IN THE UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF VIRGINIA
NORFOLK DIVISION

CENTRIPETAL NETWORKS, INC.,
Plaintiff,
v.
CISCO SYSTEMS, INC.,
Defendant.

Civil Action No.:
2:18cv94

TRANSCRIPT OF VIDEOCONFERENCE BENCH TRIAL PROCEEDINGS

Norfolk, Virginia
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BEFORE: THE HONORABLE HENRY C. MORGAN, JR.
United States District Judge



PAN EX1029
Palo Alto Networks v. Centripetal Networks
IPR2022-00182
Page 00001

Appearances: (Via Zoomgov Video)

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(Proceedings commenced at 10:04 a.m. as follows:) 12:00:00

09:51:26

COURTROOM DEPUTY CLERK: In Civil Action 2:18cv94, 09:51:26

Centripetal Networks, Inc. v. Cisco Systems, Inc. 10:04:17

For the plaintiff, Mr. Noona, Ms. Lee, are you ready 10:04:22

to proceed? 10:04:25

MR. NOONA: We are, Your Honor. 10:04:27

COURTROOM DEPUTY CLERK: For defendants, Mr. Jameson, 10:04:28

Mr. Carr, are you ready to proceed? 10:04:29

MR. JAMESON: Yes, Your Honor. 10:04:32

THE COURT: All right. Counsel, I believe the 10:04:37

plaintiff has one witness to call? 10:04:40

MS. LEE: Yes, Your Honor. Centripetal would like to 10:04:46

call Dr. Striegel back to the stand. 10:04:49

THE COURT: All right. 10:04:57

AARON STRIEGEL, having been previously duly sworn, was 10:04:57

examined and testified as follows: 10:04:57

THE COURT: All right. 10:06:21

MS. LEE: May I proceed, Your Honor? 10:06:23

THE COURT: You may. 10:06:24

DIRECT EXAMINATION 10:06:24

BY MS. LEE: 10:06:25

Q. Welcome back, Dr. Striegel. 10:06:27

A. Hello. 10:06:29
Q. You were here earlier in the trial to testify regarding a different subject matter, but now we're going to turn to a different opinion. And I'd like to just briefly remind the Court of your educational background and employment. Could you please explain your educational background and employment briefly? 10:06:30 10:06:33 10:06:36 10:06:39 10:06:42 10:06:45
A. Sure. I received my Ph.D in electrical and computer engineering from Iowa State University in 2002. Prior to that, I received my Bachelor of science in computer engineering also from Iowa State. Since then, I've been at the University of Notre Dame where I'm currently a professor in the Department of computer science and engineering. 10:06:46 10:06:49 10:06:53 10:06:55 10:06:59 10:07:02
Q. And what was the assignment that you'll be testifying about today? 10:07:04 10:07:06
A. I was asked to offer my expert opinion with regards to secondary considerations of non-obviousness for the asserted patents and their respected asserted claims. 10:07:07 10:07:11 10:07:14
Q. Which secondary considerations will be the subject of your testimony today? 10:07:17 10:07:19
A. So today I'll be talking about recognition of the problem, long-felt need in the industry, failure of others, praise by others and industry recognition, copying, as well as licensing. 10:07:21 10:07:24 10:07:27
Q. And what opinions did you reach as a result of your analysis of the secondary considerations? 10:07:31 10:07:34

A. It's my opinion that the patents indeed were non-obvious by virtue of the evidence that I found and the nexus with the appropriate claims. 10:07:36 10:07:42 10:07:44

Q. Now, what did you rely on when forming your opinions with respect to the secondary considerations? 10:07:45 10:07:49

A. So in order to arrive at my opinions I looked at the asserted claims of the asserted patents, I looked at the various file histories of the asserted patents, I considered the Court's claim construction, I considered the prior art as offered in the case, I considered various expert reports from both party's experts, and I also relied on a wide variety of confidential and public documents for the purposes of my review. 10:07:52 10:07:54 10:07:57 10:08:00 10:08:03 10:08:06 10:08:11

Q. And the materials you considered for this case also included those that you considered for your previous report that you testified about earlier? 10:08:14 10:08:17 10:08:19

A. Yes, they did. 10:08:21

Q. And now what time frame did you consider for purposes of your analysis? 10:08:23 10:08:26

A. So for the purposes of my opinion today I'm going to look specifically focusing on the time period from 2013 to 2015. I also looked at the time periods of the prior art, and I also looked at in particular when Cisco had introduced the infringing technology. 10:08:28 10:08:32 10:08:38 10:08:43 10:08:46

Q. Now, you mentioned 2013 to 2015. Why did you mention those dates? 10:08:47 10:08:51

A. So today I'll be just testifying, offering my opinions with regards to four of the particular patents, which would be the '806, the '193, the '176 and the '856, and the '205 would have fallen in 2012. 10:08:52 10:08:55 10:08:58 10:09:04

Q. And why are you not testifying about the '205 patent today? 10:09:05

A. So as I understand, the expert from Cisco's side, Dr. Jeffay, did not offer -- they're not disputing the validity of the '205 patent. 10:09:09 10:09:13 10:09:17

Q. And the 2013 to 2015 dates, those are the filing dates of the four patents you referred to? 10:09:19 10:09:23

A. As I understand it, yes. 10:09:26

Q. Now, what was the level of skill in the art that you considered at the time of your, the inventions and the subject of your analysis? 10:09:27 10:09:31 10:09:35

A. So what I considered for a person of ordinary skill in the art, I considered them as having a Bachelor's in computer science and two years either in industry experience or an advanced degree, and that with a Bachelor degree in computer science or in a related field. 10:09:37 10:09:40 10:09:43 10:09:47 10:09:50

Q. Now, can you briefly explain what the overall problems were in network security around the time of Centripetal's patented inventions? 10:09:53 10:10:00 10:10:03

A. Sure. And to do this I'm going to rely on a slide that we've seen earlier. This was given during Dr. Moore's testimony. This is referring to a slide, this is the Office of 10:10:05 10:10:08 10:10:12

Naval Research. This is an Industry Day slide. And what Industry Day is is this gives a way for, when there's a broad agency announcement, they have an accompanying Industry Day. And what this Industry Day does is, they have a set of slides where the program manager, program director, they present basically here's why we want to have this particular solicitation. And I find this particular slide very helpful because it describes a couple of key aspects as related to the state of the industry in 2010. 10:10:14 10:10:18 10:10:22 10:10:25 10:10:28 10:10:31 10:10:35 10:10:39 10:10:43

So what we see on the bottom line is there was a general sense that the capabilities in the network security industry were largely stagnant. We were having incremental gains here or there, but our general sort of capabilities only sort of a simple signature-based behavior was not growing enough. 10:10:44 10:10:47 10:10:51 10:10:54 10:10:58

In contrast to that, the threat space was increasing dramatically. So what had been observed is the hackers, the bad guys were getting much more innovative. They were doing polymorphism where they were changing the signatures of the virus on the fly. The amount of attacks were growing because everything had moved to the Cloud, and now there was an increased threat space. There's everybody's bringing their own mobile devices into the network, and so now there's new vectors for attack. The adversaries were becoming more capable, too. So what we saw is, you know, moving from smaller groups over to organized crime or even moving into nation-states that were 10:11:01 10:11:05 10:11:09 10:11:12 10:11:15 10:11:19 10:11:21 10:11:24 10:11:27 10:11:31 10:11:34

aggressively trying to extract or exfiltrate intellectual property or other sort of secrets from organizations. And the sort of concern was is that we weren't keeping up. And so when we have to deal with things like insider threats where somebody inside my network tries to exfiltrate data, or the bad guys turning around and using the technology that we use to keep us safe. So they take encryption and now start to encrypt their data, there was a general concern that the technology simply couldn't keep up. And what they were looking for were transformative changes. How can we change this curve and disrupt our adversaries. 10:11:38 10:11:42 10:11:45 10:11:49 10:11:53 10:11:56 10:11:59 10:12:03 10:12:05 10:12:07 10:12:10

Q. And the date of the ONR, Office of Naval Research Industry Day was 2010, is that correct? 10:12:13 10:12:18

A. That's correct. This was offered -- and as we'll see later in my testimony, we'll actually look at the solicitation that accompanied this Industry Day. 10:12:20 10:12:24 10:12:27

MS. LEE: Okay. And just for the record, Your Honor, this is from PTX-1113 which has already been admitted into evidence. 10:12:29 10:12:31 10:12:35

BY MS. LEE: 10:12:35

Q. Now, why were traditional solutions unable to solve the problem that we're seeing here of the increase in threats? 10:12:38 10:12:41

A. So there were a couple of aspects on why the traditional solutions were suffering on this. So No. 1, what we've seen kind of constantly throughout time is there's more and more 10:12:45 10:12:48 10:12:53

network traffic. So that means there's more traffic moving across the network. It means now my network security devices have to handle more data. And commensurate with that, we're also seeing an increase in the amount of threats. So we see, again, moving from just sort of single actors to small groups over to organized crime and transnational entities and even nation-states. So what's happening is you have more traffic and the total number of threats is increasing dramatically. And what ends up happening then is even though there started to emerge this notion of these threat feeds which then give you various aspects, these threat feeds were starting to expand dramatically. So you would have different threat feeds that would focus on maybe different geographic areas, they might focus on different types of attacks. And there was this -- you couldn't really operationalize everything. So the threat space was too vast to try to fit it in your device, especially when you consider all the different sources that were out there.

Then as I talked about earlier, bad guys are getting smarter. They're taking the tools we're already using that we use to keep our data safe and they're using it and applying it to malware payloads. So now their data is encrypted and the signature-based approaches break.

