line and it arrives at a</p> <p>11 router, I have a stream of packets, correct?</p> <p>12 A Yes. Correct.</p> <p>13 Q And those packets would then be -- for</p> <p>14 instance, in Narayanaswamy -- classified by the</p> <p>15 classifier module?</p> <p>16 A I'm sorry. Is there a question pending?</p> <p>17 Q Yes. Is that correct?</p> <p>18 Would the packets arriving -- the</p> <p>19 incoming traffic that's arriving as packets, would</p> <p>20 they be classified and divided into flows by the</p> <p>21 classifier module?</p> <p>22 A Yes. That's what it's describing.</p> <p>23 In the IDP Device 4, they identify the</p> <p>24 packet flows in the monitored traffic and</p> <p>25 transparently reassembles the application-layer</p>
<p style="text-align: right;">Page 48</p> <p>1 M. GOODRICH</p> <p>2 communications from the packet flows.</p> <p>3 Q Okay. And when they're put into the</p> <p>4 flows themselves, when they're classified and put</p> <p>5 into flows, is the packet structure maintained?</p> <p>6 A Not as is being disclosed here. It's</p> <p>7 being reassembled. The IDP device is reassembling</p> <p>8 them. That's what that means.</p> <p>9 Q If I throw away the packet structure as</p> <p>10 part of the reassembly, how would it be transparent?</p> <p>11 A I believe the way that they're using</p> <p>12 transparent here in this paragraph is that it's not</p> <p>13 disrupting other things that are happening inside the</p> <p>14 solution of Narayanaswamy.</p> <p>15 Q Let me ask you to look over in</p> <p>16 Narayanaswamy to Paragraph 0048. And specifically</p> <p>17 I'm going to ask -- if you want to take a moment to</p> <p>18 review them, I'm going to ask a string of questions</p> <p>19 about Paragraph 0048 to 0051.</p> <p>20 A Okay. Let me just review that quickly.</p> <p>21 Okay. I've finished reading it.</p> <p>22 Q Okay. In Paragraph 48 -- well, to be</p> <p>23 clear, Paragraph 0048. Are you with me?</p> <p>24 A Yes.</p> <p>25 Q It says --</p>	<p style="text-align: right;">Page 49</p> <p>1 M. GOODRICH</p> <p>2 A Do you mind if we don't always say the</p> <p>3 00s in front?</p> <p>4 Q Okay.</p> <p>5 It says: The classifier module 26 may</p> <p>6 determine to which flow a particular one of the</p> <p>7 packets of incoming network 36 corresponds by</p> <p>8 extracting information referred to as a 5-tuple from</p> <p>9 each of the packets.</p> <p>10 Do you see that?</p> <p>11 A Yes, I do.</p> <p>12 Q And, first, this term 5-tuple, do you</p> <p>13 understand what it means?</p> <p>14 A Yes. I believe I do.</p> <p>15 Q What does it mean?</p> <p>16 A It's -- it's a data that comprises five</p> <p>17 components, so we just call it a 5-tuple.</p> <p>18 In this case, it's -- it's -- in the</p> <p>19 paragraph itself, it describes what the 5-tuple</p> <p>20 comprises. It's source, IP address, a destination IP</p> <p>21 address, a source port, a destination port and a</p> <p>22 protocol. So those are the five components.</p> <p>23 Q And was the 5-tuple something that would</p> <p>24 have been well known in the art as of the priority</p> <p>25 date for the '213 patent?</p>

<p style="text-align: right;">Page 50</p> <p>1 M. GOODRICH</p> <p>2 A In general, the '213 patent speaks about</p> <p>3 it, as well. I think there's even a claim -- a</p> <p>4 pending claim that talks about the 5-tuple, isn't</p> <p>5 there?</p> <p>6 Q Yeah, but I guess my question is: Would</p> <p>7 the 5-tuple have been well known to a person of</p> <p>8 ordinary skill in the art as of the priority date?</p> <p>9 A The concept of 5-tuples is known just --</p> <p>10 in the abstract, yes, that concept is known prior to</p> <p>11 that priority date.</p> <p>12 Q Okay. Paragraph 48 says that: The</p> <p>13 classifier module is classifying incoming packets by</p> <p>14 looking and extracting information relating to the</p> <p>15 5-tuple from each of the packets.</p> <p>16 Right?</p> <p>17 A Yes, that's what it says.</p> <p>18 Q So it's looking at them on</p> <p>19 packet-by-packet basis?</p> <p>20 A The classifier module is, which is, of</p> <p>21 course, distinct from the IDP Device 4.</p> <p>22 I speak to that in my Declaration, about</p> <p>23 how this is happening prior to any of the other stuff</p> <p>24 that is -- that Dr. Jeffay is pointing to.</p> <p>25 Q If I look at Figure 2 of Narayanaswamy,</p>	<p style="text-align: right;">Page 51</p> <p>1 M. GOODRICH</p> <p>2 the classifier module is shown as being part of IDP</p> <p>3 Device 4, right?</p> <p>4 A Yes, it's inside.</p> <p>5 Q Okay. Paragraph 49 of Narayanaswamy then</p> <p>6 discusses that the classifier module accesses a flow</p> <p>7 table, right?</p> <p>8 A Yes.</p> <p>9 Q And as part of that, in Paragraph 49,</p> <p>10 each of the packets is tagged or otherwise marked to</p> <p>11 indicate a policy that will be applied to each tagged</p> <p>12 packet, correct?</p> <p>13 A Yes.</p> <p>14 Q And Paragraph 50, in turn, discusses that</p> <p>15 the classifier module's classifying incoming packets</p> <p>16 based on application-layer packet-header information</p> <p>17 that's been extracted from each packet, correct?</p> <p>18 A Yes, it says that.</p> <p>19 Q Okay. So basically what's happening is</p> <p>20 that you are identifying each packet on a</p> <p>21 packet-by-packet basis by the specific</p> <p>22 application-layer information that is located in that</p> <p>23 packet, correct?</p> <p>24 A I wouldn't characterize it that way.</p> <p>25 Instead, I would say that it's</p>
<p style="text-align: right;">Page 52</p> <p>1 M. GOODRICH</p> <p>2 characterizing the flow based on looking at these</p> <p>3 5-tuples in the packets that comprise the different</p> <p>4 flows.</p> <p>5 Q Okay. Have the packets, at this point in</p> <p>6 time, already been reassembled into the flow?</p> <p>7 A It's a -- it's a part of this process.</p> <p>8 This is now getting into the details of that.</p> <p>9 Q Okay. But I'm saying, whenever you are</p> <p>10 extracting the application-layer packet-header</p> <p>11 information from the packets, is this before the</p> <p>12 packets are reassembled into a flow or after the</p> <p>13 packets are reassembled into the flow?</p> <p>14 MR. PRICE: Objection.</p> <p>15 THE WITNESS: I -- I interpret this</p> <p>16 to be this is the process that is built</p> <p>17 -- this is part of the reassembly</p> <p>18 process. That's what's -- that's what's</p> <p>19 going on in Paragraph 49.</p> <p>20 This flow table -- you're getting</p> <p>21 all these packets coming in. You want to</p> <p>22 know what it flows. It's using the</p> <p>23 5-tuple to then tell you what are the</p> <p>24 flows. Like some might be part of an</p> <p>25 HTTP flow. Something else might be part</p>	<p style="text-align: right;">Page 53</p> <p>1 M. GOODRICH</p> <p>2 of an FTP flow.</p> <p>3 BY MR. BLAKE:</p> <p>4 Q Okay. And it's looking --</p> <p>5 A It's the details of that reassembly</p> <p>6 process.</p> <p>7 Q And it's looking packet-by-packet, at</p> <p>8 each packet individually, to determine what flow it's</p> <p>9 a part of, correct?</p> <p>10 A At the beginning of the pipeline, yes,</p> <p>11 that's correct.</p> <p>12 Q And it looks packet-by-packet at the</p> <p>13 application-layer packet-header information, correct?</p> <p>14 A Correct, but not in the way that would</p> <p>15 speak to the limitations of the '213 patent.</p> <p>16 Q That's not my question.</p> <p>17 My question is does it look at the</p> <p>18 application-layer packet-header information on a</p> <p>19 packet-by-packet basis?</p> <p>20 A I believe I answered that question</p> <p>21 already.</p> <p>22 Q And the answer is yes, correct?</p> <p>23 A Yes, but not in a way that speaks to the</p> <p>24 limitations of the '213 patent.</p> <p>25 Q And the system in Narayanaswamy looks on</p>

<p style="text-align: right;">Page 54</p> <p>1 M. GOODRICH</p> <p>2 a packet-by-packet basis to see what policy will be</p> <p>3 applied based on what application-layer packet-header</p> <p>4 information is identified, correct?</p> <p>5 A That's what it says what it defines as a</p> <p>6 policy.</p> <p>7 Q And then Paragraph 51 refers to the</p> <p>8 servicing engine.</p> <p>9 Do you see that?</p> <p>10 A Yes.</p> <p>11 Q And the servicing engine is part of IDP</p> <p>12 Device 4?</p> <p>13 A That is correct.</p> <p>14 Q And the servicing engine is a module --</p> <p>15 as it's disclosed in 51 -- that may service or</p> <p>16 process each packet by applying one of Policies 32 to</p> <p>17 each packet; is that correct?</p> <p>18 A Where do you see that? I'm sorry. I'm</p> <p>19 not seeing that.</p> <p>20 Q The second sentence of Paragraph 51 says</p> <p>21 that: Servicing Engine 28 may service or process</p> <p>22 each packet by applying one of Policies 32 to each</p> <p>23 packet; is that correct?</p> <p>24 A Yes. Yes, I see that.</p> <p>25 Q So the -- it's fair to say that the</p>	<p style="text-align: right;">Page 55</p> <p>1 M. GOODRICH</p> <p>2 servicing engine in Narayanaswamy is looking on</p> <p>3 packet-by-packet basis and applying a particular</p> <p>4 policy to a particular packet; is that fair?</p> <p>5 A I believe that's more or less what's</p> <p>6 being said here.</p> <p>7 Q Okay. So wouldn't you acknowledge that</p> <p>8 Narayanaswamy looks on a packet-by-packet basis and</p> <p>9 decides what policies are going to be applied to each</p> <p>10 packet based on the application-layer packet-header</p> <p>11 information in that packet?</p> <p>12 A It's applying that to what it calls</p> <p>13 policies, yes.</p> <p>14 Q Is it your position that the policies in</p> <p>15 Narayanaswamy are different from the policies recited</p> <p>16 in the '213 patent's claims?</p> <p>17 A Yes, I believe I've given those opinions</p> <p>18 in my Declaration.</p> <p>19 Q How are they different?</p> <p>20 A They're not dynamic security, which is</p> <p>21 what is the claims of the '213 patent.</p> <p>22 Q So you are aware that the Patent Trial</p> <p>23 and Appeal Board issued an Institution Decision that</p> <p>24 instituted the IPR in this proceeding; is that</p> <p>25 correct?</p>
<p style="text-align: right;">Page 56</p> <p>1 M. GOODRICH</p> <p>2 A Yes.</p> <p>3 MR. BLAKE: All right. Jeff Price,</p> <p>4 if we could provide the Institution</p> <p>5 Decision to Dr. Goodrich.</p> <p>6 MR. PRICE: Okay. He has it.</p> <p>7 BY MR. BLAKE:</p> <p>8 Q Dr. Goodrich, in the Institution</p> <p>9 Decision, was the term dynamic security policy</p> <p>10 construed by the board?</p> <p>11 A My recollection is that they did have a</p> <p>12 preliminary construction of that term.</p> <p>13 Q Okay. And I would reference you to page</p> <p>14 eight.</p> <p>15 A Yes, I see that.</p> <p>16 Q Just one second. I'm getting there</p> <p>17 myself.</p> <p>18 And the definition for dynamic security</p> <p>19 policy on page eight of the Institution Decision is:</p> <p>20 "Any rule, message, instruction, file, data structure</p> <p>21 or the like that specifies criteria corresponding to</p> <p>22 one or more packet and identifies a</p> <p>23 packet-transformation function to be performed on</p> <p>24 packets corresponding to the specified criteria."</p> <p>25 Do you see that?</p>	<p style="text-align: right;">Page 57</p> <p>1 M. GOODRICH</p> <p>2 A I do see that.</p> <p>3 Q And is it your position that that</p> <p>4 definition of dynamic security policy is wrong?</p> <p>5 A That's correct. I respectfully disagree</p> <p>6 with the PTAB that that is the proper construction of</p> <p>7 dynamic security policy.</p> <p>8 Q If it turns out that the PTAB's</p> <p>9 construction is correct and your proposed</p> <p>10 construction is incorrect, would the policies</p> <p>11 discussed in Narayanaswamy be any different from the</p> <p>12 policies recited in the '213 patent's claims?</p> <p>13 A I'd need more time to think about that.</p> <p>14 In my opinion, the PTAB's definition here is not --</p> <p>15 is not being consistent with the specification of the</p> <p>16 '213 patent. It's reading out embodiments even.</p> <p>17 And, hence, I did my analysis based on</p> <p>18 what I think is the plain and ordinary meaning of</p> <p>19 dynamic security policy, based on the specification</p> <p>20 of the '213 patent, which is a nonstatic set of one</p> <p>21 or more rules, messages, instructions, files or data</p> <p>22 structures associated with one or more packets.</p> <p>23 Q Okay. So your analysis was not based on</p> <p>24 the construction that the board provided in its</p> <p>25 Institution Decision; is that fair?</p>

15 (Pages 54 to 57)

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2 A Yes, because I disagreed on that point.
3 I did adopt their other constructions, some of their
4 other constructions, as I mentioned in my section on
5 Claim Construction.

6 Q But you have not provided any opinion
7 that would show your analysis based on the board's
8 construction of dynamic security policy, correct?

