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Transcript of Paul Min, Ph.D.

Date: June 21, 2024

Case: Arista Networks, Inc. -v- Corrigent Corporation (PTAB)

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WORLDWIDE COURT REPORTING & LITIGATION TECHNOLOGY

1 UNITED STATES PATENT AND TRADEMARK OFFICE
2 BEFORE THE PATENT TRIAL AND APPEAL BOARD
3

4 -----
5 ARISTA NETWORKS, INC.,
6 Petitioner

7 vs

8 CORRIGENT CORPORATION,
9 Patent Owner
10 -----

11 Case IPR2023-00839
12 U.S. Patent No. 9,118,602
13

14 Oral deposition of

15 PAUL MIN, Ph.D.
16

17 VIA VIDEO/TELECONFERENCE

18 FRIDAY, JUNE 21, 2024

19 10:08 a.m. EASTERN TIME
20

21 Job No.: 542048

22 Pages: 1 - 72

Reported by: Lisa V. Feissner, RDR, CRR, CLR

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Oral deposition of PAUL MIN, Ph.D., held
REMOTELY, via ZOOM, on FRIDAY, JUNE 21, 2024,
BEGINNING AT 10:08 a.m., pursuant to Notice, before
Lisa V. Feissner, RDR, CRR, CLR, Notary Public.

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C O N T E N T S

EXAMINATION OF PAUL MIN, Ph.D.	PAGE
By Mr. Suarez	5
By Ms. Burgess	63
By Mr. Suarez	66

E X H I B I T S

(Attached to transcript)

EXHIBIT NUMBER	PAGE
2015 IEEE Std 802.3, 1998 Edition	48

P R E V I O U S L Y

M A R K E D E X H I B I T S

(Referenced but not attached)

EXHIBIT NUMBER	PAGE
ARISTA NETWORKS, INC. EXHIBIT 1001	5
ARISTA NETWORKS, INC. EXHIBIT 1003	6
ARISTA NETWORKS, INC. EXHIBIT 1006	24
ARISTA NETWORKS, INC. EXHIBIT 1033	38
ARISTA NETWORKS, INC. EXHIBIT 1034	52

1	P R O C E E D I N G S	
2	PAUL MIN, Ph.D.,	
3	having been first duly sworn, was examined and	
4	testified as follows:	10:08:10
5	EXAMINATION	10:08:11
6	BY MR. SUAREZ:	10:08:11
7	Q Good morning, Dr. Min. Nice to see you.	10:08:13
8	A Good morning. Good to see you again.	10:08:16
9	Q So I know you've been deposed many, many	10:08:19
10	times before, so I'm not even going over any ground	10:08:21
11	rules with you. I think you know the drill.	10:08:25
12	So I'd like you to start with the patent.	10:08:27
13	So if you can pull up Exhibit 1001, which is the	10:08:31
14	'602 patent.	10:08:38
15	(Previously marked Exhibit 1001 presented	10:08:38
16	to the witness.)	10:08:42
17	THE WITNESS: So Mr. Suarez, as I	10:08:42
18	mentioned, I have a clean, unmarked copy of our	10:08:46
19	patent and prior references and my report. So if I	10:08:49
20	can use this in addition to what's on the screen.	10:08:56
21	Q As long as you're representing that	10:08:59
22	there's no markings on any of those documents, I'm	10:09:01

1	fine with that.	10:09:03
2	A Yeah, there is no markings.	10:09:04
3	(Reporter interruption.)	10:09:28
4	Q Okay. So -- and so just to be clear, you	10:09:34
5	don't have any notes or anything in front of you	10:09:39
6	aside from the printed documents, correct?	10:09:41
7	A That is correct.	10:09:46
8	Q All right. So I'm just going to ask you	10:09:53
9	a few questions about the '602 patent here to make	10:09:55
10	sure we're on the same page about a couple things.	10:09:58
11	Now, you recognize Exhibit 1001 as the	10:10:00
12	'602 patent in this case, right?	10:10:11
13	A Let me get it.	10:10:15
14	Yes, I do.	10:10:18
15	Q Okay. And this '602 patent was a patent	10:10:19
16	you reviewed prior to submitting your original	10:10:27
17	declaration in this case, correct?	10:10:32
18	A Yes.	10:10:34
19	(Previously marked Exhibit 1003 presented	10:10:34
20	to the witness.)	10:10:34
21	BY MR. SUAREZ:	10:10:35
22	Q And to be clear for the record, the	10:10:35

1	original declaration you submitted in this case is	10:10:37
2	Exhibit 1003, your opening declaration, right?	10:10:44
3	A Yes.	10:10:51
4	Q And that opening declaration, that was	10:11:00
5	dated April 18th of 2023, correct?	10:11:01
6	A Yes.	10:11:06
7	Q And so it's fair to say that you reviewed	10:11:10
8	the '602 patent closely prior to submitting your	10:11:14
9	initial declaration on April 18th of 2023, right?	10:11:19
10	A Yes.	10:11:27
11	MS. BURGESS: Objection to form.	10:11:28
12	Q And how many hours did you spend	10:11:34
13	reviewing the '602 patent before submitting your	10:11:35
14	original declaration in this case?	10:11:38
15	A It's hard to recollect precisely. But I	10:11:44
16	know the subject matter pretty well. So it is	10:11:47
17	possible that, and I'm sure I did, that I reviewed	10:11:54
18	'602 patent a number of times. So it would be,	10:11:59
19	number of hours, maybe four, five, six, seven hours.	10:12:04
20	Q Okay. And so it would be fair to say	10:12:10
21	that you read all the words of the '602 patent	10:12:12
22	several times, then, before submitting your opening	10:12:18

1	declaration, correct?	10:12:20
2	A All the words, you said?	10:12:24
3	Q Yes.	10:12:25
4	A I think so. I guess on the front page	10:12:35
5	here, there's some, like, numbers and, you know, I	10:12:38
6	may not have paid particular attention to all the	10:12:43
7	words, but I have read through the -- you know,	10:12:46
8	what's on the '602 patent as printed.	10:12:51
9	Q You certainly read through the	10:12:55
10	specification several times before submitting your	10:12:58
11	opening declaration, right?	10:13:00
12	A Yes, that's correct.	10:13:02
13	Q Okay. And so -- so, then, as of the	10:13:03
14	petition, as of the initial declaration, you	10:13:12
15	understood that IEEE standard 802.3ad was referenced	10:13:15
16	in the '602 patent, right?	10:13:25
17	A Yeah.	10:13:34
18	Q And, in fact, you understood that	10:13:35
19	IEEE 802.3ad was referenced in the patent multiple	10:13:39
20	times, right?	10:13:43
21	A I know it's referenced at least once, but	10:13:47
22	let me just check.	10:13:50