And then if you can couple this all together, the devices themselves were relatively inefficient, because what's happening now is this dynamic threat space, the rules and what's happening

is changing all the time. And the devices themselves often had issues when they went to go do an update, they would often have issues where they would have to pause or have reduced performance. And bad guys are persistent. They don't just attack at night when nobody's at the office. They can attack any time. So you have to be able to dynamically react to these threats. And so the big problem with these traditional solutions they were just reactive and unable to react dynamically to all of this newfound threat intelligence. 10:14:16 10:14:21 10:14:24 10:14:26 10:14:30 10:14:32 10:14:35 10:14:39 10:14:44

Q. And what did Centripetal's patented inventions do to address the problems that the traditional solutions could not solve? 10:14:47 10:14:50 10:14:53

A. So what Cisco recognized -- or sorry, Centripetal recognized was the notion that you needed to be proactive on this. So you needed to be proactive, not wait until they actually attacked your network. You needed to be proactive, and that means bringing together all of this threat intelligence. It needed to be scalable. And by scalable that refers to a couple of different things. But in terms of scalable, you needed to be able to scale to be able to basically cover that threat surface. Instead of just covering a small percentage of the total number of threats, you needed to be able to cover them all. And what that means too is that means that list is changing frequently. So that means you need to be scalable in terms of being able to frequently change between rules, and the 10:14:54 10:14:57 10:15:01 10:15:04 10:15:07 10:15:10 10:15:14 10:15:16 10:15:19 10:15:23 10:15:26 10:15:28 10:15:32

idea is you want to try to prevent threats. And we can see each of the four patents kind of speak to individual parts of this that I'm going to talk about today. 10:15:34 10:15:38 10:15:41

So like with the '193, we see we're trying to prevent exfiltration. With the '806, you're dealing with that scalability with regards to rule swapping. With the '176 you're dealing with the dynamics of the threats in that packets are being transformed and you need a better correlation that you can actually be responsive to. And then finally with the '856, you have to deal with this encrypted traffic. Because the bad guys are using encryption to hide their data, and that's going to break a good chunk of the existing security schemes. 10:15:42 10:15:46 10:15:49 10:15:53 10:15:55 10:15:58 10:16:02 10:16:04 10:16:08

Q. Now, what type of patent claims are the asserted claims in this case? 10:16:11 10:16:15

A. These are all system claims or computer-readable media claims. 10:16:16 10:16:21

Q. Let's take a look at the '193 patent. What was the network security problem addressed by the asserted claims of the '193 patent? 10:16:21 10:16:25 10:16:29

A. So the '193 has been colloquially known as the forward and drop patent. And what this is looking at is the problem of data exfiltration. And the issue that emerged -- 10:16:30 10:16:34 10:16:39

THE COURT: Can you hold on a second? Can you go back to the previous slide just a second? 10:16:41 10:16:43

Okay. Move on. 10:17:00

BY MS. LEE: 10:17:04

Q. So if we could go back to the '193 patent. What was the network security problem addressed by the asserted claims of the '193 patent? 10:17:04 10:17:07 10:17:10

A. Sure. So the issue with many network protocols is they often weren't designed with security in mind. And the adversaries had recognized that you can take some of these data transfer protocols and these are used as, normally as part of your business operations. And the idea is they're going to try to hide. Basically try to smuggle the data that they have to exfiltrate it out in a manner that's just normal business operations or what appears to be normal business operations. 10:17:12 10:17:16 10:17:20 10:17:23 10:17:27 10:17:30 10:17:34 10:17:38

Q. And how did Centripetal's asserted claims solve this problem? 10:17:42 10:17:45

A. So what Centripetal recognized is that you needed to have the ability to do appropriate packet filtering. And by packet filtering, bringing in threats as appropriate on that, and not only that, having this notion of this packet operator. And what the packet operator allows you to do then is distinguish between the appropriate types of data transfers that might allow for exfiltration. 10:17:46 10:17:49 10:17:53 10:17:56 10:17:59 10:18:04 10:18:06

Q. Now, did you find any evidence of long-felt need and failure of others for the '193 invention? 10:18:07 10:18:11

A. I did. 10:18:15

MS. LEE: Can we pull up PTX-460? 10:18:16

BY MS. LEE: 10:18:20
Q. Is this one of the documents that you reviewed for purposes 10:18:20
of your analysis? 10:18:23
A. It is. 10:18:24
MS. LEE: Your Honor, we would move PTX-460 at this 10:18:26
time into evidence. 10:18:29
THE COURT: All right. PTX-460 will be admitted. 10:18:33
(Exhibit PTX-460 received in evidence.) 10:18:42
BY MS. LEE: 10:18:42
Q. Dr. Striegel, what is this document? 10:18:43
A. So this is a paper, it goes along with the presentation 10:18:46
that was done at Black Hat 2010. 10:18:50
Q. What is Black Hat? 10:18:53
A. So Black Hat is a very well-known security conference. 10:18:55
It's been around for quite awhile and had perhaps a bit less 10:18:57
than ideal origins. But the root of where the name Black Hat 10:19:01
comes from is it comes from the old western where you have this 10:19:06
notion where the bad guys wear black hats, the good guys wear 10:19:08
white hats. Black Hat has evolved since it's original inception 10:19:12
now, and pretty much every security vendor is there. You will 10:19:16
oftentimes see new attacks, new exploits that are presented, and 10:19:20
this particular paper talks about one of those particular 10:19:23
attacks focusing on this notion of convert data exfiltration via 10:19:25
the browser. 10:19:31
Q. And if we could blow up the abstract portion on the first 10:19:31

page of this document? 10:19:35

What in the abstract informed your opinion? 10:19:38

A. So the abstract provides a bit of an overview on the paper, and in particular if we go down roughly the fourth line, so what we see in the fourth line is it's talking about by exploiting the functionality of the browser covert channels for data exfiltration may be created without additional software or user privileges. And what this is referring to is it's talking about a covert data channel using existing technology that's already out there. So it's going to be relying on the browser, and it's going to be relying on existing data protocols that the browser's already using. And so we can see at this time that in 2010, data exfiltration attacks are still a problem on that. And if we go ahead then to the conclusions in the summary we can see this in a little bit more detail without getting too deep in the technical weeds. 10:19:41 10:19:44 10:19:47 10:19:50 10:19:55 10:19:59 10:20:02 10:20:07 10:20:09 10:20:12 10:20:17 10:20:23 10:20:27 10:20:30

Q. Okay. If we can take a look then at Page 5 ending in Bates No. 44, and blow up the Conclusion section. 10:20:31 10:20:35

And what in the Conclusion section did you find informative to your opinion? 10:20:40 10:20:43

A. Sure. So if we look at the first paragraph and we look at the last sentence in the first paragraph, what we see is, the author remarks that "This work is presented in hopes that the methods proposed may be mitigated through increased monitoring and awareness." And again, this goes into the spirit of Black 10:20:44 10:20:48 10:20:51 10:20:55 10:20:58

Hat. But what we see is an acknowledgment by the author that these attacks are still present. They are going to work. This is being presented in 2010 as a viable attack for exfiltration. And what we see in the last paragraph is "We see future work will explore how these technologies can be combined with popular website traffic to provide an extra level of covertness and additional bandwidth." And what this is remarking upon is the bad guys don't stop, they continue to keep innovating, or even in this case this might be a bit more of a gray hat, where they are continuing to look at and see where there might be vulnerabilities in the existing technology that we have, which means this is still an unsolved problem. 10:21:01 10:21:05 10:21:08 10:21:13 10:21:19 10:21:23 10:21:27 10:21:29 10:21:32 10:21:35 10:21:40 10:21:43

Q. Now let's turn to the next patent we'll be discussing, the '806 patent. 10:21:45 10:21:49

What was the problem that the asserted claims the '806 patent addressed? 10:21:50 10:21:53

A. Sure. So the '806 patent was looking at the issue that, in particular, when you swap between rules -- and again, this is going to be happening more dynamically because of the increase in the threat space -- is that when you switch between rules, there's the potential to drop packets or have reduced network performance or even have incorrectness in terms of your underlying security rules. And so this is a big problem. Because if you're trying to operate your network normally, if you're dropping packets or having incorrect security or just 10:21:55 10:21:59 10:22:03 10:22:05 10:22:09 10:22:14 10:22:17 10:22:19 10:22:22

generally having a reduced performance, this is going to impact your overall business presence. 10:22:26 10:22:29

Q. How did the '806 patented invention address this problem? 10:22:31

A. So what the '806 patent proposed as a technical solution was how can we do this rule swap taking advantage of the fact that we're already doing this pre-optimization, how can we do this in manner that does not drop packets? And it recognizes that in this sort of dynamic space that you're going to be doing this all the time, you need a way to do this without dropping packets. And that's what the patents specifically in those claims speak to. 10:22:35 10:22:40 10:22:43 10:22:46 10:22:50 10:22:53 10:22:56 10:22:59

Q. Now, did you find evidence of industry recognition and praise for the invention of the '806 patent? 10:23:00 10:23:04

A. I did. 10:23:06

MS. LEE: Let's pull up PTX-1122. 10:23:07

BY MS. LEE: 10:23:12

Q. Was this a document that you reviewed for purposes of your opinion? 10:23:12 10:23:15

A. It was. 10:23:16

MS. LEE: And Your Honor, we move into evidence PTX-1122. 10:23:18 10:23:20

THE COURT: That will be admitted. 10:23:23

(Exhibit PTX-1122 received in evidence.) 10:23:26

BY MS. LEE: 10:23:27

Q. What is this document? 10:23:27

A. So this is a -- it's called a Cool Vendors in Security for Technology and Service Providers. And it's done by an organization called Gartner. 10:23:28 10:23:31 10:23:34

Q. What is Gartner? 10:23:37

A. So Gartner is a -- what they do is they go out and they survey the industry, they look at trends, and then they provide these appropriate white papers. And the idea with these white papers is if you're a person working in the industry or perhaps a vendor in that industry, you can see various trends of where things are going or perhaps new technologies that might be emerging that you might be interested in purchasing. 10:23:38 10:23:41 10:23:44 10:23:47 10:23:51 10:23:54 10:23:57

Q. Do you look at papers from industry analysts like Gartner as part of your job? 10:24:01 10:24:04

A. I do. And oftentimes we'll cite them in our papers because we need to motivate why is this particular security problem or networking problem important. 10:24:05 10:24:09 10:24:13

Q. What was the date of this Gartner report that you reviewed? 10:24:15

A. This was, I see, published on May 4th, 2017. 10:24:19

Q. Now let's go to Page 5 ending in Bates 54. And if we can blow up the portion which starts with "Centripetal Networks"? 10:24:21 10:24:29