9 A Yes, that's correct. That would require
10 a supplemental declaration or additional time.

11 Q Is it possible in analyzing packets that
12 once they're reassembled into the flow, that you can
13 still filter them on packet-by-packet basis?

14 A I don't see how that's possible, just
15 sitting here today.

16 Q When you first reassemble the packets
17 into a flow, do they still maintain the packet
18 structure?

19 A No, you've -- unless you literally are
20 keeping around the packets, which is now not just
21 reassembly but something else. But just the
22 reassembly itself no longer keeps around the packets
23 that you were using their payloads to then reassemble
24 this message.

25 And I don't -- I don't know of any -- I

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2 don't think it's possible to reassemble them like
3 that. You don't know their sizes or some of the
4 other data that was inside the headers. You've
5 thrown all that away.

6 Q If we could look to Paragraph 78 of your
7 Declaration, which discusses the Kapoor reference,
8 which is Exhibit 1013.

9 A I'm there.

10 Q And in Paragraph 78 of your Declaration,
11 you're talking about Paragraph 77 of Kapoor, correct?

12 A Yes.

13 Q And that Paragraph 77 Kapoor starts with:
14 In another aspect of the invention.

15 Do you see that?

16 A Yes, I quoted it in my Declaration.

17 Q So Kapoor is talking about just one --
18 this Paragraph 77 -- excuse me -- is talking about
19 just one aspect of the Kapoor invention, correct?

20 A In the context that -- of the entire
21 specification of Kapoor, which I read.

22 Q All right. But it may be in that
23 context, but it's just talking about one aspect of
24 invention, correct?

25 A That's what it says.

1 M. GOODRICH

2 Q Okay. And then in Paragraph 79 you cite
3 Paragraphs 402 and 403 of Kapoor; is that right?

4 A That is correct.

5 Q Which, again, uses the term transparent
6 when talking about the reassembly; is that right?

7 A Yes, I see that.

8 Q I'd like to talk for a moment about
9 Paragraph 402 -- if we look into Kapoor itself, which
10 is Exhibit 1013, to talk about Paragraphs 402, 405.

11 A Okay. I'm getting out the Exhibit 1013.
12 I have it now in front of me and I'm turning to those
13 passages. All right. I'm there.

14 Q All right. Do you need -- I'll give you
15 an opportunity to read Paragraphs 402 to 405.

16 A Okay. I've completed that.

17 Q First, if I look at the first sentence of
18 Paragraph 402, it says: The teachings of the present
19 invention may include processing of Data Flow 404 --
20 444 using replay.

21 Do you see that?

22 A Yes.

23 Q So the sentence says may, that doesn't
24 mean it's required, correct?

25 A That is correct.

1 M. GOODRICH

2 Q So everything discussed in this
3 embodiment is an optional thing; you would agree?

4 A Yes.

5 Q At the end of that sentence where it's
6 discussing replay, what's your understanding of that
7 term?

8 A I took it to be the plain and ordinary
9 meaning of that term here in this context.

10 Q What would you understand the plain and
11 ordinary meaning of replay to be?

12 A It appears it's storing the data and then
13 replaying that data as -- as it had arrived again.
14 So it's like -- sort of like going in reverse on
15 your -- in YouTube kind of thing.

16 Q And it's part of the reassembly process
17 that you cited in Paragraphs 402 and 403; is that
18 right?

19 A It's a part of the discussion that I
20 indeed cited, yes.

21 Q In Paragraph 404, the first sentence
22 says: In the present example implementation, upon
23 scanning a packet the packet detection circuitry may
24 request a replay of the current packet with the next
25 packet of the TCP flow (Other protocols may support

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2 similar indications).

3 Do you see that?

4 A Yes, I do.

5 Q What does that mean to you?

6 A Just what it says. The scanning
7 processing can request a replay of the next packet.

8 Q And so the scanning or packet filtering,
9 the pattern detection circuitry as it's called here,
10 is being done by comparing one packet to another,
11 correct?

12 A No, that's incorrect.

13 Q Well, when it says upon scanning a packet
14 it may request a replay of the current packet with
15 the next packet of the TCP flow, what does -- that's
16 not being done on a packet-by-packet basis?

17 A That is correct. It's not being done on
18 a packet-by-packet basis.

19 Q Well, I guess you're going to have to
20 explain that to me because it says you are comparing
21 the current packet with a replay of the previous
22 packet.

23 A I'm not seeing that word.

24 Q Doesn't it say: May request a replay of
25 the current packet with the next packet?

1 M. GOODRICH

2 A Yes. That's literally not a
3 packet-by-packet basis.

4 Q Why?

5 A Because you're processing sequences of
6 packets. Packet-by-packet means you're processing
7 each packet -- in computer science, we refer to this
8 as an on-line process. That you complete the
9 processing of one thing before you go on to the next.
10 That's what packet-by-packet means in the context of
11 the '213 patent. You process each packet, one at a
12 time.

13 This is literally not doing that. It's
14 processing two, three at a time.

15 Q So it's processing packets --

16 A It's not a packet-by-packet basis.

17 Q It's processing packets, but your
18 position is that it's only processing multiple
19 packets at a time?

20 A That's what it says here. That's
21 literally what it's saying in Paragraph 404.

22 Q Okay. And so let me ask you this then:
23 Based on that, then, as part of the reassembly
24 process, you would agree that the packets maintain
25 their packet structure, otherwise you wouldn't be

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2 able to process multiple packets at a time?

3 A So in the Kapoor solution, Kapoor is
4 maintaining a queue. He calls it the T queue,
5 q-u-e-u-e. That it's storing packets -- again, not
6 in a packet-by-packet basis because now it's storing
7 sequences of them -- and then reassembling the flow
8 so it can do its complex pattern analysis on entire
9 flows that comprise multiple packets.

10 And this is now getting into the nitty
11 gritty details of how the flows, when they
12 necessarily span multiple packets, you have to be
13 doing this analysis of multiple packets to detect
14 those patterns.

15 Q So in this situation where I've
16 reassembled the flow as is disclosed in Kapoor, the
17 flow has multiple packets and each -- the packet
18 structure is maintained and there are multiple
19 packets within the flow, correct?

20 A It's storing those packets. So if that's
21 what you mean by maintaining the packet structure.
22 It's storing the packets in this queue.

23 Q After they've been reassembled --

24 A They're not processing them on a
25 packet-by-packet basis necessarily.

1 M. GOODRICH

2 Q I'm not asking about packet-by-packet
3 right now.

4 I'm asking you, earlier you said when the
5 packets are reassembled, the packet structure is not
6 maintained. Now you're saying that Kapoor has
7 reassembled packets where the packet structure is
8 maintained.

9 A Yeah, sorry if I wasn't clear about that.

10 The reassembly process itself does not
11 maintain the packet structure, does not keep that
12 around.

13 Q Well, here in Kapoor, when we're talking
14 about Paragraphs 402 to 405, I have reassembled
15 packets that are in a flow, and they're obviously
16 able to maintain the packet structure because you're
17 comparing multiple different packets.

18 A To complete my answer, the only way that
19 you can maintain the packet structure is to have
20 stored the original packet. This is not inconsistent
21 testimony.

22 You have to either store the packets that
23 you used to build the flow and then go back to them
24 and then process them as multiples, not on a
25 packet-by-packet basis, because just from the flow

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itself, once you've reassembled it, you can't go back to those packets.

So that's what Kapoor is teaching. He's teaching us both, that you're storing the packets in this T queue, which is also not on a packet-by-packet basis, and doing this reassembly so it can do its pattern analysis on the flows.

Q So your position is that, in this particular embodiment of Kapoor, they're looking at stored packets, not packets that are embodied within the flow?

A No. That's also incorrect. It's doing both.

So we have this passage in the beginning where it's talking about re -- like in 402 and 403, how it's reassembling these flows and doing the pattern analysis on those flows.

Because these are very complicated pattern analysis. They are based on the Aho-Corasick algorithm that are being taught in Kapoor, but then also talking about how this queue, the T queue, can be storing packets that comprise the queue, that ultimately were -- their data was built to form the flows. So it's doing both.

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Q Okay. If you would turn with me back to Paragraph 23 of Kapoor.

A Okay. I'm there.

Q So take a moment to read it, if you haven't already.

A Okay.

Okay. I've completed that.

Q In Paragraph 23, it's referring to the flow processing facility used in a computer security environment with particular embodiments related to content inspection, correctly -- correct?

A Yes. That's what it says.

Q And about halfway down the paragraph it says: The packet inspection may be directed at a header of the packet and/or a payload of the packet.

Correct?

A Yes, I see that.

Q So the packet inspection here is done on a packet-by-packet basis, correct?

A No, I disagree.

Q Why?

A Because this is now just describing at a very high level how this processing goes, and that's consistent with the passage that we just read in the

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400s.

Q It says that it is looking at --

A It's not on a packet-by-packet basis.

Q It says it's looking at the header of the packet. It says one packet at a time, right?

A Well, it's -- of course, it's processing things one packet at a time to reassemble the flow. That's what this is referring to. Not to the ultimate processing that involves the pattern matching and the classifying and all that stuff.

Q How do you know that?

A Because I read the whole passage of Kapoor. I read the entire Kapoor document. So you have to take it in the context of what is actually being disclosed here.

Q So it's your position when it refers to the packet inspection in this computer security environment, that's not looking at the packets on a packet-by-packet basis as part of --

A That is correct.

Q Huh?

A That is correct. It's not on a packet-by-packet basis in the way that's required in the limitations of the '213 patent.

M. GOODRICH

Q Well, the '213 patent, if we look at column 25, lines 27 to 31 --

A I'm there.

Q -- it says: Identify by the packet security gateway, from amongst the packets associated with a network protected by the packet security gateway and on a packet-by-packet basis, one or more packets comprising the application-layer packet-header information.

Do you see that?

A Yes.

Q So you're identifying, on a packet-by-packet basis, what type of packets you have, correct?

A Yes.

Q And in Kapoor, in Paragraph 23, there's a sentence that's talking about, in the computer security context -- actually, the whole paragraph is about packet inspection, correct?

A It's a very high level, general paragraph.

Q Yeah, I know. I know you want to dismiss it because you don't like what it says.

But it says --

1 M. GOODRICH

2 A I don't think it -- could you just point
3 to me where it's cited in Dr. Jeffay's Declaration
4 also.

5 Q I'm not asking you about Dr. Jeffay's
6 Declaration. I'm asking you about what the paragraph
7 says.

8 A All right. But you said -- you said I
9 don't like it. So I was wondering if Dr. Jeffay
10 liked it, if that's fair.

11 Q Well, the paragraph says: In any case,
12 any and all packet inspection may be directed at the
13 inspection of data that encompasses a packet or flow
14 of packets.

15 Do you see that sentence?

16 A Yes.

17 Q So that says, to a POSA, doesn't it, that
18 the packet inspection can be performed by looking at
19 one packet at a time or by looking at multiple
20 packets at a time, correct?

21 A I disagree.

22 Q Well, what does it mean when it says that
23 the inspection of the data can encompass a packet?

24 A It's referring to this phenomenon, which
25 is rare but can happen, where a data flow just has

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2 one packet in it. You're still processing the whole
3 thing as a flow. You're not really doing it on a
4 packet-by-packet basis. It's just, in that instance,
5 because the message itself was so small, that it was
6 just one packet.

7 Q And where in Kapoor does it state that
8 that's the phenomenon you hypothesize it's referring
9 to?

10 A You have to read Kapoor in its context.
11 When it gets into the details, it's clear -- like
12 what we just read in the 400s -- that it's doing
13 things based on the flows. All of the classification
14 stuff and the pattern matching is done on the flows,
15 not on a packet-by-packet basis.

16 Q This sentence right here says that: Any
17 and all packet inspection may be directed at the
18 inspection of data that encompasses a packet.

19 Can you point me to anywhere in Kapoor
20 where it says that what is meant by a packet is that
21 you're looking at a packet that is the only packet in
22 a flow?

23 A A POSA would know that that's possible
24 and that that's a phenomena that could just be as an
25 accident when you're doing the kind of flow analysis

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2 that we just read in the 402 to 405 message.

3 Q Wouldn't a POSA also know that you could
4 be looking on the packets by a packet -- on a
5 packet-by-packet basis, since you're looking at a
6 packet one at a time?

7 A No, not -- not based on the teachings of
8 Kapoor.

9 Also, are there places in Dr. Jeffay's
10 report or Declaration where he cites to this passage?

11 Q I'm asking the questions.

12 A Okay.

13 Q Let's turn to Paragraph 129 of Kapoor.

14 A Okay. I'm there.

15 Q The first sentence states: Application
16 level content inspection may relate to processing a
17 data flow by examining the application-layer payloads
18 of the packets that make up the flow.

19 Do you see that?

20 A Yes.

21 Q So there are you -- when it says packets
22 that make up the flow, is it referring to a flow that
23 has separate packets within it?

24 A That's the general scenario. The general
25 scenario is that flows comprise multiple packets.

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2 Q And those packets are in a packet
3 structure, so should -- they would be separate from
4 each other?

5 A Correct.

6 MR. BLAKE: Okay. We've been going
7 a little over an hour. Why don't we take
8 a break and stretch our legs.

9 (Brief pause.)

10 BY MR. BLAKE:

11 Q Dr. Goodrich, I'd like to pick up with
12 your Declaration, and specifically Paragraph 52 of
13 it, and talk about it, and also if you'll have handy
14 a copy of the '213 patent.

15 A Okay. I've got Paragraph 52 there, and
16 I've got the '213 patent in front of me, as well.

17 Q In Paragraph 52 of your Declaration, it
18 talks about -- in the last sentence, it recites:
19 Quote, An advantage for this approach, of course, is
20 that it does not require an application-layer message
21 to be reassembled from all the packets for such a
22 message in order for packet filtering to occur.