1	I see it's referenced once in the	10:13:57
2	beginning. I don't recall exactly where else	10:14:26
3	802.3ad was referenced.	10:14:33
4	Q Okay. But you knew it was referenced in	10:14:39
5	the '602 patent as of the time you submitted your	10:14:43
6	initial declaration, right?	10:14:45
7	A Yes, I knew that.	10:14:47
8	Q Okay. And I think you were probably --	10:14:49
9	well, strike that.	10:14:59
10	So now, at column 2 of the '602 patent,	10:15:00
11	there's a section at the top that's called Ethernet	10:15:04
12	Link Aggregation, right?	10:15:08
13	A Yes.	10:15:09
14	Q Okay. And in that paragraph, if I look	10:15:10
15	at column 2, lines 1 to 3, it says, Link aggregation	10:15:20
16	is a technique by which a group of parallel physical	10:15:26
17	links between two endpoints in a data network can be	10:15:30
18	joined together into a single logical link.	10:15:36
19	Do you see that?	10:15:39
20	A I do.	10:15:39
21	Q That's a correct definition of a LAG,	10:15:40
22	right?	10:15:43

1	MS. BURGESS: Objection to form.	10:15:45
2	A So this is a description of what this	10:15:47
3	link aggregation does. So what it does is, it's a	10:15:52
4	technique, as you said, by which a group of physical	10:15:57
5	links between two endpoints in a data network can be	10:16:00
6	joined together into a single logical link.	10:16:04
7	That description is correct, and this is	10:16:07
8	a technique to do so.	10:16:09
9	The definition, as you put it, is	10:16:11
10	actually specified in 802.3ad as to how this is	10:16:15
11	achieved.	10:16:20
12	Q Understood. You would agree that this	10:16:21
13	description from column 2, lines 1 to 3 of the '602	10:16:26
14	patent is a description of link aggregation that is	10:16:32
15	consistent with the 802.3ad standard, right?	10:16:34
16	MS. BURGESS: Objection, form.	10:16:40
17	A I would say I rephrase that as this	10:16:40
18	description in column 2, starting from line 3 until	10:16:45
19	about 5, is a technique that can achieve this. It	10:16:50
20	is by no means the only thing that link aggregation	10:16:56
21	does.	10:17:00
22	Using link aggregation, this group of	10:17:01

1 physical links can be joined together to become like 10:17:07
2 one single logical link. It surely can do it. But 10:17:10
3 this is by no means the only thing it does. 10:17:15

4 Q Understood. And just to be clear, my 10:17:19
5 question is simply, would you agree that this 10:17:22
6 description of link aggregation at column 2, lines 1 10:17:26
7 to 3, is a description of link aggregation that is 10:17:31
8 consistent with what is described in the 802.3ad 10:17:36
9 standard? 10:17:42

10 A I would not use a phrase like 10:17:44
11 "consistent." It is one of the effects that link 10:17:48
12 aggregation can achieve. The sentence itself is 10:17:55
13 clear. It's a technique that can have this result, 10:18:00
14 which is a multiple physical link can be joined 10:18:05
15 together as a single logical link. 10:18:07

16 If that's what you -- what you need -- in 10:18:10
17 other words, if your goal is to having multiple 10:18:13
18 physical links joined together to become a single 10:18:18
19 logical link, if that's something that you need to 10:18:21
20 do, you will use the link aggregation technique. 10:18:25
21 But link aggregation technique can do other things, 10:18:28
22 and this is just one of the effect. 10:18:32

1	Q	Got it. So if your goal is to use a	10:18:35
2		technique of link aggregation by which a group of	10:18:40
3		parallel physical links between two endpoints in a	10:18:44
4		data network can be joined together into a single	10:18:48
5		logical link, then you would agree that what is	10:18:52
6		taught in column 2, lines 1 to 3, is an appropriate	10:19:01
7		description of LAG technology?	10:19:06
8		MS. BURGESS: Objection to form.	10:19:10
9	A	I'm still not sure if you're saying what	10:19:12
10		I'm saying.	10:19:15
11		So link aggregation is defined by	10:19:17
12		802.3ad. That's the governing standard.	10:19:24
13		Now, you can use that technique to do	10:19:26
14		various things. What the sentence on column 2,	10:19:32
15		line 2 to 5, is describing is, I have a situation	10:19:34
16		where I have multiple physical links, and I want to	10:19:39
17		aggregate, join the bandwidth across that multiple	10:19:45
18		physical link. What techniques would I use? One of	10:19:50
19		the techniques that you can use is link aggregation.	10:19:54
20		Other techniques -- there are other	10:19:56
21		techniques, too. Like, I think I described this in	10:19:58
22		my opening report, there's multichannel switching,	10:20:02

1	trunk switching, and there are other techniques,	10:20:07
2	too.	10:20:10
3	So if you want to have a multiple	10:20:10
4	parallel link tool joined together as a logical	10:20:13
5	link, a technique to achieve that is link	10:20:18
6	aggregation. That's what that sentence is saying.	10:20:21
7	(A discussion was held off the record.)	10:22:45
8	BY MR. SUAREZ:	10:24:08
9	Q So let's talk about Figure 1A of the '602	10:25:18
10	patent. I'm sure you're familiar with the figure.	10:25:24
11	A Yeah. Yes, I'm there.	10:25:27
12	Q Okay. So in Figure 1A, you agree that	10:25:30
13	the MPLS tunnel shown in the figure travels through	10:25:47
14	three nodes, the preceding node, MPLS/LAG switch A,	10:25:52
15	and MPLS/LAG switch B, right?	10:25:56
16	MS. BURGESS: Objection to form.	10:25:58
17	A Yes. And it goes through other in MPLS	10:25:59
18	network A and B, but what's shown specifically are	10:26:07
19	the three nodes that you just talked about.	10:26:10
20	Q And you agree that in the context of the	10:26:12
21	claimed invention, MPLS/LAG switch A, it has to	10:26:17
22	assign a single physical tunnel port of a LAG,	10:26:25

1	right?	10:26:29
2	MS. BURGESS: Objection to form.	10:26:30
3	A You are referring to '602 patent	10:26:39
4	invention, right?	10:26:44
5	Q Correct.	10:26:46
6	A Yes. '602 describes assigning a single	10:26:46
7	port in a LAG to be --	10:26:52
8	(Reporter interruption.)	10:27:01
9	A '602 patent invention specifies a single	10:27:07
10	port in MPLS switch -- each MPLS switch to be	10:27:18
11	assigned in an MPLS tunnel.	10:27:22
12	Q And that single physical tunnel port,	10:27:30
13	that has to be assigned by MPLS/LAG switch A,	10:27:34
14	correct?	10:27:39
15	MS. BURGESS: Objection to form.	10:27:42
16	A So what MPLS switch A -- so we're	10:27:44
17	focusing on this MPLS/LAG switch A. What it assigns	10:27:49
18	is a port -- according to '602 invention, it assigns	10:27:55
19	the port -- specific port to an MPLS tunnel,	10:28:00
20	assignment of that port to the tunnel. That's what	10:28:07
21	'602 invention is.	10:28:10
22	Q Okay. And so let's look at claim 1 of	10:28:12