You see here there is an analysis by Lawrence Pingree of Gartner for Centripetal Networks. What about this section informed your opinion? 10:24:36 10:24:42 10:24:46

A. So there's a couple of aspects. And in the earlier part of the document they talk about why is an individual vendor cool or 10:24:46 10:24:49

why should it be interesting to someone in the area. In particular, there's a couple of different aspects that stick out to me. But the last sentence notably is in there because it talks about "Centripetal Networks is unique in its ability to instantly detect and prevent malicious network connections based on millions of threat indicators." And the reason in particular this speaks to the '806 apparent is it does you no good to be able to deal with all these threat indicators if you're having continual performance issues or packet drops. And so this, again, speaks to the ability to handle these large bodies of rules. 10:24:53 10:24:57 10:25:00 10:25:04 10:25:09 10:25:13 10:25:17 10:25:22 10:25:25 10:25:28 10:25:32

Q. If we go to the next page which is ending in Bates 55 and we can blow up the section starting with "However"? 10:25:35 10:25:39

Did you find anything informative to your opinion in this section? 10:25:47 10:25:50

A. So again we see this directly pointing to what makes Centripetal Networks cool. So if we look at the first sentence, the analyst specifically calls out the ability to large load -- or load large indicator datasets makes Centripetal Networks cool. And this specifically speaks to the '806, because you don't want to be -- you know you're going to have to be switching between rules, and larger rule sets are just going to exacerbate that problem. And the fact that in the analyst's view that Centripetal was able to do this successfully in my mind very strongly speaks to the technologies offered by the 10:25:51 10:25:55 10:25:58 10:26:03 10:26:08 10:26:13 10:26:15 10:26:19 10:26:23 10:26:27

'806. 10:26:31

Q. Now let's turn to the '176 patent. 10:26:31

What problems did the asserted claims of the '176 patent involve? 10:26:37 10:26:40

A. So the '176 patent was known as the correlation packet -- or correlation patent. And the issue that was occurring that the '176 identified is oftentimes you would have devices in the network would transform packets. And the issue that you would have is your threat space is dynamically changing. You need the ability to bring in those logs and to be able to try to correlate and do that in a manner that you can actually be reactive to that. And if you don't have that ability, the issue that you run into is simple transforms of packets my invade your network security, and that's a highly undesirable problem. 10:26:40 10:26:43 10:26:46 10:26:50 10:26:54 10:26:59 10:27:04 10:27:07 10:27:10 10:27:15

Q. How did the '176 asserted patent claims address this problem? 10:27:18 10:27:22

A. So what the '176 specifically spoke to in the claims is that you need the ability to correlate log entries from multiple advantage points. And use this then, this allows you, in turn, to correlate it with a degree of confidence that you can then be responsive to those particular correlations that you've done and actually act on them. So where you can actually deploy rules and do something in the network itself. That allows you, then, to dynamically respond to threats that might occur in your network. 10:27:22 10:27:27 10:27:31 10:27:34 10:27:40 10:27:43 10:27:47 10:27:50 10:27:54

Q. Did you find any evidence of long-felt need for '176 patented invention? 10:27:55 10:27:59

A. I did. 10:28:00

MS. LEE: Let's pull up PTX-1112. And Your Honor, this is already admitted into evidence. 10:28:01 10:28:08

BY MS. LEE: 10:28:10

Q. Was this a document, Dr. Striegel, that you reviewed for your analysis? 10:28:10 10:28:13

A. It was. 10:28:15

MS. LEE: And if we can blow up the Sections 5 and 6 there? 10:28:16 10:28:20

BY MS. LEE: 10:28:21

Q. What was the date of -- first of all, let me back up. 10:28:22

What was this document? 10:28:25

A. So this was what's called a Broad Agency Announcement. And this is a solicitation by the Office of Naval Research. This is the solicitation that accompanied that particular Industry Day from which the slide deck was drawn from earlier. And so what this speaks to is this is the call for, basically, action that the government is willing to fund individuals, academics, industry partners to go out and try to solve these particular problems that they're going to identify in this document. 10:28:27 10:28:30 10:28:34 10:28:38 10:28:41 10:28:46 10:28:52 10:28:54

Q. And if we can below up Sections 5 and 6? 10:28:58

What was the date of this ONR paper? 10:29:01

A. Sure. We see two dates here. The first one is what's 10:29:06

called for white papers. And white papers are sort of a shortened version of what you'd like to submit. Sort of a prescreening process. And then we see the date for full proposals is May 21st, 2010. And as we may recall earlier, I believe Centripetal had responded to this solicitation directly. 10:29:09 10:29:11 10:29:14 10:29:16 10:29:22

Q. You see there's a Section 6 there, Research Opportunity Description. What did you find in this section informed your opinion? 10:29:26 10:29:29 10:29:32

A. So I found in this section, if we go I believe roughly towards the middle, so -- or actually right before the end. So we'll see the last sentence, the second-to-last line, this talks about the -- what's the description? The high-level sort of abstract that they're talking about. And here we see a call for data fusion and correlation. And as we'll see in a bit, this is expanded upon in the core of the solicitation when they talk about what did they mean by correlation. But there was a broad understanding that we needed better correlation. 10:29:34 10:29:38 10:29:42 10:29:46 10:29:48 10:29:52 10:29:56 10:30:00 10:30:04

Q. And you're referring to the sentence that reads "The prototype will lead to new concepts for protecting data traversing the Department of the Navy networks, will provide decision management, intelligent decision aids, data fusion and correlation and visualization capabilities." Is that what you're referring to? 10:30:06 10:30:08 10:30:12 10:30:16 10:30:20 10:30:24

A. Yes, it is. 10:30:25

Q. Go to the next page, Page 2. And if we can blow up the 10:30:27

section starting with The Architecture, the first set of bullet points. 10:30:34 10:30:39

Was there something here that also informed your opinion with respect to the '176 patent? 10:30:40 10:30:43

A. Sure. About midway through the paragraph we see where the document talks about -- it says "And will include functions such as correlation and fusion." And then we see after that where they actually explained what did they mean by correlation and fusion. So we see that the document points to that are required to provide decision support and near real-time network based asset control with an on-the-fly engagement capability. 10:30:46 10:30:49 10:30:54 10:30:58 10:31:01 10:31:05 10:31:10

So there are several important parts here. So we see they are specifically calling out don't just correlate, we need to be able to go out an correlate, do this to provide decision support, and near real-time network based asset control with an on-the-fly engagement capability. So this is directly speaking to the fact that not only do we need to correlate, we need to correlate in a way that's going to be actionable. That we can actually improve and do something in the network to improve our security posture. 10:31:13 10:31:17 10:31:20 10:31:23 10:31:28 10:31:31 10:31:35 10:31:38 10:31:41

Q. And did you find that related to the '176 patented invention that's at issue here in this case? 10:31:42 10:31:47

A. Yes. Most definitely. I mean, this is what the '176 directly speaks to in those particular claims because it talks about the ability to correlate across multiple vantage points 10:31:49 10:31:52 10:31:56

and it talks about the ability then to generate and be responsive to those particular correlations, which is exactly what this solicitation, in my opinion, is speaking to. 10:32:00 10:32:04 10:32:09

Q. Let's now turn to the '856 patent. 10:32:12

What was the problem that the asserted claims of the '856 patent solved? 10:32:17 10:32:19

A. So the '856 basically recognized that the bad guys are using encrypted data. And the problem that you have is you can't decrypt all of the data, because again, the network traffic is going faster and faster, there's more and more encryption being used. So we need to have a way to get ahead of the game. And what that is is -- 10:32:21 10:32:26 10:32:29 10:32:32 10:32:36 10:32:38

THE COURT: Excuse me. Hold on. I forgot to take my phone out of my pocket. 10:32:41 10:32:46

Okay. 10:33:03

A. So the '856, the problem that was identified as part of that is that, you know, there's too much encrypted data, and we just can't blindly decrypt it, and so we need a way that we can actually still offer network security without being blinded by encryption. 10:33:04 10:33:08 10:33:12 10:33:15 10:33:18

BY MS. LEE: 10:33:19

Q. And how did the asserted claims of the '856 patent address this problem? 10:33:21 10:33:23

A. So what the '856 recognized, and I think is somewhat profound, is it recognized that we need to leverage that 10:33:24 10:33:28

unencrypted data that's associated with that then to allow us to then better manage the encrypted data that comes with those particular flows. And then what the '856 proposed is we can leverage this unencrypted data then to be much more efficient. That allows, that provides us a wealth of information to allow us to appropriately react then to that encrypted data as we see fit. 10:33:31 10:33:35 10:33:39 10:33:44 10:33:46 10:33:49 10:33:53

Q. Did you find evidence of long-felt need and industry recognition for the '856 patented? 10:33:54 10:33:57

A. I did. 10:34:03

MS. LEE: Let's pull up PTX-1135. And Your Honor, this is already in evidence. 10:34:04 10:34:11

BY MS. LEE: 10:34:13

Q. Dr. Striegel, is this the document that you reviewed for purposes of your analysis? 10:34:13 10:34:15

A. Yes, this is one of the documents. 10:34:17

Q. And what is this document? 10:34:19

A. So this is a press release done by Cisco. It was released in June 20th, 2017 and it talks about Cisco unveiling the network of the future." 10:34:21 10:34:26 10:34:32

Q. And what in this document did you find informative to your opinions? 10:34:32 10:34:36

A. So in particular if we look about halfway down the first page we see this phrasing that we've heard several times in this trial where "Cisco's Encrypted Traffic Analytics solves the 10:34:37 10:34:41 10:34:44

unsolvable problem." So in this case it solves a network security challenge thought to be unsolvable as remarked by David Goeckeler, which is one of the senior vice-presidents of Cisco. And the reason why this speaks in particular is it spoke to this problem being a very big deal, and Cisco had felt that they had solved this problem. And this is directly what the '856 speaks to on how you provide the foundation to be able to address this problem. 10:34:50 10:34:53 10:34:56 10:35:01 10:35:04 10:35:07 10:35:10 10:35:14