23 Do you see that?

24 A I do.

25 Q Why is it an advantage to not require an

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2 application-layer message to be reassembled from the
3 packets before filtering occurs?

4 A This speaks to the scalability of the
5 issue that's, for example, mentioned in that white
6 paper we talked about earlier today, that by
7 processing things on a packet-by-packet basis, the
8 way that it's taught in the '213 patent, you're able
9 to avoid all that extra overhead like we were just
10 talking about in Kapoor, and process the packets as
11 fast as they're coming, without extra storage,
12 without having to build the flows and do extra fancy
13 pattern matching.

14 All those things are advantages of the
15 approach that is in the '213 patent.

16 Q So, in your opinion, the '213 patent
17 always looks at each packet in isolation before
18 moving onto the next packet?

19 A I think that's more or less right, that
20 it's processing things on a packet-by-packet basis,
21 one at a time, in order to do these filters, and all
22 the stuff it's talking about.

23 Q Can we look at the '213 patent then,
24 column 21, lines 43 to 67.

25 A Okay. I'm there.

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2 Q Doesn't this paragraph here in column 21
3 of the '213 patent say that the system in the '213
4 patent can look at more than one packet at a time?

5 A It's using that term may, that we talked
6 about earlier, and talking about how it may do things
7 on a strictly packet-by-packet basis, but how it may
8 also do some things that involve multiple packets.

9 Q So it says it's looking on a packet by --
10 the first sentence: At Step 1106, the packet
11 security gateway may identify, from amongst the
12 packets associated with the network protected by the
13 packet security gateway and on a packet-by-packet
14 basis, one or more packets comprising the
15 application-layer packet-header information.

16 For example, in some embodiments, the
17 rule specifying the application-layer packet-header
18 information application may identify one or more HTTP
19 packets (e.g., one or more HTTP packets comprising an
20 HTTP get-method call and/or an HTTP put-method call),
21 and Packet Security Gateway 112 may identify, from
22 amongst the packets associated with Network A112, one
23 or more packets comprising the application-layer
24 packet-header information.

25 Do you see that?

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2 A Yes.

3 Q So isn't this example stating that the
4 system here is being implemented such that the rules
5 look at more than one packet at a time?

6 A I think that's a mischaracterization of
7 what it's saying.

8 Instead of saying that it's processing
9 things on packet-by-packet basis, but when you do
10 that -- when you process things on packet-by-packet
11 basis, you can process multiple packets, just
12 processing multiple packets, each one at a time.

13 Q Well, it says: The rule specifying the
14 application-layer packet information may identify one
15 or more HTTP packets.

16 Right? So it may identify more than one
17 packet at a time?

18 A No, that's not what that's saying.

19 Q Well, why does it say one or more
20 packets? Aren't you reading the word, or more, out
21 of this?

22 A No, I am absolutely not doing that.

23 Instead, you could have one rule, for
24 example, that implicates multiple packets that could
25 all have HTTP data in them. You process each one of

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2 them one at a time on packet-by-packet basis, but by
3 applying that rule one at a time on a
4 packet-by-packet basis, you necessarily would be
5 processing multiple packets, that they would each
6 satisfy independently that rule.

7 Q To apply a rule that identifies multiple
8 packets, the gateway is going to need to have access
9 to the multiple packets, correct?

10 A Not necessarily.

11 Q Well, here it says: The rules specifying
12 the application-layer packet information may identify
13 one or more HTTP packets.

14 So it may identify multiple packets at
15 one time?

16 A That's not what that's saying.

17 What that's saying is the way I just said
18 it, that one rule may identify multiple packets
19 because all these different packets satisfy that rule
20 conditions and, hence, even though you're processing
21 things on a packet-by-packet basis, as it says right
22 at the beginning of the paragraph, you'll be
23 capturing multiple packets when you process them on a
24 packet-by-packet basis.

25 Q Well, then it says: The packet security

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2 gateway may identify, from amongst the packets
3 associated with Network A112, one or more packets
4 comprising the application-layer packet-header
5 information.

6 The words, from amongst the packets,
7 doesn't that tell a person of ordinary skill in the
8 art that it's looking at multiple packets and
9 selecting the packets that comprise the
10 application-layer packet-header information.

11 A It's not doing that all at once. It's
12 doing it on a packet-by-packet basis.

13 Q How do you know that?

14 A So, yeah.

15 That's literally what the words state
16 here.

17 Q It says it's looking at it from amongst
18 the packets. Then it's looking at the packets as a
19 group and selecting the packets that it wants.

20 A No, that's not what it's saying.

21 It's saying -- just in using set
22 terminology -- from among that group of things that's
23 coming in and you're processing on a packet-by-packet
24 basis -- just like I said right at the beginning --
25 multiple of those packets could satisfy your rules

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2 and, hence, from amongst that set of things that's
3 coming in, you'll be selecting multiple packets that
4 are coming out.

5 It's now sort of taking a step back and
6 saying, when you're processing things on a
7 packet-by-packet basis, you still might be
8 implicating multiple packets in the flow, but you're
9 processing them one at a time.

10 Q Well, to identify what's from amongst the
11 group, you have to find a way to delineate what's in
12 the group and, therefore, somehow group the packets
13 together?

14 A I think you're reading this incorrectly.

15 I think -- it's referring to this in set
16 terminology. Not in terms of computation. So from
17 amongst that group, in a set sense, in the set -- in
18 like set theoretic sense, you will be selecting
19 multiple things, but you don't have to be looking at
20 the whole thing as a group.

21 Q Well, it's a two-step process, correct?

22 A I don't understand what you mean by
23 two-step process.

24 Q Well, first it says: The rule specifying
25 an application may identify one or more packets and

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2 then, from the packets associated with the network,
3 one or more packets comprising the application-layer
4 packet-header information.

5 A Yes, it's describing the behavior of such
6 a system. But even though you're processing things
7 on the packet-by-packet basis, one or more packets
8 might satisfy the rule. That's possible. And one or
9 more packets might be satisfying the rule involving
10 application-layer packet-header information.

11 That doesn't mean you're not processing
12 things on packet-by-packet basis.

13 Q Does it exclude the ability --

14 A In fact, it says so right at the
15 beginning that you would.

16 Q It doesn't exclude the ability to look at
17 the packets more than one at a time, does it?

18 A I think in this paragraph it's -- it's
19 saying that it's being done on a packet-by-packet
20 basis. A person of ordinary skill in the art would
21 understand that from the leading sentence.

22 Q If I look to Figure 11 --

23 A I'm there.

24 Q -- Step 1102 recites: Receive dynamic
25 security policy that includes rules specifying

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2 application-layer packet-header information and
3 packet-transformation function to be performed on
4 packets comprising the application-layer
5 packet-header information.

6 Correct?

7 A Yes.

8 Q So the word here packets is plural? It
9 doesn't say a packet?

10 A That's correct. That's what it says
11 here.

12 Q So the rule could be applied to multiple
13 packets at one point in time?

14 A I don't believe that's what this means.

15 It means -- I believe what I just said.
16 You're processing things on packet-by-packet basis,
17 but you're processing multiple packets in that way.

18 Q Step -- well, when you look down to Step
19 1106, it says: Identify, from amongst packets
20 associated with the network protected by the packet
21 security gateway, packets -- plural -- comprising the
22 application-layer packet-header information.

23 It would be possible to implement this,
24 wouldn't it, so -- since you could look at multiple
25 packets at one time and apply the rule?

<p style="text-align: right;">Page 82</p> <p>1 M. GOODRICH</p> <p>2 A I don't -- I don't believe that that's</p> <p>3 what it's disclosing. I believe it's disclosing</p> <p>4 you're still processing things on packet-by-packet</p> <p>5 basis, but implicating multiple packets when you do</p> <p>6 it that way.</p> <p>7 Q If that's the case, why doesn't it just</p> <p>8 say identify packets comprising the application-layer</p> <p>9 packet-header information in Step 1106?</p> <p>10 A I don't understand the question. Sorry.</p> <p>11 Q Your reading makes the phrase, from</p> <p>12 amongst packets associated with the network protected</p> <p>13 by the packet security gateway, superfluous.</p> <p>14 MR. PRICE: Objection to counsel</p> <p>15 testifying.</p> <p>16 THE WITNESS: I don't believe that</p> <p>17 that's what I'm saying.</p> <p>18 BY MR. BLAKE:</p> <p>19 Q If it was really just looking at one</p> <p>20 packet at a time, why does it include the clause,</p> <p>21 from amongst packets associated with a network</p> <p>22 protected by the packet security gateway? That</p> <p>23 clause wouldn't be necessary?</p> <p>24 A I disagree.</p> <p>25 Q Why wouldn't it just say, identify</p>	<p style="text-align: right;">Page 83</p> <p>1 M. GOODRICH</p> <p>2 packets comprising the application-layer</p> <p>3 packet-header information?</p> <p>4 A Then you get this whole concept, which is</p> <p>5 also part of the limitations of the Claim 1, about</p> <p>6 the network that's protected by the packet security</p> <p>7 gateway.</p> <p>8 And that's an important phrase that</p> <p>9 reappears in the limitations of Claim 1, for example.</p> <p>10 Q But that's already covered in Step 1104?</p> <p>11 A I'm not a lawyer, but I -- I think that</p> <p>12 it's trying to refer to the same set of packets.</p> <p>13 That's how I read this.</p> <p>14 Q Staying in the '213 patent, I'd like to</p> <p>15 look at column ten.</p> <p>16 A I'm there.</p> <p>17 Q Specifically lines 48 to 53.</p> <p>18 A Okay. I'm there.</p> <p>19 Q This line is referring to the process of</p> <p>20 encapsulating packets, is it not?</p> <p>21 A Yes, that's correct.</p> <p>22 Q What does encapsulation mean to you, in</p> <p>23 this context?</p> <p>24 A In this context, it's referring to</p> <p>25 this -- the technology where you take a packet and</p>
<p style="text-align: right;">Page 84</p> <p>1 M. GOODRICH</p> <p>2 put it in as the payload inside of another packet.</p> <p>3 That's what I mean by encapsulation here.</p> <p>4 Q Would encapsulation, as you have defined</p> <p>5 it here, have been known to a person of ordinary</p> <p>6 skill in the art prior to the priority date for the</p> <p>7 '213 patent?</p> <p>8 A I believe this passage is literally</p> <p>9 citing to an RFC 2003 that discloses that.</p> <p>10 Q Are you familiar with RFC 2003?</p> <p>11 A Yes.</p> <p>12 Q Was RFC 2003 known to persons of ordinary</p> <p>13 skill in the art prior to the priority date for the</p> <p>14 '213 patent?</p> <p>15 A I would not dispute that that would be</p> <p>16 known.</p> <p>17 Q Okay. If we look in the '213 patent to</p> <p>18 column 11.</p> <p>19 A Okay.</p> <p>20 Q Specifically, I'd like to look down to</p> <p>21 lines 54 to 57.</p> <p>22 A All right.</p> <p>23 Q There it's referring to logging system</p> <p>24 standards.</p> <p>25 Do you see that?</p>	<p style="text-align: right;">Page 85</p> <p>1 M. GOODRICH</p> <p>2 A Yes.</p> <p>3 Q And one of the logging system standards</p> <p>4 that's referred to is syslog?</p> <p>5 A Yes, I see that.</p> <p>6 Q Are you familiar with syslog?</p> <p>7 A Yes.</p> <p>8 Q Was syslog a known logging system</p> <p>9 standard prior to the priority date for the '213</p> <p>10 patent?</p> <p>11 A Yes.</p> <p>12 Q All right. I'd like to move on from the</p> <p>13 '213 patent and go back for a moment to the</p> <p>14 Institution Decision issued by the board in this</p> <p>15 matter.</p> <p>16 A Okay. I have that in front of me.</p> <p>17 Q I'm getting my copy in front of me.</p> <p>18 At the top of page 22 of the Institution</p> <p>19 Decision, there is discussion of the Narayanaswamy</p> <p>20 reference.</p> <p>21 A Okay.</p> <p>22 Q And there is a sentence that reads:</p> <p>23 Paragraph 50 of Narayanaswamy discloses extracting</p> <p>24 application-layer information and payload data from</p> <p>25 headers, determining the characteristics of the</p>