1	the '602 patent, and we still may go back and	10:28:16
2	reference Figure 1A, because I just want to make	10:28:20
3	sure we're on the same page about how they relate to	10:28:23
4	each other.	10:28:25
5	So if you can go to claim 1 real quick.	10:28:26
6	And so --	10:28:29
7	A Okay.	10:28:30
8	Q -- in claim 1, the first step after the	10:28:31
9	preamble is, assigning, by a first MPLS/LAG switch,	10:28:35
10	a single physical tunnel port of a LAG to a network	10:28:39
11	tunnel.	10:28:45
12	Right?	10:28:45
13	A Yes.	10:28:46
14	Q And you would agree that that first	10:28:47
15	MPLS/LAG switch referenced in that limitation, it	10:28:51
16	could correspond to MPLS/LAG switch A in Figure 1A,	10:28:55
17	right?	10:29:01
18	MS. BURGESS: Objection to form.	10:29:03
19	A Yes.	10:29:03
20	Q Okay. And then after that, there's	10:29:04
21	this -- the next limitation is, quote, dedicating a	10:29:09
22	subset of bits in a data packet label prepared by	10:29:14

1	the first MPLS/LAG switch to encode said port serial	10:29:17
2	number of said single physical tunnel port of the	10:29:22
3	LAG into the data packet label.	10:29:25
4	Right?	10:29:28
5	A Yes. That's what the second claim	10:29:30
6	limitation states.	10:29:34
7	Q Right. And then the next limitation	10:29:35
8	says, sending, by said first MPLS/LAG switch, the	10:29:39
9	data packet label in which said port serial number	10:29:44
10	of said single physical tunnel port is encoded to a	10:29:49
11	preceding node.	10:29:53
12	Correct?	10:29:54
13	A Yes, that's what the third limitation	10:29:57
14	states.	10:30:00
15	Q Okay. And so that limitation involves	10:30:00
16	sending that assigned single physical tunnel port	10:30:03
17	encoding to the preceding node, right?	10:30:09
18	A Yes.	10:30:13
19	Q And in Figure 1A, that would correspond	10:30:14
20	to sending it from MPLS/LAG switch A labeled 26 to	10:30:18
21	preceding node labeled 29, right?	10:30:24
22	A That is correct.	10:30:31

1	Q	Okay. And then the next step is,	10:30:32
2		receiving from the preceding node, by said first	10:30:44
3		MPLS/LAG switch, a data packet comprising said data	10:30:49
4		packet label in which said port serial number of	10:30:54
5		said physical tunnel port is encoded.	10:30:57
6		Right?	10:31:00
7	A	I think you read it right.	10:31:03
8	Q	Okay. And so then the next step is that	10:31:05
9		this MPLS/LAG switch A is going to receive that	10:31:09
10		encoding of the single physical tunnel port that was	10:31:14
11		previously assigned by MPLS/LAG switch A, correct?	10:31:17
12	A	I'm sorry. Could you repeat that	10:31:24
13		question?	10:31:25
14	Q	Yes. So in this step, the receiving	10:31:26
15		step, the first MPLS/LAG switch is going to receive	10:31:32
16		that same port serial number of the single physical	10:31:38
17		tunnel port that had been encoded previously, right?	10:31:44
18	A	As a part of a label, if that's what	10:31:50
19		you're referring to. There's a label of a packet	10:31:58
20		that's coming from the previous node, which is	10:32:00
21		node 29, will have a label that contains the data	10:32:03
22		packet label, and then the port serial number will	10:32:11

1	be encoded in that port data packet label.	10:32:15
2	Q Right. And just to make it more concrete	10:32:17
3	in the context of Figure 1A, if MPLS/LAG switch A	10:32:19
4	had assigned port 3 and sent it to the preceding	10:32:23
5	node, in the receiving step, they would receive	10:32:31
6	information indicative of port 3 at the first	10:32:34
7	MPLS/LAG switch A, correct?	10:32:38
8	A Yes, that's correct.	10:32:40
9	MS. BURGESS: Objection to form.	10:32:42
10	Q Okay. And so then after that, the final	10:32:43
11	step is, sending said data packet from said first	10:32:47
12	MPLS/LAG switch to a second MPLS/LAG switch via said	10:32:51
13	single physical tunnel port having the port serial	10:32:58
14	number encoded in the data packet label.	10:33:03
15	Is that right?	10:33:06
16	A Yes, that's what the limitation, the last	10:33:08
17	limitation of claim 1 states.	10:33:13
18	Q And so -- and in Figure 1A, then, that	10:33:15
19	would mean that it would -- the data would be	10:33:20
20	transmitted along port 3 of the LAG group between	10:33:23
21	MPLS/LAG switch A and MPLS/LAG switch B, correct?	10:33:35
22	MS. BURGESS: Objection to form.	10:33:40

1	A	Yes, that's correct.	10:33:40
2	Q	And so through all of those steps	10:33:41
3		involving those three nodes, that same port encoding	10:33:45
4		is used to represent the single physical tunnel port	10:33:51
5		of the LAG?	10:33:55
6		MS. BURGESS: Objection to form.	10:33:58
7	A	I didn't get that question. I'm sorry.	10:34:00
8	Q	Yeah, sorry, that was an unclear	10:34:02
9		question.	10:34:05
10		The point is, whatever port was encoded,	10:34:05
11		that same port that's encoded applies to the	10:34:15
12		MPLS/LAG switch A, the preceding node, and the	10:34:19
13		ultimate transmission of data to MPLS/LAG switch B,	10:34:23
14		correct?	10:34:27
15		MS. BURGESS: Objection to form.	10:34:28
16	A	I'm still not sure what you just asked	10:34:31
17		me. But as we talked about it before, the LAG	10:34:36
18		switch A, which is the -- in the scenario that we	10:34:41
19		just talked about, it's the first MPLS/LAG switch,	10:34:46
20		that assigns the particular port number 3 to the	10:34:55
21		network tunnel, and then that label was generated	10:34:58
22		and sent upstream to the previous node 29. Previous	10:35:01