Q. Let's go to the next page of the document which is ending in Bates 947, Page 2. And if we can blow up the bullet point titled Encrypted Traffic Analytics. Did you find this section here to be informative to your opinion? 10:35:15 10:35:18 10:35:23 10:35:31

A. I did. So in particular this is an acknowledgment again that the notion of today almost half of cyber attacks are hidden in encrypted traffic, and this keeps going. So Cisco very clearly recognized that encrypted traffic is a big deal, and we need to have a way that we can deal with this encrypted traffic in a way that scales and can actually keep up. And that involves the technology as related, in my opinion, to the '856. 10:35:33 10:35:37 10:35:42 10:35:45 10:35:50 10:35:54 10:35:57

Q. Now let's also pull up PTX-464. 10:36:01

Was this another document that you reviewed for purposes your opinions? 10:36:10 10:36:12

A. Yes, it was. 10:36:14

MS. LEE: Your Honor, we would move into evidence PTX-464 into evidence. 10:36:16 10:36:19

THE COURT: All right. 464 will be admitted. 10:36:22

(Exhibit PTX-464 received in evidence.) 10:36:24

BY MS. LEE: 10:36:25

Q. What is this document? 10:36:26

A. So this is an article that appeared in Network World. It's by Brandon Butler, and it appears to have been published January 10th, 2018. And the headline is referring to "How does Cisco's newest security tool detect malware in encrypted traffic", and then below that on the subheader refers to Cisco's Encrypted Traffic Analytics. 10:36:27 10:36:30 10:36:34 10:36:39 10:36:43 10:36:47

Q. And what was the date of this article? 10:36:49

A. It was January 10th, 2018. 10:36:52

Q. All right. On the first page here it says, if we can blow up just the couple paragraphs there that are on the first page? Thank you. 10:36:55 10:37:00 10:37:03

Says "The company initially launched ETA in June, 2017 during the launch of its intent-based network strategy." And then it goes on to say "Today Cisco rolled ETA out beyond just the Enterprise switches it was originally designed for and made it available on current and previous generation data center network hardware too." 10:37:05 10:37:09 10:37:13 10:37:17 10:37:20 10:37:24

Did that inform your opinion? 10:37:26

A. It did, because to me it seemed that Cisco recognized again that this encrypted traffic is a big deal. And part of this, again, is due to the rising -- 10:37:29 10:37:33 10:37:36

MR. JAMESON: Objection, Your Honor. 10:37:39

THE COURT: What? 10:37:42

MR. JAMESON: This document is hearsay. It's an article by a third party, and he's now trying to attribute the content of this article to Cisco, and that's obviously inappropriate. He can answer the question a different way, but he just tried to, basically he tried to basically say that this is Cisco's view of the world, and this is some kind of third party article that was not authored by Cisco. 10:37:43 10:37:45 10:37:52 10:37:56 10:38:02 10:38:05 10:38:10

MS. LEE: Your Honor, Dr. Striegel is providing his opinion from a technical perspective of how this press release shows the industry recognition. 10:38:15 10:38:17 10:38:25

THE COURT: What's the origin of this document? 10:38:29

MS. LEE: Sorry, Your Honor? 10:38:36

THE COURT: Where did it come from? 10:38:37

MS. LEE: Network World. 10:38:39

THE COURT: Network World? 10:38:42

MS. LEE: Yes, Your Honor. 10:38:43

THE COURT: What's Network World, Dr. Striegel? 10:38:44

THE WITNESS: So Network World is a trade publication. So it's -- I believe it's primarily online now, but this would be basically a trade or an industry magazine, now all entirely online, where they have various articles about interesting technologies or developments in the network and the network security world. 10:38:48 10:38:51 10:38:53 10:38:57 10:39:02 10:39:05

THE COURT: Is this a publication -- 10:39:06

THE WITNESS: That is as far as I know. 10:39:11

THE COURT: -- that is generally relied upon by people working in the computer security industry? 10:39:12 10:39:15

THE WITNESS: Yes, Your Honor. It's been in print for quite some time before it switched to an online form, and it would be viewed, again, similar to sort of a weekly or biweekly sort of trade publication where one might read to understand what's going on in the industry. 10:39:19 10:39:23 10:39:26 10:39:29 10:39:32

THE COURT: All right. I overrule the objection. 10:39:35

BY MS. LEE: 10:39:39

Q. Let's go to the page ending in Bates 69. 10:39:40

I'm sorry, maybe I didn't -- I think there was an objection in the middle of your answer, so let's stay with this and let me re-ask the question. 10:39:46 10:39:49 10:39:52

So if we can, again, blow up the paragraph that we had? Thank you. 10:39:55 10:40:00

And the question I had to you was did these paragraphs, did that inform your opinion? 10:40:03 10:40:08

A. It did. And I'll rephrase my answer a bit. So the author in this case is viewing that Cisco has expanded the offerings of ETA beyond the original core offerings, which in my opinion is indicative of the value that Cisco is placing on this particular technology. 10:40:10 10:40:14 10:40:20 10:40:25 10:40:28

Q. Let's go now to the page ending in Bates 69. We see 10:40:30

there's a section called "Why ETA could be a big deal." If we can below that up, please? 10:40:37 10:40:39

And did you find this section to be informative to your opinions? 10:40:43 10:40:47

A. I did. And there's two parts. Again, as we've sort of seen already that Cisco -- and again, we'll cite Cisco when we're writing papers often in terms of their network technology trends -- they're viewing again that encryption is just basically becoming how much the traffic is crossing the network, and they're seeing increasing trends where 41 percent of the hackers are using encryption to evade detection. So it's very clearly a big deal. 10:40:47 10:40:50 10:40:52 10:40:56 10:41:00 10:41:02 10:41:05 10:41:10

What we see then at the bottom is that it actually talks about the past solutions and why they're insufficient. So it talks about this notion of deep packet inspection and Secure Socket Layer inspection. And previous approaches, what they've done is they have basically diverted the encrypted traffic over, and then you would apply traditional firewall or intrusion detection-style approaches, what's called deep packet inspection to them. And what it is, is it's a recognition that you can't move all of the encrypted traffic over and try to decrypt it and inspect it. You need a more intelligent way in order to be able to keep up with the volume of traffic that are crossing one's network. 10:41:11 10:41:14 10:41:19 10:41:23 10:41:26 10:41:29 10:41:33 10:41:37 10:41:41 10:41:45 10:41:48 10:41:51

Q. And at the bottom of this paragraph it says "Harrell argues 10:41:53

that it's inefficient to decrypt all traffic then re-encrypt it before allowing users to access it." Was that also something that you relied on for your opinions? 10:41:56 10:42:01 10:42:03

A. Yes. And in particular the patent directly calls this out where it directly describes that this is inefficient. There's also actually potential privacy concerns that can emerge if you, say, HIPAA data or other sort of credit card data, you really shouldn't be decrypting that data to inspect it before you re-encrypt it and send it on its way as well. 10:42:05 10:42:08 10:42:13 10:42:16 10:42:20 10:42:23

Q. And who is the Harrell that's referred to in this sentence? 10:42:25

A. So Mr. Harrell is one of the vice-presidents of Cisco. 10:42:28

Q. Let's got to the last page of this document page ending in 70. And at the top there it says "How To Buy ETA." If we can blow that up? 10:42:32 10:42:36 10:42:42

Was this section also informative to your opinions? 10:42:45

A. It did. It reinforced the earlier testimony that we had talked about earlier in that it described how ETA was being expanded, and it noted that it was moving beyond the Catalyst 9000 switching line over to the Integrated Services Router as well as the Aggregation Services Router. 10:42:47 10:42:52 10:42:55 10:42:58 10:43:03

Q. And the last sentence here says "ETA is included in purchases of these hardware devices along with a subscription to Cisco-run software that includes StealthWatch." Was that informative to your opinions on industry recognition? 10:43:07 10:43:09 10:43:13 10:43:16

A. It was, because we can see from this that it talks about 10:43:19

how ETA is being bundled, along again, I believe we've heard Dr. Becker talking about this notion of a transition to subscription services. And we see that ETA is being included in these purchases directly with StealthWatch, and it speaks to how it's being bundled and potentially how it's being targeted by Cisco by virtue of the author observing this very offer. 10:43:23 10:43:28 10:43:34 10:43:37 10:43:42 10:43:47

Q. Let's turn to another topic here. Did you find any evidence of copying of Centripetal's patented inventions? 10:43:53 10:43:55

A. I did. I found evidence that it could be plausible. 10:43:59

Q. Let's go back to the timeline that we had. What was the evidence of copying that you found in this case? 10:44:05 10:44:10

A. So I reviewed a wide variety of documents as part of this case, and as we can see on the bottom kind of just middle, we see when Cisco had met with Centripetal, and as Dr. Moore and also Mr. Jonathan Rogers had talked about during their testimony, Mr. Rogers had described the meeting with Cisco where they had presented the slide deck, they had done various technology demonstrations and they had done this all under a non-disclosure agreement. So we can see the timeline is very plausible from when the patents were filed where the meeting with Cisco occurred and also where Cisco had introduced those infringing technologies. 10:44:12 10:44:16 10:44:20 10:44:25 10:44:28 10:44:32 10:44:36 10:44:40 10:44:43 10:44:46 10:44:50

We also heard earlier from Dr. Cole. He had spoke from his perspective as an expert directly dealing with intellectual property at several very large organizations as well, and as 10:44:51 10:44:55 10:44:58

such, you know, I found it very plausible that indeed that this technology could have made its way into these respective accused products. 10:45:03 10:45:07 10:45:11

Q. And the final topic we'll be talking about today is licensing. Did you find any evidence of licensing as a secondary consideration of non-obviousness? 10:45:13 10:45:16 10:45:19

A. Sure. If we could bring up that timeline slide again. What we see in the bottom right is we see in 2018, Keysight undertook a license. Several of those particular patents had directly overlapped with patents being asserted in this case, and all of the particular patents at hand in that particular case all were directly found in the network security field, and more specifically, with threat detection as well. 10:45:23 10:45:26 10:45:32 10:45:36 10:45:39 10:45:42 10:45:46