<p style="text-align: right;">Page 86</p> <p>1 M. GOODRICH</p> <p>2 packet (e.g., HTTP), and using the classifier module</p> <p>3 to associate a policy with the packet.</p> <p>4 Do you see that?</p> <p>5 A Yes.</p> <p>6 Q Do you agree with that sentence?</p> <p>7 A Let me look back to Narayanaswamy's</p> <p>8 Paragraph 50.</p> <p>9 Sorry. Counsel, can you repeat the</p> <p>10 question, please.</p> <p>11 Q Sure. Paragraph -- the Institution</p> <p>12 Decision states on page 22 at the top: Quote,</p> <p>13 Paragraph 50 of Narayanaswamy discloses extracting</p> <p>14 application-layer information and payload data from</p> <p>15 headers, determining the characteristics of the</p> <p>16 packet (e.g., HTTP), and using the classifier module</p> <p>17 to associate a policy with the packet.</p> <p>18 Dr. Goodrich, do you agree with that</p> <p>19 statement in the Institution Decision?</p> <p>20 A It's a high level summary of this</p> <p>21 Paragraph 50 but, just sitting here today, I'm not</p> <p>22 seeing anything that I would disagree with.</p> <p>23 Q Staying in the Institution Decision, if</p> <p>24 you'll turn to page 29.</p> <p>25 A Okay.</p>	<p style="text-align: right;">Page 87</p> <p>1 M. GOODRICH</p> <p>2 Q About the seventh line down, there's a</p> <p>3 sentence that reads: Quote, Claim 1 is not limited</p> <p>4 to any particular routing path and does not preclude</p> <p>5 further routing of the packets from the monitoring</p> <p>6 device."</p> <p>7 I believe that's referring to Claim 1 of</p> <p>8 the '213 patent.</p> <p>9 I want to know, do you agree with that</p> <p>10 sentence in the Institution Decision?</p> <p>11 A That was not an opinion I needed to make</p> <p>12 for my analysis. The claim doesn't talk about what</p> <p>13 happens after you route to the monitoring device.</p> <p>14 Q So you -- this is a part of the</p> <p>15 Institution Decision that you did not consider?</p> <p>16 A No, I did consider it, it's just not</p> <p>17 something that forming an opinion about was necessary</p> <p>18 because it doesn't -- it doesn't -- it doesn't limit</p> <p>19 or restrict or interpret anything about the claim</p> <p>20 because it's -- the claim just says routing. It</p> <p>21 doesn't say anything about what happens after that.</p> <p>22 Q So would you agree that the claim doesn't</p> <p>23 limit any particular routing path?</p> <p>24 A I mean, depending on what you mean by</p> <p>25 path.</p>
<p style="text-align: right;">Page 88</p> <p>1 M. GOODRICH</p> <p>2 It still has to be something that works</p> <p>3 on the packet-by-packet basis, but assuming that</p> <p>4 you're doing it in that way that meets the limitation</p> <p>5 of Claim 1, then the specific routers that you go</p> <p>6 through along the way, I don't see how that's</p> <p>7 relevant.</p> <p>8 I don't have anything, as I'm sitting</p> <p>9 here today, to disagree with that statement on page</p> <p>10 29 of the Decision.</p> <p>11 Q Let's look to page 35.</p> <p>12 A Okay. I'm there.</p> <p>13 Q In page 35, under the analysis of Claim</p> <p>14 7, there's a statement: Petitioner notes that Claim</p> <p>15 7 recites a long known HTTP request method, i.e, a</p> <p>16 put.</p> <p>17 Are you familiar with HTTP put request</p> <p>18 methods?</p> <p>19 A Yes.</p> <p>20 Q Would HTTP put request methods have been</p> <p>21 known to a person of ordinary skill in the art before</p> <p>22 the priority date of the '213 patent?</p> <p>23 A Yes.</p> <p>24 Q All right. We can put down the</p> <p>25 Institution Decision.</p>	<p style="text-align: right;">Page 89</p> <p>1 M. GOODRICH</p> <p>2 A Okay.</p> <p>3 Q I'd like to go back to your Declaration</p> <p>4 and do that in combination with discussion of the</p> <p>5 Narayanaswamy reference.</p> <p>6 A So we're going back to Narayanaswamy?</p> <p>7 Q Yeah, and I'd like to talk about</p> <p>8 Paragraph 65 of your Declaration.</p> <p>9 A Okay. I'm there.</p> <p>10 Q So in Paragraph 65 of your Declaration,</p> <p>11 you say: Quote, A critical component in the above</p> <p>12 architecture is the System Resource Monitor 22, which</p> <p>13 monitors system resource parameters, such as memory</p> <p>14 usage, queue depth, process utilization, number of</p> <p>15 sessions, time of day, network congestion, et cetera,</p> <p>16 closed quote.</p> <p>17 Do you see that?</p> <p>18 A Yes.</p> <p>19 Q And then you say in the next sentence:</p> <p>20 Quote, Then, based on the monitored parameters, the</p> <p>21 system then chooses which policies to apply, for</p> <p>22 instance, by applying thresholds to the monitored</p> <p>23 parameters.</p> <p>24 Do you see that?</p> <p>25 A Yes.</p>

23 (Pages 86 to 89)

<p style="text-align: right;">Page 90</p> <p>1 M. GOODRICH</p> <p>2 Q Does the Narayanaswamy system always</p> <p>3 choose which policies to apply based on these</p> <p>4 monitored parameters?</p> <p>5 A Narayanaswamy, as we talked about earlier</p> <p>6 today, also has this notion of applying policies</p> <p>7 based on the flows. So that's another way that it</p> <p>8 does -- it's using the term policy.</p> <p>9 Here what I'm referring to is this</p> <p>10 fundamental architecture design of Narayanaswamy</p> <p>11 which is based on system resource parameters, that it</p> <p>12 decides whole classes of policies to apply or not</p> <p>13 apply based on these parameters so that, if, for</p> <p>14 example, it's applying a policy that requires a lot</p> <p>15 of overhead and the network is very congested, you</p> <p>16 could then decide that you're now going to wait and</p> <p>17 not do that policy until things get less congested.</p> <p>18 Q But if things are less congested,</p> <p>19 Narayanaswamy discloses that you can apply the</p> <p>20 policies to all network flows without taking the</p> <p>21 internal system resources into account, correct?</p> <p>22 A No, I think that's not what I'm saying.</p> <p>23 What I'm saying is that, taking the</p> <p>24 system resource parameters into effect, when things</p> <p>25 get better again, you can go back to those policies</p>	<p style="text-align: right;">Page 91</p> <p>1 M. GOODRICH</p> <p>2 which you had -- all these were stored there, ready</p> <p>3 to go. You had just said you weren't going to use</p> <p>4 them for a while.</p> <p>5 These are shown, for example, in Figure 2</p> <p>6 from Narayanaswamy, that based on the performance,</p> <p>7 you then can go back to that.</p> <p>8 Q So if we look at Paragraph 6 of</p> <p>9 Narayanaswamy --</p> <p>10 A Okay. I'm there.</p> <p>11 Q Take a moment to read that.</p> <p>12 A Okay.</p> <p>13 Q In Paragraph 6, there's a sentence in --</p> <p>14 in the second column here on page one that reads:</p> <p>15 Quote, Alternatively, or in addition, certain</p> <p>16 policies may be used to limit the application of</p> <p>17 those security services to a range of the current</p> <p>18 packet flows through the IDP device, such as all</p> <p>19 packet flows, only existing packet flows, only packet</p> <p>20 flows matching certain criteria, and the like.</p> <p>21 Closed quote.</p> <p>22 Do you see that?</p> <p>23 A Yes.</p> <p>24 Q So doesn't that tell a person of ordinary</p> <p>25 skill in the art that the Narayanaswamy system can be</p>
<p style="text-align: right;">Page 92</p> <p>1 M. GOODRICH</p> <p>2 implemented such that it is applied to all packet</p> <p>3 flows regardless of these system resource parameters</p> <p>4 that you discuss in your Declaration?</p> <p>5 A I -- I disagree. I think what it's</p> <p>6 saying here in this context is that you have these</p> <p>7 system resource parameters. These are the parameters</p> <p>8 that you're going to use to choose the -- which</p> <p>9 policies to apply, those policies that are numbered A</p> <p>10 through N in Figure 2, for example.</p> <p>11 But then there's other things that you</p> <p>12 can also use, as we've talked about earlier today,</p> <p>13 that based on the classification of flows, you can</p> <p>14 decide, in addition, some of those policies only</p> <p>15 apply to certain flows, like HTTP flows, whereas</p> <p>16 others would apply to all the flows, all the flows in</p> <p>17 this context of, you know, being -- being decided</p> <p>18 which policy to choose based on the system resource</p> <p>19 parameters.</p> <p>20 Q Aren't you ignoring the word</p> <p>21 Alternatively, however, in the sentence?</p> <p>22 I mean, it says Alternatively -- right?</p> <p>23 Which means as an alternative to looking at</p> <p>24 monitoring the system resources -- certain policies</p> <p>25 may be used to limit the application of those</p>	<p style="text-align: right;">Page 93</p> <p>1 M. GOODRICH</p> <p>2 security devices to a range of the current packet</p> <p>3 flow, such as all flows, only existing flows or only</p> <p>4 flows that match certain criteria.</p> <p>5 When it says Alternatively, doesn't that</p> <p>6 tell a person of ordinary skill in the art that, as</p> <p>7 opposed to looking the internal system parameters,</p> <p>8 what you can look at instead is different types of</p> <p>9 packet flows by themselves?</p> <p>10 A That's not how you read it.</p> <p>11 I read the Alternatively to be an</p> <p>12 alternative to the previous sentence. That it's</p> <p>13 saying that the different policies may, for example,</p> <p>14 define a gradient of security services ranging from</p> <p>15 non or lightweight to a complete, rich set of</p> <p>16 security services.</p> <p>17 So it's talking about this gradient.</p> <p>18 Alternatively, instead of having a gradient that goes</p> <p>19 from none to light, that's, you know, still in this</p> <p>20 context of talking about the system research</p> <p>21 parameters, you can also have this gradient that goes</p> <p>22 based on the types of flows you have.</p> <p>23 Q That would mean you can have one but not</p> <p>24 the other?</p> <p>25 A Yeah, just using the ordinary definition</p>

<p style="text-align: right;">Page 94</p> <p>1 M. GOODRICH</p> <p>2 of the word alternatively.</p> <p>3 Alternatively to a gradient based on</p> <p>4 light to none in terms of the -- you know, this</p> <p>5 lightweight to none, you can have a gradient that</p> <p>6 involves the flows.</p> <p>7 Q Okay. And the lightweight to none in the</p> <p>8 previous sentence that you're saying that this is an</p> <p>9 alternative to, that's discussing the utilization of</p> <p>10 the internal resource systems, correct?</p> <p>11 A I think they both are talking about</p> <p>12 resource -- using the resource parameters, but in the</p> <p>13 first instance the -- the -- the emphasis on this</p> <p>14 gradient is on how much performance hit you take for</p> <p>15 those, whereas, the Alternatively, now you can do it</p> <p>16 based on the types of flows you choose, is another</p> <p>17 parameters, along with the system resource</p> <p>18 programmers.</p> <p>19 Q The sentence starts with Alternatively.</p> <p>20 How does it tie the policies that you</p> <p>21 choose based on flows in any way to internal resource</p> <p>22 utilization?</p> <p>23 A Oh, because some -- a person of ordinary</p> <p>24 skill in the art would understand that processing</p> <p>25 certain flows would have different overhead to them.</p>	<p style="text-align: right;">Page 95</p> <p>1 M. GOODRICH</p> <p>2 That's why it's talking about all flows or just</p> <p>3 certain flows.</p> <p>4 If you're processing all the flows,</p> <p>5 that's going to necessarily have more -- require more</p> <p>6 system resources than if you're just processing some</p> <p>7 of the flows, or even just one.</p> <p>8 Q Isn't it possible the person of ordinary</p> <p>9 skill in the art would be considering different types</p> <p>10 of flows just because you would be more concerned</p> <p>11 with HTTP traffic than FTP traffic and it doesn't</p> <p>12 have anything to do with the internal system</p> <p>13 resources?</p> <p>14 A In the context of this paragraph, I</p> <p>15 disagree that that's what this is saying.</p> <p>16 Q I didn't ask that.</p> <p>17 I asked is it possible that a person who</p> <p>18 would be concerned about what flows to track based on</p> <p>19 what type of information is included in different</p> <p>20 flows?</p> <p>21 A I'm not understanding your question. I</p> <p>22 thought you were asking in the context of this</p> <p>23 paragraph.</p> <p>24 Q I'm asking you, is it possible that a</p> <p>25 person of ordinary skill in the art would determine</p>
<p style="text-align: right;">Page 96</p> <p>1 M. GOODRICH</p> <p>2 what policies to apply by analyzing what different</p> <p>3 types of flows of information may be included and</p> <p>4 received at a network -- a network router, for</p> <p>5 instance, such as HTTP traffic versus FTP traffic?</p> <p>6 A And just for clarification, are you</p> <p>7 asking this now in the context of Paragraph 6 or in a</p> <p>8 more general context?</p> <p>9 Q In a more general context.</p> <p>10 A Oh, could you specify the context, then,</p> <p>11 you're talking about? In the context of my</p> <p>12 Declaration, perhaps, some passage in my Declaration?</p> <p>13 Q No, I'm asking you a question.</p> <p>14 A You're now putting aside Narayanaswamy?</p> <p>15 Q I'm asking you a question.</p> <p>16 Could -- would a POSA, looking at network</p> <p>17 traffic received at a router, is going to apply</p> <p>18 certain security policies, consider which policies to</p> <p>19 apply by differentiating different types of packet</p> <p>20 flows, such that it may only wish to apply traffic to</p> <p>21 one type of packet flow and not another -- a policy</p> <p>22 to one type of packet flow and not another?</p> <p>23 A And, again, just for clarification,</p> <p>24 you're asking this in the very general context that</p> <p>25 does not include the teachings of Narayanaswamy?</p>	<p style="text-align: right;">Page 97</p> <p>1 M. GOODRICH</p> <p>2 Q I'm not asking --</p> <p>3 A Are you asking about a POSA that is not</p> <p>4 even looking to Narayanaswamy anymore?</p> <p>5 Q That's correct?</p> <p>6 A That's not an opinion that I was asked to</p> <p>7 render. I would have to think about that in more</p> <p>8 detail.</p> <p>9 Q Okay. Now let's ask --</p> <p>10 A I was looking at a POSA with respect to</p> <p>11 the cited prior art that Dr. Jeffay cited.</p> <p>12 Q Okay. And in the context of</p> <p>13 Narayanaswamy, does the sentence say that the packet</p> <p>14 flows that are selected would be based on the</p> <p>15 specific system resources?</p> <p>16 A Which sentence are we talking about now?</p> <p>17 Q The one we've been talking about the</p> <p>18 whole time in Paragraph 6, the Alternatively</p> <p>19 sentence?</p> <p>20 A And what is the question again?</p> <p>21 Q Does that Alternatively sentence say</p> <p>22 anything about selecting the policies to apply to</p> <p>23 particular packet flows based on internal resource</p> <p>24 utilization?</p> <p>25 A I believe it's implied when it's talking</p>

25 (Pages 94 to 97)

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about how you can do it either for all the packet flows or only some or only one. That's about -- that's dealing with system resources, and it's coming in this whole context when it's talking about the system resources.