1	node 29 used the label to send the data packet --	10:35:06
2	I'm hearing echo of myself now. Sorry.	10:35:14
3	Maybe I'm too close here.	10:35:40
4	(Reporter interruption.)	10:35:40
5	A So when -- previous node 29 is the label,	10:35:46
6	put it in the packet and send it to the first LAG	10:35:55
7	switch, which is LAG switch A. Now the LAG switch A	10:35:58
8	received that packet with the -- and then send	10:36:02
9	through the next one using port number 3. That's	10:36:09
10	what this scenario is talking about.	10:36:11
11	Now, that is exactly consistent with the	10:36:13
12	RFC 3209, which is my base document for the	10:36:23
13	combination. That scenario is describing exactly	10:36:27
14	that.	10:36:30
15	Q Now, you would agree that a single	10:37:28
16	physical tunnel port, that is a port that has to be	10:37:31
17	between endpoints of a network node, right?	10:37:36
18	MS. BURGESS: Objection to form.	10:37:43
19	A Between the endpoints. The port, as	10:37:46
20	described in '602 patent as well as 802.3ad, the	10:37:55
21	standard that governs link aggregation, is a MAC,	10:38:04
22	M-A-C, entity. The port has MAC address, and this	10:38:08

1 is described in both 802.3ad as well as the '602 10:38:15
2 patent. 10:38:15
3 MAC entity means it is something that is 10:38:23
4 layer 2 -- not the layer 1, the physical layer -- 10:38:27
5 layer 2, in the set. That means it's inside of a 10:38:32
6 switch, not externally facing. 10:38:38
7 So when you say between the two 10:38:41
8 endpoints, so LAG switch A, LAG switch B, between 10:38:46
9 means like external to the physical layers, then my 10:38:51
10 answer would be no. The port would be not between 10:38:54
11 the two entities of MPLS network. 10:38:58
12 Q You would agree that the ports govern 10:39:06
13 what happens between the two endpoints, correct? 10:39:10
14 MS. BURGESS: Objection to form. 10:39:15
15 A No, not entirely, because in the stack, 10:39:19
16 MAC layer is above physical layer. And the reason 10:39:27
17 why this open systems interconnect, OSI, divide the 10:39:31
18 stack into seven layers is such that each layer can 10:39:38
19 perform independently. 10:39:43
20 So what happens at the MAC does not 10:39:45
21 dictate what happens at physical layer. I could 10:39:48
22 have a MAC layer where what comes afterwards is 10:39:51

1	Ethernet, or ATM in that matter, or Wi-Fi. I can	10:40:00
2	have a variety of physical interface that is	10:40:06
3	connecting two entities.	10:40:10
4	So MAC layer where the link aggregation	10:40:13
5	sits and performs within does not dictate what	10:40:18
6	happens, the behavior between the two switches, LAG	10:40:24
7	switches.	10:40:31
8	Q Now going back to the last limitation of	10:41:07
9	claim 1, it says, sending said data packet from said	10:41:11
10	first MPLS/LAG switch to a second MPLS/LAG switch	10:41:15
11	via said physical tunnel port having the port serial	10:41:19
12	number encoded in the data packet label.	10:41:25
13	Do you see that?	10:41:27
14	A Yes. I just note that there's an actual	10:41:29
15	spelling mistake in this MPLS. It says a second	10:41:35
16	MSPLS, but we know it means MPLS.	10:41:41
17	Q Understood. So assuming that correction	10:41:43
18	is made, you understand that the limitation says,	10:41:45
19	sending said data packet from said first MPLS/LAG	10:41:50
20	switch to a second MPLS/LAG switch via said physical	10:41:53
21	tunnel port having the port serial number encoded in	10:41:57
22	the data packet label.	10:42:02

1	Right?	10:42:03
2	A Yes.	10:42:04
3	Q And so you would agree, then, in the	10:42:06
4	claims, the, quote, single physical tunnel port of	10:42:10
5	the LAG must be a port that is used to transmit data	10:42:17
6	between two MPLS/LAG switches.	10:42:22
7	Right?	10:42:26
8	MS. BURGESS: Objection to form.	10:42:27
9	A Yeah. So this port is something that is	10:42:29
10	used because that was specifically assigned by the	10:42:33
11	first LAG switch to be (inaudible) --	10:42:41
12	(Reporter interruption.)	10:42:48
13	A I'll just rephrase that.	10:43:12
14	That physical port must be used by the	10:43:14
15	first MPLS switch because that port was specifically	10:43:17
16	assigned to the network tunnel.	10:43:24
17	I'll just talk slower.	10:43:53
18	Q Now, you would agree that a LAG must have	10:43:53
19	more than one port, right?	10:43:55
20	MS. BURGESS: Objection to form.	10:43:57
21	A A LAG can have more than one port, yeah,	10:44:00
22	that's correct.	10:44:04

1	Q	So my question was, you would agree that	10:44:06
2		a LAG must have more than one port, right?	10:44:07
3		MS. BURGESS: Objection to form.	10:44:14
4	A	I'm not really sure there's a limitation	10:44:17
5		as such. I don't know if the 802.3ad would actually	10:44:21
6		preclude the scenario of a LAG having precisely one	10:44:32
7		port. I'm not sure. I haven't seen that.	10:44:37
8		Although I am in agreement with you,	10:44:41
9		Mr. Suarez, that it doesn't really make sense to	10:44:45
10		have just one port in a LAG. But I don't know if	10:44:48
11		the standard itself says that it's not allowed.	10:44:54
12	Q	Okay. You have Raz in front of you?	10:45:01
13	A	Yes.	10:45:10
14	Q	Okay.	10:45:11
15	A	Yes, I do.	10:45:11
16		(Previously marked Exhibit 1006 presented	10:45:11
17		to the witness.)	10:45:11
18		BY MR. SUAREZ:	10:45:12
19	Q	So let's turn to Exhibit 1006, the Raz	10:45:12
20		reference.	10:45:18
21	A	I will open up the document as well.	10:45:25
22	Q	Sure.	10:45:29

1	A	Yes, I've done that.	10:45:32
2	Q	Okay. So just for the record,	10:45:34
3		Exhibit 1006 is U.S. Patent to Raz.	10:45:36
4		And you have that in front of you,	10:45:40
5		Dr. Min?	10:45:42
6	A	I do.	10:45:43
7	Q	Okay. So is Raz a reference you've	10:45:44
8		reviewed closely?	10:46:03
9	A	Yes, it is.	10:46:04
10	Q	Okay. And you reviewed it before	10:46:05
11		submitting your opening declaration?	10:46:08
12	A	Yes.	10:46:14
13	Q	So you're familiar with the details of	10:46:14
14		the reference?	10:46:16
15	A	Yes.	10:46:18
16	Q	Okay. So I want you to turn to column 6	10:46:19
17		and at -- near the bottom, there's a heading that	10:46:41
18		says, LSR With MPLS Label Subport Assignment.	10:46:45
19		Do you see that?	10:46:50
20	A	Yes, I do.	10:46:53
21	Q	Okay. And then it says at line 65, A	10:46:54
22		diagram illustrating an example LSR with label based	10:46:59