Q. And did all the patents relate to this idea or subject of operationalizing threat intelligence? 10:45:50 10:45:55

A. They did all relate to that. 10:45:57

MS. LEE: No further questions, Your Honor. 10:46:01

THE COURT: All right. 10:46:04

Are you ready with cross-examination? 10:46:09

MR. JAMESON: Yes, I am, Your Honor. 10:46:13

And Dr. Striegel, we meet again. 10:46:19

THE WITNESS: We do, sir. 10:46:21

MR. JAMESON: I lost the game of Rock, Paper Scissors, but here I am. 10:46:22 10:46:24

THE WITNESS: I think I did as well, going last. 10:46:26

MR. JAMESON: Yeah. But this is the grand finale. So let's try to wrap this up. 10:46:29 10:46:33

CROSS-EXAMINATION 10:46:35

BY MR. JAMESON: 10:46:35

Q. You would agree that as part of your role in evaluating secondary considerations of non-obviousness is that you actually have to establish a nexus between the secondary consideration and the particular claim or claim element, right? 10:46:35 10:46:39 10:46:43 10:46:49

A. Yes. As I understand correctly, one, for secondary considerations of non-obviousness, must show a nexus between the particular patents and their commensurate claims and the respective evidence that's presented. 10:46:53 10:46:57 10:47:01 10:47:05

Q. Okay. And you talked about a number of problems in the industry that you believe that these patents solved, right? 10:47:07 10:47:15

A. I did. I spoke in particular to the state of the industry with regards to 2010 and sort of the state where things were at prior to Centripetal's work. 10:47:20 10:47:24 10:47:30

MS. LEE: I'm sorry to interrupt, but counsel, we don't have the cross-examination exhibits. They were not sent to us yet. 10:47:31 10:47:34 10:47:37

MR. JAMESON: It's been sent. 10:47:39

MS. LEE: Okay. Thank you. 10:47:41

BY MR. JAMESON: 10:47:44

Q. Going back in time, cybersecurity was a big problem back in 2010 and 2013? 10:47:46 10:47:50

A. Yes. 10:47:53
Q. Bad guys were doing a lot of bad things and they were continuing to get smarter, right? 10:47:55 10:47:57
A. Yes. And as the ONR slide deck had talked about, the perception was their capabilities were growing much faster than our defenses. 10:48:00 10:48:06 10:48:10
Q. And data exfiltration was a big problem back in 2010 and 2013, right? 10:48:11 10:48:14
A. I would say, yeah, most certainly data exfiltration was viewed in particular in light of insider threats and particularly in the recognition of our very dedicated adversaries that are trying to penetrate our national defense as well as any sort of corporate defense. 10:48:17 10:48:19 10:48:23 10:48:26 10:48:29
Q. And we could agree that now multiple years after the Centripetal patents have been issued and solved those problems, that cybersecurity is one of the biggest problems that this world faces today? 10:48:32 10:48:40 10:48:45 10:48:49
A. Cybersecurity is incredibly important. 10:48:52
Q. Yeah. It's a huge problem today. 10:48:53
A. It is. I would agree with that statement. 10:48:56
Q. And the bad guys continue to get smarter today, right? 10:48:59
A. They do. 10:49:04
Q. And data exfiltration is still a huge problem today? 10:49:05
A. Yes. I believe that it's a problem today because, again, the types of attacks that might occur on that. Now part of it 10:49:11 10:49:15

can sometimes depend upon the various defenses that are deployed, the particular security postures with regards to preventing exfiltration. 10:49:20 10:49:23 10:49:27

Q. And these problems are going to continue to exist into the future, fair? 10:49:29 10:49:33

A. I would say that they will as long as we have humans writing software and building different sort of devices, security will continue to be a perpetual issue. 10:49:36 10:49:39 10:49:42

Q. And the point is, Centripetal's patents haven't solved this problem? 10:49:46 10:49:51

A. I would disagree with that, in that particularly the problems that the Centripetal patents address, if deployed, could most definitely address several of those particular problems as I highlighted. 10:49:51 10:49:54 10:49:58 10:50:01

Q. Okay. Let's take a look at PTX-1122. And I believe that you provided testimony that this document supports long-felt need for rule swapping in the '806 patent? 10:50:02 10:50:23 10:50:30

A. Yes. I believe so. I would have to double check my report, but as of now I talked about that it's a recognition in particular as well by Gartner. 10:50:36 10:50:39 10:50:43

Q. Let's take a look at Bates 005 which you addressed in your direct examination. 10:50:45 10:50:51

MR. JAMESON: And can we highlight the -- it was the Why Cool paragraph, Mr. Simons. 10:50:52 10:50:58

BY MR. JAMESON: 10:51:01

Q. Okay. And just to be -- again, the '806 patent, it's the patent that deals with the downloading of rules and then swapping rules while you cache packets; is that right? 10:51:01 10:51:07 10:51:12

A. I would characterize it as you need to swap between rules due in part to the dynamics of the network, and you need to do it in a manner that does not drop packets or impinge on network performance. 10:51:19 10:51:23 10:51:26 10:51:31

Q. The claims will speak for themselves as to what they cover with respect to the '806, can we agree with that? 10:51:31 10:51:34

A. I would agree with that. 10:51:37

Q. Okay. And Centripetal is unique in its ability to instantly detect. That's talking about the RuleGATE product that can analyze packets real-time based on the 5 million rules that they have at a firewall, right? 10:51:37 10:51:45 10:51:51 10:51:59

A. So this speaks in particular for the instantly detect. It does speak to how they're implementing their particular appliance on that. So I would say it's a fair statement that they do indeed, that that's referring to -- detection would refer to that. 10:52:02 10:52:07 10:52:12 10:52:15 10:52:18

Q. This has nothing to do with a rule swapping patent? 10:52:20

A. I would actually disagree on that. Because it does you no good, in my mind, to instantly detect if you're going to have this large number of rules if you're not able to react to the dynamics of the network. So rule swaps are simply going to be a normal part of operation, and you have to be able to deal with 10:52:24 10:52:28 10:52:32 10:52:36 10:52:41

that. 10:52:45

Q. Okay. Stated differently, we could read this document from start to finish and we would find no statement or suggestion that Centripetal is cool because they have come up with a clever way or a creative way of rule swapping? 10:52:45 10:52:49 10:52:55 10:53:01

A. No, I would actually strongly disagree with that. Because if we look to the -- I don't remember if it was the next page or a couple pages in, we had talked about the ability to large load -- or load large indicator datasets. And that directly in my opinion speaks to the ability to do a rule swap. Because as I described in any testimony, if you can't switch between the rules without decreased performance or dropping packets, it does you little to no good. 10:53:05 10:53:09 10:53:11 10:53:15 10:53:19 10:53:25 10:53:28 10:53:31

Q. In other words, you're going to do a lot of extrapolating as opposed to the fact that the RuleGATE product is a product that loads 5 million rules to detect real-time packets in an inline network? 10:53:33 10:53:35 10:53:39 10:53:43

A. I'm not quite sure what you mean by extrapolating there. 10:53:45

Q. Well, you're not going to find a discussion of rule swapping in this document. The words rule swapping does not appear in this document, fair? 10:53:47 10:53:50 10:53:54

A. No, it does not appear in the document. But again, I think loading large indicators directly speaks to that. And I think someone skilled in the art would also agree with that. 10:53:56 10:54:00 10:54:03

Q. Okay. Let's turn to DTX-1112. And if we could highlight 10:54:06

paragraph No. 6, please, Mr. Simons? And then highlight the words "data fusion" and "correlation" in the next-to-last line. 10:54:15 10:54:24

BY MR. JAMESON: 10:54:33

Q. And Dr. Striegel, the '176 patent has to do with ingress packets into a network device and egress packets into a network device, and then those packets get correlated that then results in the generation of a rule that gets provisioned in a network, right? 10:54:33 10:54:42 10:54:48 10:54:55 10:55:01

A. No. I would disagree with that statement. And I believe as Dr. Jaeger had talked about yesterday with regards to the, how one would identify the "a network device" on that, it's referring to being able to bring in log entries from multiple vantage points in the network. 10:55:02 10:55:06 10:55:10 10:55:13 10:55:18

Q. You've obviously reviewed the '176 patent? 10:55:22

A. I have reviewed the '176 patent, yes. 10:55:26

Q. And you've looked at figure 1 of the '176 patent? 10:55:28

A. I have. Although it is not totally fresh in my memory. 10:55:33

MR. JAMESON: Well, let's pull up the '176 patent then. It's going to be Joint Exhibit 3. And if we could go to figure 1, please, Mr. Simons? 10:55:38 10:55:40 10:55:58

Is there way to turn that around and -- 10:56:10

BY MR. JAMESON: 10:56:13

Q. And were you here when Dr. Almeroth discussed figure 1? 10:56:13

A. I did catch some of his testimony, but not all of his testimony. 10:56:20 10:56:23

Q. Did you catch his testimony when he described what's going on in figure 1 to the Court? 10:56:23 10:56:27

A. I was listening to his testimony, but unfortunately I got in a bit late and was not able to hop on Zoom. So I was purely listening rather than observing his actual slides. 10:56:28 10:56:32 10:56:36

Q. Would you agree that figure 1 shows, working from the left-hand side you've got packets coming in to a network device, 112, in one direction -- we don't need to do that, Mr. Simons. 10:56:39 10:56:43 10:56:49

Do you agree that you see 122, network device? 10:57:00

A. 120, yes. So 122 is actually in the middle. 10:57:07

Q. Highlight that. Do you see that? 10:57:12

A. I do. 10:57:13

Q. And this is about packets going in and out of the network device 122, right? 10:57:14 10:57:17

A. I do see that. 10:57:19

MS. LEE: Just object. Counsel said network device. The document says network device parenthesis "s". "Device" or "devices". 10:57:22 10:57:25 10:57:31

MR. JAMESON: That's a -- well, Your Honor, that's a attorney argument as opposed to -- and that's a redirect question, that's not an objection. 10:57:32 10:57:34 10:57:39

BY MR. JAMESON: 10:57:41

Q. Figure 1 is talking about packets coming in and out of a network device or network devices, right? 10:57:43 10:57:46

A. So we see on here it has network device or network devices. 10:57:50

I would also point out it refers to taps. So we see taps 124 and 126. 10:57:55 10:58:00