Q Why couldn't it also be looking at deciding it based on the type of packet flow?

A It is doing it based on the type of packet flow in the context of the system resources.

Q Why wouldn't it make a decision on what --

A Maybe I'm not understanding your question.

Q Why wouldn't it make a decision on what type of policy to apply based on what type of information is in the packet flow?

A I must not be understanding your question.

Because it is deciding what to do based on its characterization of the packet flow in this context of the system resources, because some flows -- processing all the flows is going to be more expensive than just processing one.

Q So it may decide -- the system, in

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Narayanaswamy, may decide not to process flows -- process any policies relating to flows for FTP packets, correct?

A For example, if the system resources are -- are congested, it might decide not to do FTPs anymore.

Q It may decide to do FTPs without regard to system resources; isn't that right?

A That's not what's being taught in this paragraph.

If you have another passage in there from Narayanaswamy we can discuss, I'd be happy to do that.

Q How does the Alternatively sentence exclude my scenario?

A Because, as I said, I read the Alternatively to be an alternative to the very previous sentence in that paragraph.

Q In that case, what does the term in addition mean?

The sentence says Alternatively or in addition.

A Right. So it means just the plain and ordinary meaning of those terms.

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But reading it, in my opinion, on the previous sentence, it talks about how you can have this range from none to lightweight or to complete. And rather than having that range, you can alternatively, or in addition to that range, have these policies that are also based on the flow characteristics, that with both of those being in this context of looking at the system resource parameters.

Q Well, if I'm already looking at a gradient of security services ranging from none or lightweight to complete or rich security services, why do I need to look at the type of packet flow in addition?

A Because then you get -- you get a two-dimensional performance gradient, first, based on the security services and then, secondly, on the flow types.

Q So if I was going to potentially look at the two-dimensional, I could also decide that I just want to look at either one of the other dimensions by itself?

A Right, but in both instances, you're doing it -- actually, it's sort of a

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three-dimensional, now, situation where you're bringing in the system resource parameters to even talk about which two dimensions we're even going to discuss here.

Q If we look at Paragraph 68 of your Declaration --

A I'm there.

Q -- it states that: Narayanaswamy discloses that multiple IDP devices, 110A through N, are deployed inside Private Network 112, coupled to Public Network 114.

Do you see that?

A Yes.

Q Referring to Figure 6; is that correct?

A I think so. Let me just double check.

It's also discuss -- disclosed in Paragraphs 105 to 107, as well.

Q So in Narayanaswamy Figure 1 --

A I'm there.

Q -- you would agree that this disclosure is of only one IDP device within the private network, correct?

A Yes.

Q All right. We can put aside the

<p style="text-align: right;">Page 102</p> <p>1 M. GOODRICH</p> <p>2 Narayanaswamy reference.</p> <p>3 A Okay.</p> <p>4 Q All right. Looking in Kapoor, Exhibit</p> <p>5 1013, I'd like to discuss Paragraph 87 of Kapoor.</p> <p>6 A Is that the back? All right.</p> <p>7 Eighty-seven. I'm there.</p> <p>8 Q About halfway down Paragraph 87 in</p> <p>9 Kapoor, there is a reference to the system in Kapoor</p> <p>10 performing anomaly logging.</p> <p>11 Do you see that?</p> <p>12 A Yes, I see that.</p> <p>13 Q What does that mean to you?</p> <p>14 A That you're logging something that would</p> <p>15 be unexpected. That's what is meant by an anomaly.</p> <p>16 Q That could include malicious traffic?</p> <p>17 A This paragraph doesn't say what anomaly</p> <p>18 logging is referring to.</p> <p>19 Q Well, you just said that you thought it</p> <p>20 meant referring to something unexpected. So you were</p> <p>21 able to give it your opinion as to what it means.</p> <p>22 And I want to know is it something</p> <p>23 unexpected that could include, could that be</p> <p>24 malicious traffic that's being logged?</p> <p>25 A The paragraph doesn't say. It just says</p>	<p style="text-align: right;">Page 103</p> <p>1 M. GOODRICH</p> <p>2 it's an anomaly. So something unexpected to the</p> <p>3 system would be something that would be logged in the</p> <p>4 context of anomaly logging.</p> <p>5 Q As a person of ordinary skill in the art,</p> <p>6 reading this paragraph, would you understand anomaly</p> <p>7 logging to include the logging of malicious traffic?</p> <p>8 A Not necessarily. It would have to say</p> <p>9 what it means and it didn't say.</p> <p>10 Q Could it include logging of malicious</p> <p>11 traffic?</p> <p>12 A I would be uncomfortable speculating. It</p> <p>13 just says anomaly and doesn't go into detail about</p> <p>14 what that means.</p> <p>15 Q But you're not uncomfortable citing it's</p> <p>16 something unexpected, you're just uncomfortable</p> <p>17 defining something unexpected is?</p> <p>18 A No, that's incorrect. I'm not</p> <p>19 uncomfortable defining what anomaly means. But then</p> <p>20 it give specific instances in the context of Kapoor,</p> <p>21 I would want to look to Kapoor's detail.</p> <p>22 Because this is now coming in now in the</p> <p>23 summary of Kapoor, I would want to then be looking to</p> <p>24 the details to see if, perhaps, it has more details</p> <p>25 on what it means by anomaly.</p>
<p style="text-align: right;">Page 104</p> <p>1 M. GOODRICH</p> <p>2 Q Does Kapoor focus on packet filtering?</p> <p>3 A So Kapoor self identifies what its field</p> <p>4 of endeavor is. It says so in Paragraph 4.</p> <p>5 It says, specifically -- it says first:</p> <p>6 The invention is the in the field of computer</p> <p>7 security and protection. Specifically, it is in the</p> <p>8 field of protecting computer systems from viruses,</p> <p>9 attacks from hackers and other unauthorized</p> <p>10 intrusions, spyware, spam, phishing -- with a p-h --</p> <p>11 and other scams, malicious activities and code.</p> <p>12 So I would -- that's how I would</p> <p>13 characterize Kapoor.</p> <p>14 Q And would you consider that as anomaly</p> <p>15 detection?</p> <p>16 A Anomaly detection is something that could</p> <p>17 be involved in those activities, but you'd have to</p> <p>18 look to Kapoor's details to see what it's meaning by</p> <p>19 anomaly.</p> <p>20 Q Let's look to Paragraph 211 of Kapoor.</p> <p>21 A I'm there.</p> <p>22 Q So do you need a moment to review it?</p> <p>23 A Sure. Thank you.</p> <p>24 Okay. I read it.</p> <p>25 Q This paragraph is talking about logging</p>	<p style="text-align: right;">Page 105</p> <p>1 M. GOODRICH</p> <p>2 of packets and other information in Kapoor, correct?</p> <p>3 A I would not characterize it that way.</p> <p>4 Q Well, halfway down in the paragraph</p> <p>5 there's a sentence that reads: The logging database</p> <p>6 may contain a log of alerts 442, packets 402, data</p> <p>7 cells 408, or information associated with any and all</p> <p>8 of the foregoing.</p> <p>9 Do you see that?</p> <p>10 A Yes.</p> <p>11 Q So the logging database in Kapoor may</p> <p>12 contain a log of packets, as this sentence discloses,</p> <p>13 correct?</p> <p>14 A Yes.</p> <p>15 Q And that would be a log of the entire</p> <p>16 packet itself?</p> <p>17 A I don't have any reason to think it</p> <p>18 wouldn't be the whole packet.</p> <p>19 Q Okay. It also says: Information</p> <p>20 associated with any or all of the foregoing.</p> <p>21 Do you see that?</p> <p>22 A Yes.</p> <p>23 Q Would a person of ordinary skill in the</p> <p>24 art understand that to mean you could log some of the</p> <p>25 information in the packet?</p>

<p style="text-align: right;">Page 106</p> <p>1 M. GOODRICH</p> <p>2 A Well, information is a very broad term.</p> <p>3 It can refer to things that aren't even in the</p> <p>4 packet. It's just information about the packet.</p> <p>5 Q Since information is a broad term, could</p> <p>6 it also refer to a subset of the information in the</p> <p>7 packet?</p> <p>8 A It doesn't say. It just says associated</p> <p>9 with. Based on that, I -- I wouldn't jump to the</p> <p>10 immediate conclusion that it's taking a subset of the</p> <p>11 packet.</p> <p>12 Q Well, I'm asking you as a person of</p> <p>13 ordinary skill in the art reading this, would you</p> <p>14 understand the phrase, information associated with</p> <p>15 any or all of the foregoing, to mean that it could</p> <p>16 include information that is a subset of what's in the</p> <p>17 packet?</p> <p>18 A It's too broad to try to speculate. I</p> <p>19 would feel uncomfortable trying to speculate.</p> <p>20 It's just information related to the</p> <p>21 packets it's associated with. That's how I read</p> <p>22 this.</p> <p>23 Q Is there any reason it could not include</p> <p>24 information that is a subset of the packet?</p> <p>25 A Just from that sentence alone, it's not</p>	<p style="text-align: right;">Page 107</p> <p>1 M. GOODRICH</p> <p>2 ruling that out, but it is talking, in the earlier</p> <p>3 part of the paragraph, about modifying -- the</p> <p>4 modification to a logging database. That's the</p> <p>5 context. And it talks about what the logging</p> <p>6 database can contain.</p> <p>7 You'd have to also read into the context</p> <p>8 of this modification sentence.</p> <p>9 Q I'd like to talk about Paragraph 179 of</p> <p>10 your Declaration.</p> <p>11 A I'm there.</p> <p>12 Q In Paragraph 179 of your Declaration, you</p> <p>13 quote Paragraph 501 of Kapoor, if you want to take a</p> <p>14 moment to look at it.</p> <p>15 A Yes. I see that and I've finished</p> <p>16 reading it.</p> <p>17 Q You bolded a section here that relates to</p> <p>18 packets being directed to a security port for further</p> <p>19 analysis.</p> <p>20 Do you see that?</p> <p>21 A That's correct.</p> <p>22 Q What do you understand the phrase further</p> <p>23 analysis to mean in that context?</p> <p>24 A Just what it says, that there would be</p> <p>25 other analysis done in addition to the analysis, for</p>
<p style="text-align: right;">Page 108</p> <p>1 M. GOODRICH</p> <p>2 example, that would involve this redirection.</p> <p>3 Q Is it possible that it could mean that</p> <p>4 the packet is sent to a monitoring device for that</p> <p>5 further analysis to occur?</p> <p>6 A That's not what is taught, as I explained</p> <p>7 in my Paragraph 180.</p> <p>8 Q Does your Paragraph 180 explain what</p> <p>9 further analysis means?</p> <p>10 A That wasn't required. Because, like I</p> <p>11 said, further analysis is -- I'm reading that to mean</p> <p>12 its plain and ordinary meaning. It doesn't require</p> <p>13 an extra definition.</p> <p>14 Q And as part of its plain and ordinary</p> <p>15 meaning, could the further analysis mean that it's</p> <p>16 sent to a monitoring device to analyze the packet?</p> <p>17 A That's not what's being taught. It never</p> <p>18 says. It just says further analysis. That's what I</p> <p>19 explained in my Paragraph 180.</p> <p>20 Q So further analysis is a broad term, in</p> <p>21 your opinion?</p> <p>22 A It's not a broad term. It's just further</p> <p>23 analysis.</p> <p>24 Q Could further analysis be performed by a</p> <p>25 monitoring device?</p>	<p style="text-align: right;">Page 109</p> <p>1 M. GOODRICH</p> <p>2 A It's not disclosed here in Kapoor.</p> <p>3 That's not disclosed. That's what I'm saying in</p> <p>4 Paragraph 180.</p> <p>5 Q Is it possible? I'm asking you as a</p> <p>6 person of ordinary skill in the art.</p> <p>7 A I don't want to speculate about things</p> <p>8 that are not disclosed. It doesn't say. So I don't</p> <p>9 want to speculate other than to say, definitively, it</p> <p>10 didn't explain that it's going to a monitoring</p> <p>11 device.</p> <p>12 Q But it doesn't say what further analysis</p> <p>13 is, correct?</p> <p>14 A That is correct. It doesn't say.</p> <p>15 Q If we could flip to Paragraph 95 of your</p> <p>16 Declaration.</p> <p>17 A I'm there.</p> <p>18 Q This is in the Motivation to Combine</p> <p>19 section, and it talks about Narayanaswamy and Kapoor.</p> <p>20 Do you see that?</p> <p>21 A Yes.</p> <p>22 Q And you acknowledge in Paragraph 95 that</p> <p>23 the Narayanaswamy reference relates to packet</p> <p>24 filtering, correct?</p> <p>25 A Yes.</p>

28 (Pages 106 to 109)

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2 Q In the Kapoor reference, Exhibit 1013,
3 would you look to Paragraph 70.

4 A Looking for 70. Okay. Hold on. I'm
5 there.

6 Q All right. If you'll take a look at it.

7 A Okay.

8 Q In Kapoor Paragraph 70, it discusses the
9 methods and systems that are implemented in Kapoor,
10 and it talks about, in the second sentence, security
11 policies that may support one or more of -- and it
12 gives a string list, correct?

13 A Yes.

14 Q One of the things in that string is URL
15 filtering, is that correct?

16 A Yes.

17 Q So Kapoor is also looking at packet
18 filtering; is that right?

19 A No, it's talking about URL filtering.

20 Q Is URL filtering a subset of packet
21 filtering?

22 A I don't think so.

23 Q If we look at Paragraph 97 of your
24 Declaration.

25 A I'm there.

1 M. GOODRICH

2 Q In Paragraph 97, when talking about
3 Kapoor, it talks about its system -- and you bolded
4 this language -- may have a situation where memory
5 utilization increases linearly with the number of
6 expressions and/or wherein there may be untenable
7 increases in computation complexity.