1	support assignment constructed in accordance with	10:47:03
2	the first embodiment of the present invention is	10:47:07
3	shown in Figure 1.	10:47:09
4	Do you see that?	10:47:11
5	A Yes.	10:47:12
6	Q Okay. And so you would agree that an	10:47:13
7	embodiment of Raz is shown in Figure 1 of Raz,	10:47:17
8	correct?	10:47:21
9	A Yes. Raz calls this first embodiment.	10:47:23
10	Q And you would agree that this first	10:47:29
11	embodiment of Raz utilizes what's called, quote,	10:47:32
12	label based support assignment, unquote, correct?	10:47:39
13	MS. BURGESS: Objection to form.	10:47:45
14	A So yes. So in column 6, line 65, the Raz	10:47:49
15	reference says, as an example of LSR with a label	10:47:58
16	based support assignment.	10:48:05
17	Q And that embodiment in Figure 1, that is	10:48:07
18	discussed from column 6, line 65 through column 8,	10:48:15
19	line 13, right?	10:48:21
20	MS. BURGESS: Objection to form.	10:48:26
21	A 13 is a portion of the specification you	10:48:38
22	just referenced to describes Figure 1. I don't know	10:48:45

1	if there are other places where Figure 1 is	10:48:49
2	discussed. But it is certainly that portion of the	10:48:51
3	specification, 13 describes Figure 1.	10:48:56
4	Q Okay. Well, so then right after	10:48:59
5	column 8, line 13, there's another heading, and it	10:49:05
6	says, LSR with Source MAC Based Subport Forwarding.	10:49:09
7	Do you see that?	10:49:16
8	A Yes.	10:49:17
9	Q Okay. And then under that, at line 17,	10:49:18
10	it says, In a second embodiment of the invention,	10:49:23
11	the port forwarding module does not have the ability	10:49:28
12	to extract MPLS labels from the inbound received	10:49:31
13	packets.	10:49:38
14	Do you see that?	10:49:40
15	A Yes.	10:49:41
16	Q And then if we go down to the next	10:49:43
17	paragraph, paragraph 30, it says, A diagram	10:49:45
18	illustrating an example LSR with label based subport	10:49:50
19	assignment and source MAC packet steering	10:49:55
20	constructed in accordance with a second embodiment	10:49:59
21	of the present invention is shown in Figure 2.	10:50:02
22	Do you see that?	10:50:06

1	A	Yes.	10:50:08
2	Q	Okay. So you would agree that Figure 2	10:50:09
3		of Raz describes a distinct embodiment of the	10:50:14
4		invention of Raz from Figure 1, correct?	10:50:19
5		MS. BURGESS: Objection to form.	10:50:25
6	A	I mean, it's certainly a variation.	10:50:33
7		There are overlaps. But the second embodiment	10:50:37
8		variation -- it has a variation.	10:50:42
9		So what the second embodiment describes	10:50:46
10		in column 8 starting from line 15 is a certain	10:50:50
11		switching, like layer 2 switches.	10:50:58
12		So MPLS switches have a little more	10:51:05
13		capability than just ordinary layer 2 switch.	10:51:08
14		So in that case, you'll use the MAC	10:51:15
15		address instead of the label itself again.	10:51:19
16		It's a variation. But the Figure 1 and	10:51:23
17		2, you can also see the difference between the two.	10:51:26
18		The port forwarding module --	10:51:31
19	Q	Doctor, I'm sorry to interrupt, but	10:51:33
20		you're kind of going and on and on, and I want to	10:51:35
21		keep my question focused.	10:51:38
22		And I do appreciate the explanation, and	10:51:39

1	it's helpful, but I want to -- first of all, I want	10:51:44
2	to make sure we keep moving.	10:51:46
3	So let me just re-ask the question.	10:51:49
4	The question is, you would agree that the	10:51:53
5	Raz reference describes what is in Figure 2 as a	10:51:59
6	distinct embodiment from the embodiment of Figure 1,	10:52:04
7	right?	10:52:08
8	A I will use a description saying it's a	10:52:11
9	variation, not distinct. "Distinct" sounds like	10:52:15
10	there's just two completely different. It's really	10:52:19
11	not quite there. It's a variation.	10:52:22
12	Q You would at least agree, Doctor, that in	10:52:24
13	column 8, the author of Raz is describing the	10:52:26
14	Figure 2 embodiment of Raz as a different embodiment	10:52:36
15	than Figure 1, correct?	10:52:39
16	A Yeah, they're different, because the port	10:52:44
17	forwarding module cannot do certain things.	10:52:49
18	Q And I think you said this, but you would	10:52:52
19	agree that the Figure 2 embodiment is not a	10:52:56
20	label-based implementation of port forwarding,	10:53:02
21	right?	10:53:06
22	MS. BURGESS: Objection to form.	10:53:09

1 A Yeah, so in column 6, the Figure 1 is 10:53:16
2 referred to as LSR with a label based subport 10:53:19
3 assignment. That's the embodiment, sort of like a 10:53:24
4 depiction of that embodiment, Figure 1. 10:53:29

5 And Figure 2, the name or the depiction 10:53:32
6 of that embodiment in Figure 2, Raz reference calls 10:53:39
7 it LSR with a source MAC based subport forwarding. 10:53:45
8 So it has a different name. 10:53:49

9 Q Right. But the Figure 2 embodiment does 10:53:52
10 not use a label-based implementation of port 10:53:57
11 forwarding in contrast to the embodiment in 10:54:01
12 Figure 1, correct? 10:54:04

13 MS. BURGESS: Objection to form. 10:54:06

14 A So if you look at column 8, line 30, A 10:54:26
15 diagram illustrating an example LSR with a label 10:54:34
16 based subport assignment and source MAC address 10:54:38
17 steering constructed in accordance with the second 10:54:48
18 embodiment of the present invention is shown in 10:54:50
19 Figure 2. 10:54:53

20 So you don't ignore the -- the difference 10:54:53
21 between embodiment 1 and 2 is, the port forwarding 10:54:59
22 in Figure 1, that is the block in the Figure 1, 22, 10:55:03

1 use the label to do port forwarding. Whereas the 10:55:10
2 layer 2 switch in Figure 2, which is block 40, it 10:55:15
3 uses an Ethernet source MAC address. 10:55:20

4 But the description that I just read from 10:55:24
5 line 30 through 33 says it is an LSR with a label 10:55:26
6 based subport assignment and use the source MAC 10:55:36
7 address. So you need something else on top of that. 10:55:41