Q. Speaking of taps, none of the accused products have taps, right? 10:58:03 10:58:07

A. Well, the tap would actually refer to you might do, say, a PCAP, you might do other appropriate operations. And the idea with the tap then is that tap could be placed appropriately in your network for the particular vantage point that you're interested in. 10:58:07 10:58:11 10:58:14 10:58:18 10:58:20

Q. Okay. But this figure is showing packets coming in and out of the network device that then get correlated, right? 10:58:21 10:58:26

A. You see -- in 122 you see packets are entering. And the tap I believe is described in the specification, and I have to check for sure, but I believe those taps could be placed appropriately where you see fit. And we've seen that, if we look at the deployment overview for the RuleGATE device as I described earlier as well and in my opening report. 10:58:30 10:58:34 10:58:39 10:58:42 10:58:46 10:58:49

Q. Okay. But let's go back to DTX-1112. 10:58:53

There is nothing in this No. 6 that you can draw the conclusion that data fusion and correlation, other than they use the word correlation, is talking about packets going into and out of a network device and those packets then being correlated for purposes of generating and provisioning rules? 10:59:10 10:59:18 10:59:23 10:59:28 10:59:33

A. I would disagree that. Because this the equivalent of an abstract on the document. And so as I've described earlier in 10:59:37 10:59:40

my testimony, it's important to read the later part of the document to understand what they mean by the term correlation. 10:59:44 10:59:46

Q. Okay. All right. But you would agree that with respect to this correlation that you're testifying about, that whatever packets go into the network device or the network devices, plural, they have to be correlated with the packets that go out of the network device or network devices? 10:59:49 10:59:56 11:00:02 11:00:07 11:00:11

A. So in particular this is where the taps would be advantageous. The taps then allow you to observe those multiple vantage points, then to bring that together for the purposes of correlation. 11:00:15 11:00:18 11:00:22 11:00:25

Q. Okay. Let's take a look at PTX-1135. This may be the most-used exhibit in this case, Dr. Striegel. 11:00:25 11:00:37

A. I would concur, probably, with that statement. 11:00:41

Q. And did you listen to Dr. David McGrew testify? 11:00:49

A. I got part of his testimony but not all of his testimony. 11:00:53

Q. And you heard him testify that his team developed Encrypted Traffic Analytics beginning in late 2014? 11:00:56 11:01:01

A. I had not caught all of his testimony. I did have the opportunity to read some of his papers as well as part of my review. 11:01:05 11:01:07 11:01:11

Q. Do you recall him testifying to that? 11:01:14

A. I don't recall him -- I was not listening on the phone call that day when he had testified. 11:01:17 11:01:19

Q. And do you recall the portion of his testimony where he 11:01:23

identified that he had a patent that addressed the Initial Data Packet and the so-called Sequence of Packet Lengths and Times that are now part of ETA today? 11:01:26 11:01:32 11:01:39

A. I do recall this being, I believe it was brought up during Dr. Cole's testimony. But as I said, I had not listened in on Dr. McGrew's testimony completely. 11:01:42 11:01:44 11:01:48

Q. But just to be clear, it's not your testimony that Centripetal invented Encrypted Traffic Analytics, the technology? 11:01:52 11:02:00 11:02:05

A. Well, I believe Centripetal directly had patented the technology that's a required sort of foundation in order to be able to provide Encrypted Traffic Analytics. 11:02:07 11:02:11 11:02:14

Q. I understand that you believe that that technology may infringe the '856 patent in combination with other products. But Centripetal did not invent Encrypted Traffic Analytics? 11:02:17 11:02:21 11:02:29

A. I don't believe Cisco's released -- or sorry, Centripetal's released a product called Encrypted Traffic Analytics. 11:02:34 11:02:37

Q. And they don't have a single patent that uses the word NetFlow in the disclosure of any patent, right? 11:02:40 11:02:46

A. No, although I think it's important to remember what NetFlow is, and that NetFlow is one of multiple types of log entries. 11:02:52 11:02:55 11:03:00

Q. But I asked a very specific question, which is they do not have a single patent that uses the word NetFlow in the written disclosure? 11:03:01 11:03:03 11:03:08

A. I would have to check that, but I'll take your word for it on that one. 11:03:09 11:03:12

Q. Now the final topic. Copying. You used the word "plausible" I think at least twice, maybe three times in your direct testimony. And Dr. Striegel, I want you to be as specific as you possibly can. Please identify a technology that Cisco copied from Centripetal. 11:03:13 11:03:26 11:03:33 11:03:40 11:03:48

A. So I think the important part to remember on this is any time, if we look at the presentation provided by Centripetal, it's very hard to unlearn things. So once you had a detailed technical presentation that has talked about the respective algorithms and the approaches that Centripetal had done, it's very hard to unlearn it. So it is very plausible in my mind, as I said, again, because I don't directly have firsthand knowledge, that the timeline where the technology was learned and then it appeared in the Cisco products later. 11:03:52 11:03:55 11:03:58 11:04:02 11:04:06 11:04:10 11:04:13 11:04:16 11:04:20

Q. Okay. But what's the technology that appeared in the Cisco products that you're referring to? 11:04:22 11:04:27

A. So I believe in this case I found it plausible with regards, as I talked about in my deposition, with regards to the '856 and the '806. 11:04:31 11:04:34 11:04:38

Q. That wasn't my question. What is the technology that is in Cisco's products that you believe is plausible that they copied? 11:04:39 11:04:43

A. So I believe I answered your question that I'm talking about the particular claims as embodied by the '806 and '856. 11:04:49 11:04:52

Q. Sir, respectfully, my third try, okay? 11:04:58

THE COURT: That's his answer. 11:05:03

Q. I'm not asking you about the claims of the patents, I'm asking you what is the technology, the specific technology in a Cisco product that you believe Cisco copied. 11:05:04 11:05:06 11:05:13

A. As I described before, I believe that the '856, the taking of the unencrypted together with the encrypted and that particular algorithm as well as the rule swap, I found those to be plausible based on the dates of the technical presentation as given by Mr. Jonathan Rogers to when the particular infringed products had appeared. 11:05:17 11:05:22 11:05:26 11:05:29 11:05:33 11:05:38

THE COURT: Okay. Mr. Jameson, you can't keep asking the same question until you get the answer you want. 11:05:39 11:05:42

MR. JAMESON: Well, Your Honor, that's fair. Listen, I very much respect that, but he never answered my question. 11:05:46 11:05:51

THE COURT: Well, he said the technology in the patents. 11:05:54 11:05:58

MR. JAMESON: Right. And the technology in the patents -- 11:05:59 11:06:00

THE COURT: Okay. The technology in the -- 11:06:00

MR. JAMESON: -- is not the technology in our products. 11:06:00 11:06:00

THE COURT: Okay. Well, the technology he said they copied was in one of those two patents, the '806 and what was the other one? 11:06:01 11:06:10 11:06:13

THE WITNESS: The '856, Your Honor. 11:06:14

MR. JAMESON: I'm asking for -- 11:06:16

THE COURT: The '856 and the '806? 11:06:17

THE WITNESS: Yes, sir. 11:06:21

THE COURT: Okay. 11:06:21

MR. JAMESON: And Your Honor, I'm asking a different question though. 11:06:21 11:06:23

BY MR. JAMESON: 11:06:23

Q. What's the feature? What's the feature in the Cisco products? 11:06:23 11:06:27

A. So I believe in this case this had talked about leveraging both the encrypted as well as the unencrypted data basically as described in the claims of '856 patent. And then I also found it plausible with regards to the '806 and the approach for rule swapping as well. 11:06:30 11:06:35 11:06:39 11:06:43 11:06:46

Q. Okay. Who at Cisco copied that -- plausibly copied that technology found in the '806 and -- or the '856 and '176 patent? 11:06:47 11:06:52

A. Again, I don't have firsthand knowledge of how that transmission chain might have occurred. Again, I commented again I found it very plausible with regards to that timeline and the difficulty of sort of unlearning information that you've already learned. 11:06:59 11:07:01 11:07:05 11:07:08 11:07:11

Q. Okay. And the final topic that you addressed was licensing, and you referenced the Keysight agreement. 11:07:12 11:07:16

A. I did. 11:07:19

Q. Okay. Can we agree that Keysight/Ixia was a direct competitor of Centripetal? 11:07:19 11:07:25

A. I believe Ixia would be a direct competitor, and as Keysight acquired them, then that would identify Keysight as a direct competitor. 11:07:29 11:07:33 11:07:36

Q. And Keysight had the choice of completing the lawsuit and perhaps getting an injunction against Keysight or accepting a monetary payment and allowing Keysight to continue to sell products in the marketplace, right? 11:07:37 11:07:45 11:07:52 11:07:56

A. I'm less familiar with the particular options that would have been available to Keysight at the time. 11:07:57 11:07:59

Q. But under the terms of the agreement, Keysight is allowed to still sell products in the marketplace, right? 11:08:02 11:08:07

A. As I understand it, yes. 11:08:10

MR. JAMESON: I've got no further questions, Your Honor. 11:08:14 11:08:15

THE COURT: Any redirect? 11:08:16

MS. LEE: Yes, Your Honor. Just a couple questions. 11:08:19

REDIRECT EXAMINATION 11:08:20

BY MS. LEE: 11:08:21

Q. Dr. Striegel, you mentioned some papers of Mr. McGrew that you had reviewed. What did you find upon your review of these papers? 11:08:21 11:08:27 11:08:30

A. So what I found in the review of those papers is they had done some machine learning with regards to some of the encrypted 11:08:30 11:08:33

traffic, and I found it interesting, but at the same time not the same type of solutions as talked to by the '856. 11:08:36 11:08:40

Q. And you were asked about NetFlow. Did NetFlow change after the '856 patent was filed to add fields? 11:08:45 11:08:49

A. As I understand, there had been various -- NetFlow's kind of constantly changing over time, new features are being added. I would have to look for sure on the details, but as I believe, yes, but I would have to confirm that. 11:08:54 11:08:56 11:09:00 11:09:03