8 Do you see that?

9 A Yes.

10 Q And you've cited that in your
11 Declaration, correct?

12 A Correct.

13 Q Kapoor was filed in October of 2007; is
14 that right?

15 A Yes.

16 Q In the upper right-hand corner of Kapoor,
17 the publication of date of it is September 18th,
18 2008; is that right?

19 A Yes.

20 Q So the computation complexity
21 contemplated by Kapoor would be at the time -- at
22 least as early as the time of its publication in 2008
23 is when it was talking about its computational
24 complexities, at that time, correct?

25 A No, that's misreading this sentence.

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2 Q Why?

3 A Because this is referring to computation
4 complexity in the broad sense, the sense that we
5 teach to undergrads in, for example, our algorithm
6 classes. It's related to something called the Big O
7 notation that I teach, as well, and it's talking
8 about complexity as a function of some other input
9 parameter, in this case the number of expressions.

10 So it's saying that that complexity
11 increases to be untenable, because it's linear, with
12 the number of expressions, and then becomes untenable
13 in that sense.

14 Q Well, between the time --

15 A Untenable would be linear. Not because
16 it's 2008.

17 Q Well, by the time the priority date
18 comes, which is six years after the publication of
19 Kapoor, in other words, in 2014, would the ability of
20 a system to handle a certain number of expressions
21 have increased over that six-year period?

22 A It's possible, but it's still -- a person
23 of ordinary skill in the art would still understand
24 that something that's increasing this fast would
25 still be untenable.

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2 Q But the ability to handle system
3 expressions -- the number of expressions that could
4 be handled by a system certainly would have increased
5 over the six-year period from 2008 to 2014 in an art
6 where things turn over every year and half or so,
7 correct?

8 A It's possible that the number of
9 expressions, but the fact that the memory utilization
10 is increasing with the number of expressions is
11 what's untenable.

12 Q And the memory utilization --

13 A The number expressions -- like, let's
14 back up a second. Let's talk about the fact that
15 this is in the context of computer security.

16 Computer security, the whole reason why
17 the '213 patent talks about, you know, these
18 pattern-based approaches not being very good, is that
19 because of the explosion of the amount of bad stuff
20 out there, you need an explosion in the number of
21 expressions that match all of that.

22 And now, this is saying that the memory
23 utilization is linear with that. So even though you
24 have more memory, you still can't keep up.

25 And this is the kind of principle I teach

<p style="text-align: right;">Page 114</p> <p>1 M. GOODRICH</p> <p>2 to my students in my algorithm classes.</p> <p>3 Q Well, I understand that that's what the</p> <p>4 '213 patent says. That doesn't make -- that doesn't</p> <p>5 mean it's necessarily true in the art.</p> <p>6 And since you don't design these systems,</p> <p>7 you wouldn't know if the capability of systems to</p> <p>8 handle this increased memory utilization</p> <p>9 significantly improved in 2008 to 2014, would you?</p> <p>10 MR. PRICE: Objection to counsel's</p> <p>11 testifying.</p> <p>12 THE WITNESS: I disagree with what</p> <p>13 you just said.</p> <p>14 I believe that I do have the</p> <p>15 expertise to opine on these matters.</p> <p>16 BY MR. BLAKE:</p> <p>17 Q Well, you testified earlier that you</p> <p>18 haven't designed or put these systems into use.</p> <p>19 A That's incorrect. I said I have designed</p> <p>20 systems. I haven't built physical systems.</p> <p>21 Q Right. So you haven't actually used</p> <p>22 systems in the industry?</p> <p>23 A Which --</p> <p>24 MR. PRICE: Objection.</p> <p>25 Mischaracterizes testimony.</p>	<p style="text-align: right;">Page 115</p> <p>1 M. GOODRICH</p> <p>2 THE WITNESS: That's not what I</p> <p>3 said, either. And such experience isn't</p> <p>4 necessary for this analysis.</p> <p>5 BY MR. BLAKE:</p> <p>6 Q Isn't it true that the ability of</p> <p>7 computer systems to handle an increasing amount of</p> <p>8 data expressions improved between 2008 and 2014?</p> <p>9 A Yes, but the point is that, if the data</p> <p>10 that you need to store is growing exponentially, but</p> <p>11 your memory utilization -- and your memory</p> <p>12 utilization increases linearly with that number, you</p> <p>13 still can't keep up.</p> <p>14 That's the principles I teach when I</p> <p>15 teach my algorithms classes, because I want to teach</p> <p>16 my students in a way that teaches them principles</p> <p>17 that aren't just about the technology of today, but</p> <p>18 about principles that will last them for their entire</p> <p>19 careers.</p> <p>20 Q So is it --</p> <p>21 A Principles that you can apply to across</p> <p>22 the swath of history of computing as we know it.</p> <p>23 Q So is it your testimony that, as of the</p> <p>24 priority date, there were no systems being marketed</p> <p>25 in the industry that were maintaining the number of</p>
<p style="text-align: right;">Page 116</p> <p>1 M. GOODRICH</p> <p>2 expressions and filtering based on the number of</p> <p>3 expressions known in the art at that time?</p> <p>4 A That's not what I'm saying here.</p> <p>5 What I'm saying here is --</p> <p>6 Q Do you know?</p> <p>7 MR. PRICE: I'd ask that you please</p> <p>8 let the witness answer the question.</p> <p>9 THE WITNESS: What I'm saying here</p> <p>10 is that there's no motivation to combine</p> <p>11 because of the extra costs of</p> <p>12 computational complexity that come along</p> <p>13 with this approach of Kapoor. And even</p> <p>14 if you have more memory, you're not going</p> <p>15 to want to waste it. You're going to</p> <p>16 want to -- a person of ordinary skill in</p> <p>17 the art would want to utilize that for</p> <p>18 other features.</p> <p>19 So this is yet another principle I</p> <p>20 teach to my students. You don't just</p> <p>21 waste memory for the sake of wasting</p> <p>22 memory. That's the reason why there's no</p> <p>23 motivation to combine here.</p> <p>24 BY MR. BLAKE:</p> <p>25 Q Do you know if any systems were using</p>	<p style="text-align: right;">Page 117</p> <p>1 M. GOODRICH</p> <p>2 this approach in the industry in 2014?</p> <p>3 A That were using -- that embody Kapoor; is</p> <p>4 that your question?</p> <p>5 Q That embodied the approach of scanning</p> <p>6 for a number of expressions and using that to packet</p> <p>7 filter?</p> <p>8 A That -- that's precisely what the '213</p> <p>9 patent talks about, is being something it was trying</p> <p>10 to avoid, because that's not scaling.</p> <p>11 And that white paper we talked about also</p> <p>12 talks about how that solution, by 2014 people were</p> <p>13 realizing it's not scaling.</p> <p>14 Q Were people doing it in the industry?</p> <p>15 A That's the point. They were doing it and</p> <p>16 failing, according to that -- what were being said in</p> <p>17 the '213 patent and that white paper.</p> <p>18 Q So outside of arguments made by</p> <p>19 Centripetal itself, you have no additional testimony?</p> <p>20 A I don't believe that the white paper was</p> <p>21 from Centripetal. I thought that was an independent</p> <p>22 source.</p> <p>23 Q Outside of the '213 patent and the ESG</p> <p>24 paper, do you have any other sources?</p> <p>25 A My own experience in the field, as well.</p>

<p style="text-align: right;">Page 118</p> <p>1 M. GOODRICH</p> <p>2 Q So it's --</p> <p>3 A We also have that presentation that we</p> <p>4 talked about earlier, too.</p> <p>5 Q It's your experience, then, that -- well,</p> <p>6 based on your experience, you think that the PTABB</p> <p>7 was incorrect in finding a motivation to combine?</p> <p>8 A I believe that --</p> <p>9 MR. PRICE: Objection. Foundation.</p> <p>10 THE WITNESS: Did they say -- I'm</p> <p>11 sorry. Did they say their decision that</p> <p>12 they found a motivation to combine, or</p> <p>13 that they would just consider that as a</p> <p>14 part of their preliminary decision?</p> <p>15 BY MR. BLAKE:</p> <p>16 Q Did they --</p> <p>17 A I guess I'm not understanding your</p> <p>18 question. I'm not supposed to be asking questions.</p> <p>19 I'm sorry.</p> <p>20 I'm not understanding your question.</p> <p>21 Q In the Institution Decision was there any</p> <p>22 discussion that Narayanaswamy and Kapoor could not be</p> <p>23 combined?</p> <p>24 A I'm not recalling. If you have a place</p> <p>25 in the decision you'd like to point me to, I can look</p>	<p style="text-align: right;">Page 119</p> <p>1 M. GOODRICH</p> <p>2 that up. I think I have that in front of me. Yes.</p> <p>3 I'm sorry. Is there a question pending?</p> <p>4 Q No. I thought you were looking through</p> <p>5 the Institution Decision.</p> <p>6 A Oh, I am. But I thought you were going</p> <p>7 to point me to something. Did you want me to read</p> <p>8 the whole thing again?</p> <p>9 Q No. I'll move onto a different topic.</p> <p>10 A Okay. Fair enough.</p> <p>11 Q Let's look at Paragraph 120 of your</p> <p>12 Declaration.</p> <p>13 A I'm there.</p> <p>14 Q Paragraph 120, you start off by saying:</p> <p>15 A POSA would be aware of multiple ways to achieve</p> <p>16 QoS.</p> <p>17 Do you see that?</p> <p>18 A Yes.</p> <p>19 Q And QoS is quality of service?</p> <p>20 A That is correct.</p> <p>21 Q Would one of the ways that a POSA would</p> <p>22 have been aware of to achieve QoS, as of the priority</p> <p>23 date for the '213 patent, have been through the use</p> <p>24 of the DiffServ specification?</p> <p>25 A Yes, but that's not the only one. So</p>
<p style="text-align: right;">Page 120</p> <p>1 M. GOODRICH</p> <p>2 just with the phrase Disclose DiffServ.</p> <p>3 Q Had you heard of QoS as of the priority</p> <p>4 date of the '213 patent?</p> <p>5 A Yes.</p> <p>6 Q Was it widely used before the priority</p> <p>7 date of the '213 patent?</p> <p>8 A The concept, yes, it existed through all</p> <p>9 these different means that I cite to in Paragraph</p> <p>10 120.</p> <p>11 Q No.</p> <p>12 Have you ever made use of the dis --</p> <p>13 DiffServ specification before the priority date of</p> <p>14 the '213 patent?</p> <p>15 A I don't recall having used the DiffServ</p> <p>16 specification prior to that.</p> <p>17 Q Did you know of the DiffServ</p> <p>18 specification prior to the priority date of the '213</p> <p>19 patent?</p> <p>20 A I don't recall, as I'm sitting here</p> <p>21 today.</p> <p>22 Q You don't recall whether you knew of the</p> <p>23 DiffServ specification before the priority date?</p> <p>24 A That's right. Just sitting here today,</p> <p>25 I'm not recalling the first point that I recall the</p>	<p style="text-align: right;">Page 121</p> <p>1 M. GOODRICH</p> <p>2 DiffServ specification.</p> <p>3 Q Do you recall if you knew of these other</p> <p>4 quality service specifications before the priority</p> <p>5 date?</p> <p>6 A I recall that I knew of quality of</p> <p>7 service and various ways to do it. I do recall ATM</p> <p>8 is one of the ways that I was -- was one of the ones</p> <p>9 that I cite to here. That was one that I was aware</p> <p>10 of from that time, certainly.</p> <p>11 The others, I'm not immediately recalling</p> <p>12 the date that I learned of them.</p> <p>13 Q Do you have any reason to think the</p> <p>14 DiffServ specification wasn't widely used prior to</p> <p>15 the priority date of the '213 patent?</p> <p>16 A As I sit here today, I don't have</p> <p>17 anything to dispute that but, like I said, there's a</p> <p>18 whole wide range of types of QoS.</p> <p>19 Q All of the QoS specifications that you</p> <p>20 identify, you would admit, are older than the</p> <p>21 DiffServ specification, correct?</p> <p>22 A Yes. The DiffServ specification cites to</p> <p>23 them.</p> <p>24 Q As of the priority date in April of 2014,</p> <p>25 would IPv4 type of service bits have been interpreted</p>