8 So that's what I meant by it's a 10:55:43
9 variation. It's not, like, a distinct. You need 10:55:45
10 something else, because certain switches cannot 10:55:48
11 process the MPLS label. 10:55:51

12 Q Now, between these two embodiments, the 10:57:06
13 subports, you would agree that the subports are the 10:57:09
14 same in both the Figure 1 embodiment and the 10:57:13
15 Figure 2 embodiment, correct? 10:57:15

16 A Yes. 10:57:18

17 Q And you would also agree that regardless 10:57:19
18 of whether you use the port forwarding module 10:57:24
19 labeled 22 in Figure 1 or the layer 2 switch labeled 10:57:27
20 40 in Figure 2, ultimately what happens is, the 10:57:31
21 subports converged into a single 10 gigabit per 10:57:37
22 second link that is transmitted out of the router, 10:57:42

1	correct?	10:57:46
2	A So what is shown -- I'm carefully using	10:57:48
3	the term "link," as you just described, because in	10:57:56
4	802.3ad, the link is referred to by just aggregated	10:58:03
5	link, and "link" can also mean a different thing in	10:58:11
6	different contexts.	10:58:16
7	So I want to use the term -- what comes	10:58:17
8	out of a 10G PHY is a physical cable. It's a --	10:58:21
9	sometimes it's called physical link, but I want to	10:58:26
10	use the term "cable." It's a 10G Ethernet cable.	10:58:28
11	That would be connected.	10:58:35
12	And, you know, to answer your question,	10:58:37
13	what comes out of subport 0 through 9 that can	10:58:40
14	support, either through port forwarding module or	10:58:45
15	layer 2 switches, they get aggregated together and	10:58:48
16	be transmitted across the 10G PHY into the cable,	10:58:55
17	Ethernet cable.	10:59:01
18	Q And so the 10 subports, each of	10:59:06
19	1 gigabit, converge into a single 10 gigabit	10:59:10
20	Ethernet cable?	10:59:19
21	A Yeah, that's right.	10:59:21
22	Q Okay. Now, you would agree that in	10:59:23

1	Figure 1 -- strike that.	10:59:43
2	Now, Figure 3 of Raz, let's just look at	10:59:54
3	that briefly.	11:00:08
4	So Figure 3, that is an illustration of	11:00:47
5	how subport forwarding and provisioning occurs	11:00:50
6	between nodes of Raz, correct?	11:00:57
7	A Yes. Yeah, that's described on column 9,	11:01:04
8	starting from about line 29.	11:01:10
9	Q So just one more question on the Figure 2	11:02:27
10	embodiment. So if we go to column 8, lines 56 to	11:02:29
11	62, it states in the middle of that paragraph, A	11:02:41
12	problem arises when the commercially available	11:02:58
13	layer 2 chip does not support MPLS label lookups.	11:03:01
14	Do you see that?	11:03:08
15	A Yes.	11:03:09
16	Q So can you explain what they mean by that	11:03:12
17	problem?	11:03:17
18	A So the Ethernet -- let me see. The	11:03:19
19	Ethernet layer 2 is like a layer 2 function, that	11:03:26
20	does not really -- the MPLS is separate from	11:03:34
21	Ethernet protocol.	11:03:37
22	So if the MPLS packets have Ethernet	11:03:39

1 embedded and then have MPLS label outside of that, 11:03:46
2 what that then comes into this chip, you don't know 11:03:50
3 what to do with this label in the beginning, so you 11:03:54
4 have to somehow strip it off and somehow be able to 11:03:58
5 find where the Ethernet address is. Otherwise, you 11:04:02
6 cannot really process it. 11:04:05

7 The layer 2 chips can only process 11:04:07
8 layer 2 protocol, to which MPLS does not belong. So 11:04:11
9 Ethernet -- this layer 2 chip does not know what to 11:04:19
10 do. 11:04:22

11 So somehow, you need to be able to go 11:04:22
12 through the label and then get to the Ethernet 11:04:26
13 packet. And that's really what this is referring 11:04:29
14 to. 11:04:31

15 Q Okay. Can different types of LAGs be 11:04:31
16 implemented at layer 2 or layer 3? 11:04:40

17 MS. BURGESS: Objection. 11:04:45

18 A So this MPLS is a strange animal, like 11:04:48
19 ATM, in that, you know, there's something called 11:04:54
20 routing function, layer 3, when packet comes and 11:05:00
21 then it determines where to go, right. 11:05:05

22 But that portion is done up front in 11:05:08

1	MPLS. So the layer 3 part is outside.	11:05:12
2	So it is only -- although there is	11:05:16
3	end-to-end traverse of a packet from the source to	11:05:22
4	destination in MPLS tunnel, routing is taken out.	11:05:24
5	Routing has been set up up front by provisioning of	11:05:28
6	label switch packet. And that's sort of like what	11:05:33
7	ATM did.	11:05:38
8	So I'm not sure if that describes your	11:05:38
9	question, but it's something that is not	11:05:43
10	traditional. So the layer 2 devices does not really	11:05:47
11	know what to do with it unless that some (inaudible)	11:05:50
12	mechanism is set like how this LSR is doing.	11:05:57
13	Q Okay. Well, I asked a yes or no question	11:06:01
14	and didn't get a yes or no answer. So let me ask	11:06:05
15	the question again. And I don't think you were	11:06:08
16	trying to do that.	11:06:11
17	But my question -- and then if I want	11:06:13
18	more explanation, I can ask a follow-up, of	11:06:15
19	course -- can you have distinct implementations of	11:06:19
20	LAGs at layer 2 versus layer 3?	11:06:26
21	MS. BURGESS: Objection to form and	11:06:32
22	scope.	11:06:34

1	A	So that was a long answer that I gave	11:06:36
2		you.	11:06:40
3		The LAG eliminates layer 3 by setting	11:06:40
4		the -- I'm sorry -- did you say LAG. LAG is purely	11:06:48
5		a layer 2 function. LAG itself, on its own. Not	11:06:54
6		part of MPLS. It's just layer 2 function. It's all	11:06:58
7		done in layer 2.	11:07:02
8	Q	Now, earlier, you were referencing	11:07:16
9		802.3ad.	11:07:20
10		You were familiar with the 802.3ad	11:07:23
11		standard before you submitted your opening	11:07:27
12		declaration in this case, correct?	11:07:30
13	A	Yeah.	11:07:35
14		(Cross-talk.)	11:07:36
15	Q	Oh, sorry.	11:07:38
16	A	Okay. The first question is, yes, I was.	11:07:39
17		I'm trying to think. I believe 802.3ad was 2000. I	11:07:46
18		was building multichannel switches from mid-1990s,	11:07:55
19		'95, '96, '97. Maybe even earlier.	11:08:00
20		I received a grant from DARPA in	11:08:06
21		probably, like, '93, '92.	11:08:10
22		So I was working on this channel grouping	11:08:16