MS. LEE: Okay. Thank you. 11:09:05

No further questions. 11:09:06

MR. JAMESON: Just like yesterday, Your Honor, one final question. I'll be done. 11:09:08 11:09:09

THE COURT: Well, she asked two. 11:09:13

MR. JAMESON: And I want 50 percent. 11:09:16

THE COURT: All right. 11:09:18

RECROSS-EXAMINATION 11:09:18

BY MR. JAMESON: 11:09:20

Q. Dr. Striegel, you would agree that the machine learning aspect of ETA has nothing to do with the claims of the '856 patent? 11:09:21 11:09:24 11:09:31

A. I think it's important to remember that the '856 is very effective enabling technology. Without the solution taught to by the '856, you don't get those gains that you would get from machine learning. 11:09:32 11:09:35 11:09:39 11:09:43

MR. JAMESON: I would like to ask another one, Your 11:09:48

Honor, but I said I wouldn't, so no further questions. 11:09:49

THE WITNESS: Thank you, sir. 11:09:54

THE COURT: All right. Well, you're excused as a witness, Dr. Striegel. 11:09:55 11:10:02

THE WITNESS: Thank you, sir. Thank you, Your Honor. 11:10:07

THE COURT: You may go about your ordinary business. 11:10:14

All right. Counsel, one of the things that I always do at the conclusion of the evidence is ask counsel to confer with Lori and make sure that all of the exhibits that you intended to -- can we disconnect Dr. Striegel? He seems to still be on the network. 11:10:17 11:10:28 11:10:38 11:10:49 11:11:00

MR. ANDRE: Your Honor, I think he's just stopping the screen there. I should be on the screen now. 11:11:02 11:11:03

THE COURT: You are. 11:11:08

MR. ANDRE: Okay. 11:11:08

THE COURT: I want to you make sure that all of the exhibits that you intended to introduce were introduced. By that I mean if you questioned the witness on an exhibit and didn't introduce the exhibit, then the Court would allow you to have it introduced at this point. That doesn't mean that you can bring in any new exhibits to which reference was not made during the trial or which was not used for the purpose of questioning a witness. In other words, you can correct your inadvertent failures in that regard if there are any, but not bring in anything new. Considering the number of exhibits in 11:11:11 11:11:13 11:11:20 11:11:28 11:11:36 11:11:39 11:11:47 11:11:53 11:11:59 11:12:06

this case, that might be a difficult undertaking. 11:12:13

But before we get to that, is any there any format that you wanted to suggest for tomorrow's argument? 11:12:20 11:12:31

MR. ANDRE: Your Honor, we had some preliminary talks about that. And with respect to the exhibits we've already had a conversation with Cisco's counsel. We're going to have a meet-and-confer after lunch today to go over all the exhibits, make sure we're all on the same page, then we'll get with Lori to make sure we are on the same page. If any exhibits were not admitted at that point we'll make sure they're taken care of. 11:12:37 11:12:40 11:12:42 11:12:48 11:12:51 11:12:54 11:12:57

THE COURT: Okay. Of course the inverse of that is we want to make sure that there aren't any exhibits included in the records that shouldn't have been. Sometimes counsel think if they put an exhibit in the Final Pretrial Order, that automatically admits it. But as the Court previously advised you, that's not the case. Our particular order, you have to ask for the exhibit to be introduced. The fact that it was listed an unobjected-to exhibit in the Final Pretrial Order does not make it admitted. 11:13:04 11:13:05 11:13:11 11:13:15 11:13:20 11:13:24 11:13:30 11:13:34 11:13:40

MR. ANDRE: Understood, Your Honor. 11:13:44

THE COURT: Okay. 11:13:45

MR. ANDRE: With respect to closing arguments, I know Your Honor had given us a preference you prefer us to do one patent at a time and we go back and forth. Mr. Jameson and I had a conversation about doing 20 minutes per patent with, 11:13:48 11:13:50 11:13:54 11:13:56

handling both infringement and validity of those patents with the plaintiff going first, going 15 minutes, then defendant going second, using their whole 20 minutes, and plaintiff reserving five minutes in rebuttal, or some loose formula like that. It adds up to about 40 minutes a patent, five patents, 200 minutes, you know, that's a little over three hours with breaks built in. 11:14:02 11:14:06 11:14:11 11:14:14 11:14:18 11:14:22 11:14:27

We had also talked about having a little bit of an introductory discussion before we get to the first patent, maybe 10 minutes or so, and maybe we can just tag that on to the first patent we talk about. Make it 20 minutes a side, 30 minutes a side that we have the introductory aspect we want to talk about. And then since we're not doing monetary damages, we can save the last 10 to 15 minutes per side on non-monetary remedies that we would discuss at the end of the day. 11:14:28 11:14:31 11:14:36 11:14:39 11:14:44 11:14:47 11:14:49 11:14:55

THE COURT: All right. Well, the only thing, the question I have about that is the way the evidence was presented by the parties makes it difficult to consider infringement and validity together, in my mind. I think it would be better to treat them separately. 11:15:01 11:15:05 11:15:13 11:15:31 11:15:41

MR. ANDRE: We can move the timing for that, Your Honor. I think that's easy enough to do. And we can probably group the patents on validity maybe, or maybe we could do all the validity issues at one time per each side instead of doing them patent-by-patent unless Your Honor would prefer to do 11:15:44 11:15:46 11:15:49 11:15:52 11:15:56

patent-by-patent on validity as well. 11:15:59

THE COURT: Okay. That's a variation I hadn't thought about. In other words, do all five on infringement and then do all five on validity. I was thinking do infringement, then validity. Your solution may be better. Let me think about that. 11:16:07 11:16:10 11:16:16 11:16:19 11:16:24

MR. ANDRE: We could ping-pong back and forth on the infringement aspect, and we can do the same thing -- there's only four patents for validity, so one them is not in the mix. 11:16:28 11:16:31 11:16:33

THE COURT: Yeah, I think that would be better to do all five on infringement and then do the four on validity. 11:16:46 11:16:48

MR. ANDRE: And would you prefer us to do them one at a time going back and form with the parties? 11:16:55 11:16:57

THE COURT: Yeah. 11:17:00

MR. ANDRE: Okay. 11:17:00

THE COURT: Let's just do one-by-one on infringement and then when we get through that, let's do one-by-one on validity. 11:17:01 11:17:06 11:17:11

MR. ANDRE: Okay. 11:17:12

MR. JAMESON: Your Honor? 11:17:14

THE COURT: Yes? 11:17:16

MR. JAMESON: Mr. Andre and I can kind work out the, we can reallocate the timing on this. We're going to be doing an awfully lot of ping-pong on Thursday, and I could see us using up all of our time inadvertently in a hurry. And I don't 11:17:17 11:17:20 11:17:27 11:17:37

have a solution to that. I'm just, that's just an observation. 11:17:41
Transitioning back and forth. 11:17:47
THE COURT: Well, I'm not going to handle it like some 11:17:50
of the courts do where they push a red light, you know. 11:17:57
MR. JAMESON: Okay. That's what I'm trying to -- 11:18:02
THE COURT: I'm going to give you some wiggle room. 11:18:04
MR. JAMESON: Okay. 11:18:06
THE COURT: Because I think you're right, going back 11:18:07
and -- you use up a lot of time just going back and forth. 11:18:09
MR. JAMESON: Do you have a, do you have a preference 11:18:16
as to the order of the patents that we address? 11:18:20
THE COURT: I think yes. I'm glad you brought that 11:18:24
up. I would like you to address them in the order in which they 11:18:27
were presented in the case. 11:18:32
MR. JAMESON: Okay. 11:18:36
THE COURT: The same order that the plaintiff 11:18:39
presented them. 11:18:41
MR. JAMESON: Okay. And Mr. Andre raised the issue 11:18:42
about -- and I agree with him -- I think it would be useful to 11:18:47
have five or seven or 10 minutes at the very beginning to set 11:18:51
the stage for the closing arguments, if you're okay with that. 11:18:56
THE COURT: Yeah. I'm fine with that. 11:19:07
MR. JAMESON: Okay. 11:19:09
THE COURT: I'm fine with you saving a little bit of 11:19:10
time at the beginning and the end if that's what you'd like to 11:19:13

do. 11:19:16

MR. JAMESON: Okay. 11:19:17

MR. ANDRE: Mr. Jameson and I will talk about it after court today and we'll work out the time schedule and with the understanding there might be a little bit of flexibility built into it. 11:19:17 11:19:20 11:19:23 11:19:26

THE COURT: Right. 11:19:26

MR. JAMESON: Okay. 11:19:27

THE COURT: Do we have any progress on our data collection? 11:19:31 11:19:33

MR. JAMESON: Your Honor, other than I've got a team of lawyers running into my room as we speak to give me an update. 11:19:36 11:19:39 11:19:42

I'm being told that the data will be in the hands of Dr. Becker by the end of this week, and unfortunately that's the update I have for you. 11:19:51 11:19:54 11:20:02

MR. ANDRE: Your Honor, is it the intention that the raw data that Dr. Becker gets would be shared with us so we could look it over as well or is it -- I don't know what the -- if Cisco -- we're under a protective order and they have given us raw data previously on a day-to-day basis. 11:20:06 11:20:10 11:20:13 11:20:16 11:20:19

THE COURT: Well, I think we should -- yes, I think it should be given to counsel at the same time it's given to Dr. Becker, because they're entitled to have somebody look at it on their behalf. 11:20:22 11:20:27 11:20:31 11:20:36

MR. JAMESON: Your Honor, that was our intention. 11:20:37

THE COURT: Right. 11:20:40

MR. JAMESON: No issues there. 11:20:41

THE COURT: All right. And I don't know where we go from there, because we don't know what the result's going to be on monetary damages at this point. So I don't guess we can plan beyond that. In other words, he'll get the raw data at the end of the week. So the raw data will be shared at the end of the week. 11:20:44 11:20:50 11:20:57 11:21:04 11:21:09 11:21:14

MR. JAMESON: Your Honor, at the risk of suggesting something crazy, it might be that we get the raw data and we get it to you in the form that you're asking for, but that, you know, the first order of business is determining the liability issues, and depending on where that comes out, that will allow the parties to focus better on either no damages issues or whatever damages issues are left. 11:21:15 11:21:17 11:21:27 11:21:33 11:21:36 11:21:43 11:21:48