<p style="text-align: right;">Page 122</p> <p>1 M. GOODRICH</p> <p>2 according to the DiffServ specification?</p> <p>3 A I don't understand the question. Sorry.</p> <p>4 Q Yes, the IPv4B service bits that were</p> <p>5 being used in 2004 -- 2014 -- excuse me, the priority</p> <p>6 date -- would they have been interpreted according to</p> <p>7 the DiffServ specification?</p> <p>8 A Did you include the DiffServ</p> <p>9 specification in the documents of materials? Do you</p> <p>10 remember what exhibit number it was?</p> <p>11 Q I don't remember if I included it or not.</p> <p>12 I may not have. Let me see here.</p> <p>13 A Just thumbing through, I can't see it,</p> <p>14 and I'm citing to that DiffServ.</p> <p>15 Q Yeah, it's Exhibit 1011.</p> <p>16 A Okay.</p> <p>17 Q It is included in the materials that you</p> <p>18 got?</p> <p>19 A It is. I just found it. Thank you for</p> <p>20 pointing out which exhibit it was.</p> <p>21 Yes, I'm citing to that description from</p> <p>22 DiffServ that talks about these different things, so</p> <p>23 what it's calling the IPv4 type of service QoS, as</p> <p>24 coming before. So that's coming on, for example,</p> <p>25 page ten of Exhibit 1011.</p>	<p style="text-align: right;">Page 123</p> <p>1 M. GOODRICH</p> <p>2 Q Okay. Where are you looking?</p> <p>3 A First full paragraph.</p> <p>4 Q Okay. Anywhere else?</p> <p>5 A That's the place I cited to.</p> <p>6 Q Okay. Are you familiar with the IEEE</p> <p>7 802.1p specification that you cite in your Paragraphs</p> <p>8 120 and 121?</p> <p>9 A That was another one that I'm citing to</p> <p>10 based on the specification that is described -- the</p> <p>11 summary that's given in the DiffServ specification.</p> <p>12 Q Are you familiar with how it works,</p> <p>13 yourself?</p> <p>14 A I'm not recalling the details, as I sit</p> <p>15 here today.</p> <p>16 Q Is it strictly for use with Layer 2</p> <p>17 packets?</p> <p>18 A I'm not recalling the details as I sit</p> <p>19 here today.</p> <p>20 Q What details do you know about how</p> <p>21 IntServ is implemented?</p> <p>22 A I cite to some of those here in my --</p> <p>23 these packages. That it's based on these other</p> <p>24 parameters that aren't in the packet, to decide</p> <p>25 whether or not then you'd use this integrated</p>
<p style="text-align: right;">Page 124</p> <p>1 M. GOODRICH</p> <p>2 services or RSVP metaphor.</p> <p>3 Q Where are you pointing to in your</p> <p>4 Declaration?</p> <p>5 A It's on page 11 in the DiffServ</p> <p>6 specification.</p> <p>7 Q Okay. But you're -- so you're referring</p> <p>8 to -- just generically to your citation of pages nine</p> <p>9 to 11 and Paragraph 120 of your declaration; is that</p> <p>10 right?</p> <p>11 A Yeah, it supports all of that -- all the</p> <p>12 citations I've given you.</p> <p>13 And I could have given more, but I</p> <p>14 thought this was already sufficient to show that</p> <p>15 there's all these other methods for doing QoS besides</p> <p>16 DiffServ. And DiffServ specifications acknowledge</p> <p>17 that.</p> <p>18 Q So why does the existence of other</p> <p>19 specifications, which you only learned about through</p> <p>20 reading the DiffServ specification, mean that a</p> <p>21 person of ordinary skill in the art would not have</p> <p>22 thought to the DiffServ specification when discussing</p> <p>23 QoS?</p> <p>24 A I think you're mischaracterizing what I'm</p> <p>25 saying. Would you like to rephrase that question?</p>	<p style="text-align: right;">Page 125</p> <p>1 M. GOODRICH</p> <p>2 Q Your Paragraph 120 says: A POSA would be</p> <p>3 aware of multiple ways to achieve QoS and, absent</p> <p>4 using the '213 patent to guide, a POSA would not</p> <p>5 immediately look to the DiffServ specification at the</p> <p>6 mere mention of quality of service.</p> <p>7 For example, the DiffServ specification</p> <p>8 mentions several other methods for achieving QoS</p> <p>9 which predate DiffServ, including --</p> <p>10 And then you list these other ones.</p> <p>11 A That is correct.</p> <p>12 Q Why would you say that a POSA wouldn't</p> <p>13 think about using the DiffServ specification? Why</p> <p>14 does the presence of these other possibilities mean</p> <p>15 that DiffServ wouldn't be something a POSA would</p> <p>16 think about?</p> <p>17 A Oh, I think that's not what I'm saying.</p> <p>18 What I'm saying is the mere mention of</p> <p>19 quality of service doesn't mean that -- that you'd go</p> <p>20 to DiffServ, which is the conclusion that Dr. Jeffay</p> <p>21 is reaching.</p> <p>22 Q Okay. Well, I might have misunderstood</p> <p>23 you.</p> <p>24 If they said quality of service, you</p> <p>25 would understand that DiffServ is one of a list of</p>

<p style="text-align: right;">Page 126</p> <p>1 M. GOODRICH</p> <p>2 possibilities?</p> <p>3 A Yes, but there's many possibilities. So</p> <p>4 immediately jumping to DiffServ is -- is a jump</p> <p>5 that's not taught anywhere.</p> <p>6 Q Okay. But you would know that DiffServ</p> <p>7 is one of the possibilities?</p> <p>8 A That is correct.</p> <p>9 THE WITNESS: It's getting close to</p> <p>10 lunchtime, actually past my lunchtime</p> <p>11 here in California. Can we take a lunch</p> <p>12 break or are you getting close to being</p> <p>13 done, if I can ask that question?</p> <p>14 MR. BLAKE: Sure. I'm anticipating</p> <p>15 I'll be done in about ten minutes.</p> <p>16 THE WITNESS: Then let's continue</p> <p>17 then.</p> <p>18 MR. BLAKE: Okay.</p> <p>19 BY MR. BLAKE:</p> <p>20 Q In Paragraph 125 of your Declaration, you</p> <p>21 reference the fact that a POSA would recognize that</p> <p>22 these exemplary QoS implementations function at the</p> <p>23 application layer, Layer 5.</p> <p>24 Do you see that?</p> <p>25 A Yes.</p>	<p style="text-align: right;">Page 127</p> <p>1 M. GOODRICH</p> <p>2 Q Is it fair to say that Layer 5</p> <p>3 application information would determine whether and</p> <p>4 what type of QoS you need?</p> <p>5 A In this example, we're talking about now</p> <p>6 a passage from Narayanaswamy, I believe. Yeah,</p> <p>7 that's the reference.</p> <p>8 So we're talking about Narayanaswamy had</p> <p>9 this notion of a fast path and the first path, and</p> <p>10 it's using this application layer, that's Layer 5</p> <p>11 information, for that.</p> <p>12 Q To tell you whether you need QoS and what</p> <p>13 type of QoS you need, correct?</p> <p>14 A It's even more than that. It's doing the</p> <p>15 QoS at the Layer 5, whereas DiffServ is the Layer 3</p> <p>16 protocol. So this is, in my opinion, teaching away</p> <p>17 from the DiffServ approach.</p> <p>18 Q Wouldn't the system in Narayanaswamy</p> <p>19 effectuate the QoS at Layer 3 by just determining</p> <p>20 whether you need the QoS at Layer 5?</p> <p>21 A So, in Narayanaswamy, when it's talking</p> <p>22 about this first path and fast path, it's referring</p> <p>23 to back to Paragraph, for example, 68, that's talking</p> <p>24 about these flows that happen inside the IDP device.</p> <p>25 So I would not characterize that as being</p>
<p style="text-align: right;">Page 128</p> <p>1 M. GOODRICH</p> <p>2 a level three process.</p> <p>3 Q Isn't that discussion just about what</p> <p>4 type of QoS you're going to have, the first path</p> <p>5 versus the fast path?</p> <p>6 A I don't understand the question.</p> <p>7 Q Well, isn't Narayanaswamy really</p> <p>8 discussing that -- the need for QoS, but the way in</p> <p>9 which it's effectuated wouldn't be done at Layer 5,</p> <p>10 it would be done at Layer 3, right?</p> <p>11 A That's what I'm disagreeing with.</p> <p>12 It's talking about this processing in</p> <p>13 Paragraph 68, about what could be either a first path</p> <p>14 or a fast path, inside the module, which is not about</p> <p>15 Layer 3. It's about what's happening inside the</p> <p>16 module, inside the Device 4, IDP Device 4.</p> <p>17 Q You said Paragraph 68?</p> <p>18 A Yeah. And 67, as well.</p> <p>19 Q I guess I'm taking a moment here to look</p> <p>20 it over, because I'm not understanding exactly how</p> <p>21 Paragraph 67 or 68 are explaining that the</p> <p>22 implementation of the QoS is done at Layer 5.</p> <p>23 A Oh, because Layer 5 -- it's a</p> <p>24 classification based on Layer 5 that then decides</p> <p>25 within the module, independent of now the layers --</p>	<p style="text-align: right;">Page 129</p> <p>1 M. GOODRICH</p> <p>2 it's basing it on the flow, so this is now the Layer</p> <p>3 5 flow.</p> <p>4 Whether or not it's going to, internally</p> <p>5 to the module, go through the first path or the fast</p> <p>6 path. And that choice of whether you go on those two</p> <p>7 paths is a quality of assurance choice.</p> <p>8 Q That is a choice of whether or not --</p> <p>9 A Is one of them a fast path.</p> <p>10 Q That is a choice of what type of quality</p> <p>11 of service to use.</p> <p>12 MR. PRICE: Let the witness answer</p> <p>13 the question, counsel.</p> <p>14 THE WITNESS: I'm sorry. I didn't</p> <p>15 hear your question. Could you repeat it</p> <p>16 please.</p> <p>17 BY MR. BLAKE:</p> <p>18 Q That's a choice of what type of path</p> <p>19 you're going to use?</p> <p>20 A Correct. Which a person of ordinary</p> <p>21 skill in the art would understand has quality of</p> <p>22 assurance implications.</p> <p>23 Q Understood.</p> <p>24 But that does not mean that's explaining</p> <p>25 at what layer the quality of service is actually</p>

1 M. GOODRICH
 2 implemented?
 3 A I disagree.
 4 Q Is there -- changing topics.
 5 Is there anything in HTTP that tells you
 6 how long the headers in a HTTP packet are?
 7 A They can be -- there's a variety of
 8 lengths that they can have.
 9 Q Okay. So --
 10 A I'm not -- I guess I'm not understanding
 11 your question.
 12 Are you asking if there's a fixed length
 13 to HTTP headers?
 14 Q Correct.
 15 A I don't believe so, just sitting here
 16 today.
 17 Q Would that have been true as of the
 18 priority date of the '213 patent?
 19 A Yes.
 20 Q As of the priority date of the '213
 21 patent, how big would a routing table have been?
 22 A I don't understand your question.
 23 Q Could I have a routing table and a
 24 router, as of the priority date of the '213 patent,
 25 that would have been gigabytes large?

1 M. GOODRICH
 2 take a five-minute break. I've got to
 3 run to the bathroom. Then I'll have a
 4 short redirect.
 5 MR. BLAKE: Sounds good.
 6 (Brief pause.)
 7 MR. BLAKE: Okay. I'm ready.
 8 EXAMINATION
 9 BY MR. PRICE:
 10 Q Good afternoon, Dr. Goodrich.
 11 A Good afternoon.
 12 Q Do you recall earlier talking about
 13 Paragraph 30 of Narayanaswamy?
 14 A Yes, I do.
 15 Q In Paragraph 30, does Narayanaswamy
 16 disclose reassembling packets into flows or
 17 reassembling application-layer communications from
 18 packet flows?
 19 A It's disclosing reassembling
 20 application-layer communications from the packet
 21 flows. That's there in the first sentence.
 22 Q In Paragraphs 30 and 31, does
 23 Narayanaswamy explain why one would reassemble
 24 application-layer communications from packet flows?
 25 A Yes. It talks about how, for example,

1 M. GOODRICH
 2 A I'm not immediately recalling, as I sit
 3 here today, how big they were.
 4 Q If we could look to Paragraph 168 of your
 5 Declaration, that's the last subject matter I'd like
 6 to touch on.
 7 A Okay. I'm there.
 8 Q This is discussing proprietary logging
 9 systems, and it's discussing the SEIM.
 10 Do you see that?
 11 A Yes.
 12 Q And it's discussing that SEIM may have
 13 used a proprietary logging system for Microsoft
 14 Windows-based computers.
 15 Do you see that?
 16 A Yes.
 17 Q Is there anything about SEIM systems that
 18 requires that they use a proprietary log format?
 19 A Not to my knowledge, as I sit here today.
 20 Q What about as of the priority date of the
 21 '213 patent?
 22 A I'm not aware of any as I sit here today.
 23 MR. BLAKE: Okay. I think I don't
 24 have any other questions.
 25 MR. PRICE: All right. Can we just

1 M. GOODRICH
 2 you can have HTTP requests that comprise multiple
 3 messages and multiple requests, and that attacks can
 4 go across transaction boundaries.
 5 Q Paragraph 30 also discloses
 6 protocol-specific decoders that analyze
 7 application-layer communications, correct?
 8 A Yes.
 9 Q Do these decoders analyze the reassembled
 10 application-layer communications or do they analyze
 11 individual packets?
 12 MR. BLAKE: Objection to form.
 13 THE WITNESS: They analyze the
 14 reassembled messages.
 15 BY MR. PRICE:
 16 Q Are these decoders that are discussed in
 17 Paragraphs 30 and 31 the same decoders that are
 18 referred to in Paragraph 50 of Narayanaswamy?
 19 A No.
 20 Q Why not?
 21 A Because what's being referred to here in
 22 Paragraphs 30 and 31 is these transactions that can
 23 even be spanning the multiple HTTP requests, whereas
 24 what's being described in, for example, Paragraph 50
 25 is about how to declassify, determine -- and make