1	and multichannel switching. So when it first came	11:08:18
2	out, I probably noticed the presence of the standard	11:08:24
3	right away, because that was right in, you know, my	11:08:29
4	backyard.	11:08:33
5	Q Okay. So it's fair to say that you knew	11:08:33
6	about the 802.3ad standard since around 2000?	11:08:37
7	A Yeah, as soon as it became available.	11:08:42
8	Q Okay. And you knew that the 802.3ad	11:08:45
9	standard pertained to LAGs since that time?	11:08:54
10	A I mean, 802.3ad is LAG standard, so yes.	11:09:04
11	Q So let's bounce back to Raz briefly,	11:09:45
12	Exhibit 1006.	11:09:50
13	So going back to Figure 1, you agree that	11:09:51
14	element 14 in Raz is a subport, correct?	11:10:01
15	A Yes.	11:10:07
16	MS. BURGESS: Objection to form and	11:10:08
17	scope.	11:10:09
18	Q You would also agree that the subport in	11:10:11
19	Raz is within a single label switch router which is	11:10:18
20	labeled 10 in Figure 1, correct?	11:10:26
21	A Yes. Subports 14 in Figure 1, there are	11:10:33
22	ten of them starting from subport 0 through	11:10:39

1	support 9. They are all within the LSR denoted as	11:10:42
2	10 in Figure 1.	11:10:50
3	Q Okay. Do you have the standard printed	11:11:18
4	out in front of you, 802.3ad?	11:11:19
5	A I do.	11:11:23
6	Q Okay. So looking at the first page of --	11:11:24
7	(Previously marked Exhibit 1033 presented	11:11:24
8	to the witness.)	11:11:42
9	BY MR. SUAREZ:	11:11:42
10	Q And this is Exhibit 1033 for the record.	11:11:43
11	I'm looking at page 1.	11:11:46
12	At the very top it says, IEEE Std	11:11:47
13	802.3ad-2000, and then in parentheses underneath it	11:11:56
14	says, Amendment to IEEE Std 802.3, 1998 Edition.	11:11:59
15	Do you see that?	11:12:07
16	A Yes, I do.	11:12:07
17	Q Okay. And so you would agree that this	11:12:08
18	standard, 802.3ad-2000 is an amendment to the prior	11:12:15
19	802.3 1998 edition, correct?	11:12:24
20	A Yes. If I may, if you look at the	11:12:30
21	content, sort of like a table of contents page,	11:12:34
22	Roman numeral vii, it shows you what is inside of	11:12:39

1	this document. It has a 1, and it just tells you	11:12:46
2	what the changes are. And 3, it has some small	11:12:53
3	minor change.	11:12:58
4	But what's really added here is that --	11:13:00
5	it's paragraph 43. Paragraph 43 is added onto	11:13:03
6	802.3, 1998 version. So this is an additional	11:13:11
7	section to that 1998 version.	11:13:16
8	Q Right. And 802.3, that is the working	11:13:23
9	group in IEEE that deals with Ethernet, correct?	11:13:28
10	A Yes, that's correct.	11:13:31
11	Q And that's, in contrast, for example,	11:13:32
12	like the 802.11 working group which deals with	11:13:35
13	Wi-Fi?	11:13:39
14	A Yes, that's correct.	11:13:40
15	Q And so both 802.3 and 802.3ad, those are	11:13:44
16	Ethernet standards, correct?	11:13:50
17	A Yes, that's right.	11:13:52
18	Q I want to briefly go to the definitions	11:14:03
19	section of this document. So it would be page 13 of	11:14:05
20	183 on the bottom right. I don't know if you have	11:14:12
21	the marked version, Dr. Min, or you have a clean	11:14:21
22	version.	11:14:23

1	Do you have the marked version?	11:14:24
2	A No. This is clean.	11:14:26
3	Q Well, so then I need you to go to 1.4.	11:14:28
4	I'm not sure which page it is. If you don't have	11:14:32
5	the page numbers at the bottom.	11:14:36
6	A Yeah, I can go to section 1.4.	11:14:38
7	Q You're at 1.4 where it says, Definitions,	11:14:42
8	right?	11:14:46
9	A Yeah.	11:14:46
10	Q Okay. And next to -- it says, 1.4.xxx,	11:14:46
11	Aggregation Link.	11:15:00
12	Do you see that?	11:15:01
13	A Yes, I do.	11:15:04
14	Q Okay. And there it says, An instance of	11:15:05
15	a MAC-Physical Layer-Medium Physical Layer-MAC	11:15:05
16	entity between a pair of Aggregation Systems.	11:15:21
17	Right?	11:15:21
18	A Yes.	11:15:22
19	Q And so you would agree that an	11:15:23
20	aggregation link is between a pair of aggregation	11:15:26
21	systems, right?	11:15:33
22	A Yes. So what this sentence you just read	11:15:36

1	is saying is, you start from the MAC, from one	11:15:41
2	system. It ends at the MAC on the other system.	11:15:46
3	And these two systems are called aggregation system.	11:15:51
4	Each of them is aggregation system.	11:15:56
5	Q Okay. And then in the same page, it	11:16:30
6	says, 1.4.xxx Link Aggregation Group.	11:16:47
7	Do you see that?	11:16:51
8	A Yes.	11:16:54
9	Q And it says, A group of links that appear	11:16:55
10	to a MAC client as if they were a single link. All	11:17:00
11	links in a link aggregation group can act between	11:17:03
12	the same pair of aggregation systems.	11:17:06
13	Do you see that?	11:17:11
14	A Yes.	11:17:11
15	Q So you'd agree that link aggregation	11:17:12
16	groups establish a connection between a pair of	11:17:16
17	aggregation systems, right?	11:17:18
18	MS. BURGESS: Objection to form.	11:17:21
19	A So the link aggregation group connects a	11:17:26
20	pair of aggregation systems. That is correct.	11:17:33
21	Q Okay.	11:17:39
22	A So here, one that you have not	11:17:54

1 identified, which is --

11:17:57

2 (Cross-talk.)

11:17:59

3 Q Sir, I'm asking the question. Don't do

11:18:00

4 that. You answered my question. It's my

11:18:02

5 deposition. If your attorney wants to be a

11:18:07

6 redirect, that's up to her. But we're not doing

11:18:09

7 that.

11:18:11

8 Now, in that definition I just asked you

11:18:16

9 about, the link aggregation group, it refers to a

11:18:46

10 group of links.