THE COURT: Well, that's up to the parties. In other words, the case hasn't been bifurcated. And the Court itself brought this up because of the enormous disparity in monetary views of the experts. But the case wasn't bifurcated. Now, if counsel agrees that the Court should make its findings on liability as soon as possible after the arguments without waiting for anything further, then I don't have any objection to doing that, but I'm not going to do it unless both sides request it. 11:21:51 11:22:06 11:22:17 11:22:28 11:22:36 11:22:42 11:22:51 11:22:57 11:23:02

MR. JAMESON: I have effectively requested it, because I think there's a lot of benefit to both parties if that happens. But you know, that's -- so that's Cisco's position. 11:23:05 11:23:07 11:23:11

THE COURT: All right. 11:23:17

MR. ANDRE: I'll confer with my client, Your Honor, but we're not willing to take that position just yet. 11:23:19 11:23:21

THE COURT: All right. Well, I'll do it either way you want to do it, because it's my request for additional data that caused us to be in this position where we can't deal with damages at the same time as liability. And it wasn't requested in advance. So I feel like the Court should entertain that request if both counsel agree. That's all I'll say about it. But I just don't want to engage in a guessing game regarding damages. And quite frankly, when there's such a disparity in the way the damages were computed by the two parties as well as such a disparity in the outcome, I feel like the Court needs additional data to try to do the best it can with the damages issue. And the Fourth Circuit -- I mean the Federal Circuit has commented on how difficult it is to determine damages in patent cases anyway. They have used some colorful language in that area. But I think they're right. It's not easy to do. 11:23:25 11:23:31 11:23:40 11:23:47 11:23:58 11:24:06 11:24:13 11:24:19 11:24:23 11:24:31 11:24:35 11:24:43 11:24:48 11:24:51 11:24:58

MR. JAMESON: It's very difficult, Your Honor. That's why we hope the answer is zero. 11:25:04 11:25:05

THE COURT: I'm sure you do. 11:25:09

MR. JAMESON: Yeah. 11:25:11

THE COURT: All right. Is there anything else that counsel would like to take up before we adjourn? 11:25:12 11:25:14

MR. JAMESON: Yeah, I've got one kind of go-forward logistical issue to get your guidance on, which is I think we're supposed to be supplementing the record with record cites and updated findings of fact, and I wanted to get your guidance on whether that is what we're supposed to be doing and a time table to get those to the Court following the closings tomorrow. 11:25:21 11:25:25 11:25:29 11:25:35 11:25:40 11:25:44

MR. ANDRE: Your Honor, I don't recall having that discussion, we would go in and amend the proposed findings of fact and conclusions of law. In fact, I don't think I've ever done that before in a case after the fact. It leads to the possibility of people trying to obviously fill in holes in their case, which would not be a positive thing, obviously. But if you want us to go in and provide record cites to the existing finding of facts, that's easy enough to do. But to revise proposed finding of facts and -- 11:26:12 11:26:14 11:26:17 11:26:20 11:26:24 11:26:28 11:26:33 11:26:37 11:26:42

MR. JAMESON: I -- 11:26:44

THE COURT: I think the subject did come up. 11:26:46

MR. JAMESON: It did. And that's why I'm raising it. 11:26:48

THE COURT: Yeah, the subject came up, so I think it's a legitimate question. 11:26:51 11:26:53

MR. ANDRE: I agree, Your Honor. I think it was about putting the -- my understanding, my memory it was -- it seemed like a really long time ago. 11:26:55 11:26:57 11:27:00

THE COURT: I think it was a long time ago. 11:27:02

MR. ANDRE: My memory was we were just -- 11:27:05

THE COURT: My hair wasn't gray at the start. 11:27:07

MR. ANDRE: Well, I've been resorting to getting homemade hair cuts, so I'm in the... 11:27:11 11:27:13

THE COURT: Yeah, me too. 11:27:16

MR. ANDRE: I'll tell you, this has been a rough spell. 11:27:17 11:27:18

But anyway, that being said, I thought it was just getting the record cites in the existing proposed finding of facts, but if there's -- we can do whatever the Court, whatever the Court finds most useful. 11:27:20 11:27:23 11:27:25 11:27:28

MR. JAMESON: Your Honor, I think -- 11:27:32

THE COURT: Well... 11:27:32

MR. JAMESON: May I be heard? And then I'll stop. 11:27:33

THE COURT: All right. 11:27:36

MR. JAMESON: I thought it was pretty clear that we were, at a bare minimum, supposed to update the findings with record cites to the exhibits and the trial testimony. I also thought that the rules of the road were that to the extent a finding needed to be tweaked that's not out of left field, if you will, that that's something that you would consider. Because the idea that our findings are going to be 100 percent perfectly spot-on with how the record evidence developed -- I mean, it goes, it goes both ways. But there's a difference 11:27:38 11:27:39 11:27:44 11:27:48 11:27:54 11:27:59 11:28:05 11:28:10 11:28:16

between creating a whole new theory after the fact and massaging something that's consistent with the evidence. 11:28:20 11:28:25

THE COURT: I don't think it can do any harm to amend your findings of fact. But what were they, 250 pages? 11:28:29 11:28:33

I'm trying to think of the longest opinion I've ever written. And I'm not sure how long it is. I try to keep my opinions as brief as I can. I don't know if you remember my quote from Mr. Churchill, but anybody can write a 200-page opinion. Like the government forms, you know. I mean, most 20-page government forms, if skillfully done, could probably be done on sometimes one or two pages. So I don't think there's any virtue in the length of the document. So you know, I think you've got, both sides have a lot of manpower. I would think if you wish to supplement your findings of fact and conclusions of law, that they should be due at 4:00 tomorrow. I'd like to have those at the same time right after I've heard the closing arguments. It's my theory that my best grasp of the case comes right after I hear closing arguments. I don't like going back a month later and reading a cold record. I've got my own notes, and so if I have those findings of fact and conclusions of law available at 4:00 tomorrow right after I've heard the closing arguments, that's when they would be of the most value to me. So if you want to file them by then, you may do so. 11:28:41 11:28:44 11:28:57 11:29:08 11:29:14 11:29:20 11:29:26 11:29:31 11:29:46 11:29:53 11:29:56 11:30:08 11:30:17 11:30:24 11:30:30 11:30:39 11:30:47 11:30:54 11:30:59

MR. ANDRE: And Your Honor, would you like to have a, like a 50-page limit on this or something along that line? 11:31:03 11:31:05

MR. JAMESON: I think we have two different issues here. We've got record cites to the current proposed findings of fact and conclusions of law, and then we have, to the extent -- and I don't even know if there's going to be any. I was just asking the question whether you wanted it. 11:31:09 11:31:11 11:31:15 11:31:18 11:31:22

THE COURT: Well, if you're going to do it, I mean, in 90-some percent of my civil cases I rule from the bench on the same day as I hear the closing argument. And this is not like most of my cases. They don't usually last this long. So I don't know if I'll be otherwise ready to rule after I hear closing arguments. But that's when I try to make up my mind, so that's when these would be available. 11:31:26 11:31:32 11:31:39 11:31:45 11:31:53 11:31:59 11:32:09

But I mean, considering the manpower that each of you have, I think we've got the claims, we've got, what, 10 claims? I think really we have five claims. They're almost identical, the two claims, in each of the patents. So I think... let's see. 11:32:14 11:32:20 11:32:36 11:32:44 11:33:01

If you did five pages -- or 10 pages total. I was going to say five pages on infringement and five pages on validity, but just say 10 pages on each patent would be helpful with citations to the record. And I would allow you to attach exhibits. I don't want -- I said before I don't want a 20-page exhibit where you use one page, and for this purpose I don't want a full-page exhibit where you use one paragraph. But you can attach exhibits to that which would not count against your 11:33:01 11:33:24 11:33:28 11:33:40 11:33:53 11:34:02 11:34:06 11:34:10

page total. Because a lot of exhibits I think were very important. Or if you want a demonstrative, either one, you can attach those. And again, it takes an experienced and courageous lawyer to hit the high spots and not throw in all the garbage that you think possibly the judge might -- if you're not fully persuaded, you can pretty much be guaranteed the judge isn't going to be the least bit persuaded by a particular document. So you know, let's say no more than five pages of exhibits for each patent. 11:34:15 11:34:21 11:34:28 11:34:47 11:34:55 11:35:02 11:35:07 11:35:13 11:35:37

And again, you don't have to file anything if you don't want to. But if you do want to file it, I want it by 4:00 tomorrow. So get your associates working on that now. 11:35:39 11:35:41 11:35:48

MR. JAMESON: Your Honor, the number of notes I've received from my team while you were talking is about 50 pages, actually. 11:35:57 11:35:58 11:36:03

THE COURT: All right. So I'm sure your associates will be burning the midnight oil. So... 11:36:07 11:36:12

MR. JAMESON: They are happy right now, Your Honor. 11:36:15

MR. ANDRE: It's a good lesson learned: Trial's never over until it's over. They thought it was done today for them. 11:36:18 11:36:21

THE COURT: Is that what Yogi Berra said, I guess? 11:36:25

MR. ANDRE: Exactly. Yeah. 11:36:29

THE COURT: Okay. Any other questions? Or are you afraid to ask any more? 11:36:30 11:36:33

MR. JAMESON: I'm done asking. 11:36:37

MR. ANDRE: Mr. Jameson is going to buy me a bottle of Scotch or something for that question. 11:36:38 11:36:42

THE COURT: Okay. All right. Well, if there are no further questions, we'll be adjourned until 10:00 tomorrow. 11:36:44 11:36:46

MR. JAMESON: Thank Your Honor. 11:36:50

MR. ANDRE: Thank you, Your Honor. 11:36:50

(Whereupon, proceedings concluded at 11:37 a.m.) 11:36:51

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*CERTIFICATION* 11:36:51 11:36:51

*I certify that the foregoing is a true, complete and correct transcript of Volume 21 of the proceedings held in the above-entitled matter.* 11:36:51 11:36:51 11:36:51

Paul L. McManus, OCR

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Date 11:36:52