<p style="text-align: right;">Page 134</p> <p>1 M. GOODRICH</p> <p>2 determinations between HTTP and FTP, for example.</p> <p>3 So it's a different type of</p> <p>4 classification.</p> <p>5 Q In Paragraph 50, it says: Classifier</p> <p>6 module may be based on information extracted by one</p> <p>7 or more of the above described decoders, determining</p> <p>8 that a first packet, for example, belongs to an HTTP</p> <p>9 application.</p> <p>10 Correct?</p> <p>11 A Yes.</p> <p>12 Q The owner (phonetic) above describes the</p> <p>13 decoders the same decoders that are discussed in</p> <p>14 Paragraphs 30 and 31?</p> <p>15 MR. BLAKE: Objection to form.</p> <p>16 THE WITNESS: It's a similar type</p> <p>17 of decoder, but being used for slightly</p> <p>18 different pattern matches here.</p> <p>19 BY MR. PRICE:</p> <p>20 Q Do you understand that the decoders</p> <p>21 discussed in Paragraph 50 to operate on</p> <p>22 application-layer messages or individual packets?</p> <p>23 MR. BLAKE: Objection to form.</p> <p>24 THE WITNESS: Could you repeat the</p> <p>25 question, please?</p>	<p style="text-align: right;">Page 135</p> <p>1 M. GOODRICH</p> <p>2 BY MR. PRICE:</p> <p>3 Q Isn't it correct that the decoders</p> <p>4 discussed in Paragraph 50 operate on assembled --</p> <p>5 reassembled application-layer messages in the same</p> <p>6 way that the decoders discussed in Paragraphs 30 and</p> <p>7 31 operate on reassembled application-layer messages?</p> <p>8 MR. BLAKE: Objection to form.</p> <p>9 THE WITNESS: Yes, I guess the</p> <p>10 confusion I was having is the classifier</p> <p>11 module 26 is operating with respect to</p> <p>12 each packet, but it's going on and then</p> <p>13 we're doing the protocol decoders on the</p> <p>14 flows.</p> <p>15 BY MR. PRICE:</p> <p>16 Q The classifier module does classify</p> <p>17 individual packets, correct?</p> <p>18 A Yes.</p> <p>19 Q Isn't it also correct that it does the</p> <p>20 classification by using these decoders to evaluate</p> <p>21 reassembled application-layer messages?</p> <p>22 A Yes, that's what's being disclosed in</p> <p>23 Paragraph 50.</p> <p>24 Q Does the classifier module evaluate the</p> <p>25 content of an individual packet to determine whether</p>
<p style="text-align: right;">Page 136</p> <p>1 M. GOODRICH</p> <p>2 the packet includes application-layer packet-header</p> <p>3 information, or does it evaluate application-layer</p> <p>4 information extracted from an assembled</p> <p>5 application-layer message?</p> <p>6 MR. BLAKE: Objection to form.</p> <p>7 THE WITNESS: What it states in</p> <p>8 Paragraph 50, it says: That is,</p> <p>9 classifier module 26 may, based on</p> <p>10 information extracted by one or more of</p> <p>11 the above-described decoders, determine</p> <p>12 that a first packet, for example, belongs</p> <p>13 to an HTTP application, while another</p> <p>14 packet belongs to an FTP application.</p> <p>15 So it's basing this base -- this</p> <p>16 classification based on what those</p> <p>17 decoders do, which operate on the flows.</p> <p>18 BY MR. PRICE:</p> <p>19 Q And specifically, the reassembled</p> <p>20 application-layer communications from the flows,</p> <p>21 correct?</p> <p>22 MR. BLAKE: Objection to form.</p> <p>23 BY MR. PRICE:</p> <p>24 Q Does Narayanaswamy's classifier apply</p> <p>25 policy or determine which policies to apply?</p>	<p style="text-align: right;">Page 137</p> <p>1 M. GOODRICH</p> <p>2 A It determines which policy to apply.</p> <p>3 Q Does Narayanaswamy disclose any policy</p> <p>4 that includes a rule specifying application-layer</p> <p>5 package-header information?</p> <p>6 MR. BLAKE: Objection to form.</p> <p>7 THE WITNESS: No, not disclosed</p> <p>8 here.</p> <p>9 BY MR. PRICE:</p> <p>10 Q Could you please take out the Kapoor</p> <p>11 reference.</p> <p>12 A Okay. I have it.</p> <p>13 Q Do you recall earlier when you were</p> <p>14 discussing with counsel the term anomaly?</p> <p>15 A Yes.</p> <p>16 Q Please turn to Paragraph 130 in Kapoor.</p> <p>17 A I'm there.</p> <p>18 Q Can you read through Paragraph 130 and</p> <p>19 then describe your understanding of how Kapoor uses</p> <p>20 the term anomaly.</p> <p>21 MR. BLAKE: Objection to form.</p> <p>22 THE WITNESS: So Kapoor is</p> <p>23 explaining what it means by anomaly, and</p> <p>24 there's a couple -- a couple sentences I</p> <p>25 would highlight here that explain and</p>

<p style="text-align: right;">Page 138</p> <p>1 M. GOODRICH</p> <p>2 summarize that.</p> <p>3 The first is the opening sentence:</p> <p>4 Network behavioral anomaly detection may</p> <p>5 monitor network data flows so as to</p> <p>6 detect anomalous data flows.</p> <p>7 And further down it says: Then, by</p> <p>8 comparing actual data flows to such a</p> <p>9 model, it may be possible to detect</p> <p>10 anomalies.</p> <p>11 And then the models it's talking</p> <p>12 about are models built from data flows.</p> <p>13 But it's being disclosed here as</p> <p>14 how to determine anomalous data flows</p> <p>15 based on machine-learning techniques</p> <p>16 built from and using data flows.</p> <p>17 BY MR. PRICE:</p> <p>18 Q Are the anomalies discussed in Paragraph</p> <p>19 130 the same as the anomalies that can be logged in</p> <p>20 the Paragraph 87 that you were discussing with</p> <p>21 counsel earlier?</p> <p>22 A Yes, I would say so, because 87 is coming</p> <p>23 in the Summary section and this is coming in the</p> <p>24 Detailed Description.</p> <p>25 Q Could you please turn to Paragraph 23 of</p>	<p style="text-align: right;">Page 139</p> <p>1 M. GOODRICH</p> <p>2 Kapoor.</p> <p>3 A I'm there.</p> <p>4 Q Do you recall discussing this paragraph</p> <p>5 earlier?</p> <p>6 A Yes.</p> <p>7 Q And do you see where it says: Any and</p> <p>8 all packet inspection may be directed at the</p> <p>9 inspection of data that encompasses a packet or flow</p> <p>10 of packets?</p> <p>11 A Sorry. Where is that?</p> <p>12 Q Second to last sentence.</p> <p>13 A Oh, yes. I see that.</p> <p>14 Q You stated earlier that it was -- that</p> <p>15 this was a high level statement, in that paragraphs</p> <p>16 in the 400s of Kapoor explain how Kapoor actually</p> <p>17 goes about detecting patterns in application-layer</p> <p>18 messages, correct?</p> <p>19 A Yes.</p> <p>20 MR. BLAKE: Objection to form.</p> <p>21 BY MR. PRICE:</p> <p>22 Q Turn to Paragraph 403.</p> <p>23 A I'm there.</p> <p>24 Q Do you see where Kapoor states that the</p> <p>25 data in the packets must be reassembled, much in the</p>
<p style="text-align: right;">Page 140</p> <p>1 M. GOODRICH</p> <p>2 same fashion as the destination system reassembles</p> <p>3 packets into messages?</p> <p>4 A Yes.</p> <p>5 Q Is it your understanding that that's how</p> <p>6 Kapoor does its packet inspection directed at</p> <p>7 application-layer data that encompasses a packet or</p> <p>8 flow of packets?</p> <p>9 A Yes.</p> <p>10 MR. BLAKE: Objection to form.</p> <p>11 MR. PRICE: I have no further</p> <p>12 questions.</p> <p>13 MR. BLAKE: Just a couple of</p> <p>14 redirect questions -- recross questions.</p> <p>15 EXAMINATION</p> <p>16 BY MR. BLAKE:</p> <p>17 Q Dr. Goodrich, did you discuss the</p> <p>18 testimony you just gave or any of the questions that</p> <p>19 would be asked to you with Mr. Price during the break</p> <p>20 between my asking you questions and the time he began</p> <p>21 asking you questions?</p> <p>22 A No.</p> <p>23 Q If you could turn to Paragraph 130 of</p> <p>24 Kapoor.</p> <p>25 A I'm there.</p>	<p style="text-align: right;">Page 141</p> <p>1 M. GOODRICH</p> <p>2 Q The anomalous detection that you now</p> <p>3 think you understand more about what it means from</p> <p>4 reading Paragraph 130, it discusses that -- in the</p> <p>5 second sentence, it states that: The anomalies that</p> <p>6 are being detected may include the types, patterns</p> <p>7 and frequencies that are unusual, unexpected, new,</p> <p>8 different or otherwise unlike a normal flow.</p> <p>9 Is that correct?</p> <p>10 A Yes.</p> <p>11 Q And it says that the terms a normal and</p> <p>12 anomalous would be inherently broad, correct?</p> <p>13 A Yes, it says that.</p> <p>14 Q So what you are detecting for as an</p> <p>15 anomaly may include malicious activity under this</p> <p>16 inherently broad definition, correct?</p> <p>17 A No. That's actually not what is being</p> <p>18 referred to as inherently broad. It's referring to</p> <p>19 this phenomenon that, when you're looking at these</p> <p>20 flows, one flow in a certain context might be a</p> <p>21 normal flow, but in another context where that's</p> <p>22 unexpected, hence an anomaly, that would be an</p> <p>23 anomalous flow.</p> <p>24 So, for example, if you have a situation</p> <p>25 where a server is not an HTTP server but some other</p>

<p style="text-align: right;">Page 142</p> <p>1 M. GOODRICH</p> <p>2 type of a server, and you're getting HTTP flows to</p> <p>3 that server, that would be anomalous, whereas another</p> <p>4 server which is an HTTP server getting HTTP flows is</p> <p>5 a part of its daily activities and it would be</p> <p>6 normal.</p> <p>7 Q Well, when it says that you could be</p> <p>8 detecting for frequencies, could you be detecting for</p> <p>9 anomalous increase in traffic on a particular server?</p> <p>10 A Yes, I would say that is inclusive of</p> <p>11 what it's referring to there.</p> <p>12 Q Such as DDoS attack?</p> <p>13 A That could be one type of increase in</p> <p>14 frequency you'd see. There's others. It just could</p> <p>15 be increase in frequency you get from other types of</p> <p>16 flows.</p> <p>17 MR. BLAKE: Okay. I have no</p> <p>18 further questions.</p> <p>19 MR. PRICE: Okay.</p> <p>20</p> <p>21 (Thereupon, the deposition was</p> <p>22 concluded at approximately 4:24 p.m.)</p> <p>23</p> <p>24</p> <p>25</p>	<p style="text-align: right;">Page 143</p> <p>1 M. GOODRICH</p> <p>2</p> <p>3</p> <p>4</p> <p>5</p> <p>6</p> <p>7</p> <p>8</p> <p>9</p> <p>10</p> <p>11</p> <p>12</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p> <p style="text-align: center;">MICHAEL GOODRICH</p> <p>Subscribed and sworn to before me</p> <p>this ____ day of _____, 2019.</p>
<p style="text-align: right;">Page 144</p> <p>1</p> <p>2</p> <p>3</p> <p>4</p> <p>5</p> <p>6</p> <p>7</p> <p>8</p> <p>9</p> <p>10</p> <p>11</p> <p>12</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p> <p style="text-align: center;">DISCLOSURE</p> <p>STATE OF GEORGIA) DEPOSITION OF:</p> <p>FULTON COUNTY) MICHAEL GOODRICH</p> <p>Pursuant to Article 8.B of the Rules and</p> <p>Regulations of the Board of Court Reporting of the</p> <p>Judicial Council of Georgia, I make the following</p> <p>disclosure:</p> <p>I am a Georgia Certified Court Reporter. I am</p> <p>here as a representative of TSG Reporting.</p> <p>TSG Reporting was contacted by the offices of</p> <p>Merchant & Gould to provide court reporting services</p> <p>for this deposition. TSG Reporting will not be</p> <p>taking this deposition under any contract that is</p> <p>prohibited by O.C.G.A. 15-14-37 (a) and (b).</p> <p>TSG Reporting has no contract or agreement to</p> <p>provide court reporting services with any party to</p> <p>the case, or any reporter or reporting agency from</p> <p>whom a referral might have been made to cover the</p> <p>deposition.</p> <p>TSG Reporting will charge its usual and</p> <p>customary rates to all parties in the case, and a</p> <p>financial discount will not be given to any party in</p> <p>this litigation.</p> <p style="text-align: right;">Tanya L. Verhoven-Page, Certified Court Reporter, B-1790.</p>	<p style="text-align: right;">Page 145</p> <p>1</p> <p>2</p> <p>3</p> <p>4</p> <p>5</p> <p>6</p> <p>7</p> <p>8</p> <p>9</p> <p>10</p> <p>11</p> <p>12</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p> <p style="text-align: center;">CERTIFICATE</p> <p>STATE OF GEORGIA:</p> <p>FULTON COUNTY:</p> <p>I hereby certify that the foregoing</p> <p>deposition was reported, as stated in the</p> <p>caption, and the questions and answers</p> <p>thereto were reduced to written page</p> <p>under my direction, that the preceding</p> <p>pages represent a true and correct</p> <p>transcript of the evidence given by said</p> <p>witness.</p> <p>I further certify that I am not of</p> <p>kin or counsel to the parties in the</p> <p>case, am not in the regular employ of</p> <p>counsel for any of said parties, nor am I</p> <p>in any way financially interested in the</p> <p>result of said case.</p> <p>Dated this 22nd day of July, 2019.</p> <p style="text-align: right;">Tanya L. Verhoven-Page, Certified Court Reporter, B-1790.</p>

37 (Pages 142 to 145)

1 NAME OF CASE:
 2 DATE OF DEPOSITION:
 3 NAME OF WITNESS:
 4 Reason Codes:
 5 1. To clarify the record.
 6 2. To conform to the facts.
 7 3. To correct transcription errors.
 8 Page _____ Line _____ Reason _____
 9 From _____ to _____
 10 Page _____ Line _____ Reason _____
 11 From _____ to _____
 12 Page _____ Line _____ Reason _____
 13 From _____ to _____
 14 Page _____ Line _____ Reason _____
 15 From _____ to _____
 16 Page _____ Line _____ Reason _____
 17 From _____ to _____
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 19 From _____ to _____
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 21 From _____ to _____
 22 Page _____ Line _____ Reason _____
 23 From _____ to _____
 24 _____
 25 _____

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