11:18:49

11 Do you see that?

11:18:50

12 A Yes.

11:18:53

13 Q So going back to my question earlier

11:18:54

14 about a LAG group having more than one port, would

11:18:56

15 this confirm for you, based on 802.3ad, that a LAG

11:19:01

16 must have more than one port?

11:19:08

17 MS. BURGESS: Objection to form.

11:19:12

18 A No. I mean, does not say -- group can be

11:19:18

19 one, right. I mean, group is one or more. In fact,

11:19:22

20 if a group is like a set, it could even have zero.

11:19:25

21 So group does not really limit the number

11:19:28

22 of members to, you know, multiple. I mean,

11:19:34

1	ordinarily, that's what you want to expect, but it	11:19:38
2	doesn't say that it must have more than one.	11:19:41
3	Q Okay. So let's go to clause 43, which	11:19:49
4	you referred to earlier. I think on your document,	11:20:53
5	it's going to say page 95 at the bottom right.	11:20:57
6	A Yes, that's correct.	11:21:03
7	Q Okay. So at the very top, it says --	11:21:07
8	under Terminology, 43.1.1, it says, In this clause,	11:21:58
9	unless otherwise noted, the term link refers to an	11:22:06
10	aggregation link and the term port refers to	11:22:11
11	aggregation port, as defined in 1.4.	11:22:15
12	Do you see that?	11:22:19
13	A Yes.	11:22:21
14	Q So at least according to 802.3ad, a link	11:22:24
15	and a port are two different things, right?	11:22:32
16	A Yeah, they are two different things.	11:22:37
17	Q I want to look at page 97, because I	11:23:43
18	think you talked about this figure, 43-2.	11:23:46
19	Do you see that?	11:23:53
20	A Yes.	11:23:54
21	Q I just want to make sure I properly	11:24:12
22	understand the figure, so I'm going to ask you a	11:24:15

1	couple questions about it.	11:24:17
2	So let's just start at the very top.	11:24:20
3	There's a box that says MAC Client on the top right	11:26:45
4	of this figure.	11:26:50
5	Do you see that?	11:26:51
6	A I do.	11:26:52
7	Q So what is the MAC client?	11:26:53
8	A The MAC client is -- as the name	11:26:58
9	describes, it's requesting service of a MAC on the	11:27:01
10	receiving side. So it could be 3GS, for example, or	11:27:06
11	I think there's some examples that describe -- yeah,	11:27:15
12	so it's another device external that is sending the	11:27:19
13	MAC frame.	11:27:23
14	Q And is it correct to say that the MAC	11:27:33
15	client is receiving information via the arrow	11:27:37
16	pointing up and that it's transmitting information	11:27:41
17	via the arrow pointing down?	11:27:45
18	A Yeah, that's correct.	11:27:49
19	Q That's correct, okay.	11:27:50
20	And so in this diagram, the receiving	11:27:52
21	direction is up and the transmission direction is	11:27:57
22	down?	11:28:01

1	A	Yes, from the MAC client's point of view,	11:28:02
2		that is correct.	11:28:05
3	Q	And so from the point of view of the MAC	11:28:13
4		client, you transmit into this link aggregation	11:28:16
5		sublayer, which has a very large box, correct?	11:28:27
6	A	Yes.	11:28:31
7	Q	And then coming out of the link	11:28:33
8		aggregation sublayer are multiple other blocks.	11:28:42
9		Do you see that?	11:28:49
10	A	Multiple other blocks? What do you mean	11:28:57
11		by "other blocks"?	11:28:59
12	Q	So there's the MAC client at the top, the	11:29:01
13		link aggregation sublayer in the middle, and then at	11:29:04
14		the very bottom, there are three representations of	11:29:08
15		things that appear to be transmitted out of the link	11:29:12
16		aggregation sublayer.	11:29:17
17		Is that correct?	11:29:19
18	A	Yeah, that's right.	11:29:19
19	Q	Okay. And so what I want to understand	11:29:20
20		are, what are the three boxes representing that are	11:29:23
21		coming out of the link aggregation sublayer?	11:29:28
22		MS. BURGESS: Objection to form.	11:29:32

1 A Are you referring to this Control 11:29:37
2 Parser/Multiplexer? Is that the box you're talking 11:29:46
3 about, or the one below that? 11:29:47
4 Q I'm referring to the three items that are 11:29:49
5 MAC Control, MAC, and Physical Layer that are coming 11:29:52
6 out, yeah. 11:29:56
7 A Okay, right. So the aggregation of all 11:29:56
8 multiple ports into a LAG happens in this link 11:30:02
9 aggregation sublayer. So whatever is aggregated -- 11:30:07
10 so let's say port 1, 2, 3 have been aggregated into 11:30:12
11 a link aggregation group. And then that becomes a 11:30:17
12 single MAC. 11:30:21
13 The multiple ports, each of which used to 11:30:24
14 have and still has a MAC address of its own, now is 11:30:29
15 represented by a -- I'll just use the word super 11:30:34
16 MAC. That actually will be mapped logically to that 11:30:41
17 one MAC. 11:30:45
18 So whatever happens inside. So the 11:30:46
19 figure is not really clear, but this aggregator plus 11:30:52
20 multiplexer inside of this aggregator -- I'm sorry, 11:30:57
21 this -- yeah, inside of this aggregator, it's 11:30:58
22 like -- it's a port. 11:31:04

1 So MAC client sends multiple frames. 11:31:06
2 Apparently, it has a very high speed. It has to be 11:31:13
3 utilizing more than one port. So the frame 11:31:16
4 distributor will distribute the frame to multiple 11:31:24
5 instances of aggregator process/multiplexer. 11:31:27
6 So they are the port equivalent. It 11:31:32
7 doesn't say port, but they are the ports. 11:31:36
8 And this multiple -- I'm sorry. Yeah, 11:31:38
9 that's right. Let me just think about this. 11:31:42
10 So this aggregated port will come down 11:31:52
11 through this control plus multiplexer, and then the 11:31:57
12 collection of them, it comes through, like, a MAC 11:32:01
13 entity. And that MAC at the bottom is what 11:32:04
14 communicates to the next segment. 11:32:09
15 There's a Figure 43-1, MAC Client, it's 11:32:28
16 on the previous page 96, MAC Client, in that figure 11:32:35
17 is a parenthesis, Bridge Relay Entity, something. 11:32:39
18 So it could be anything. 11:32:46
19 Q Got it. So is it fair to say that those 11:32:47
20 three representations of the MAC Control, MAC, and 11:32:51
21 Physical Layer that are at the bottom of 11:32:56
22 Figure 43-2, those could represent distinct ports of 11:32:59

1	a LAG between devices?	11:33:02
2	MS. BURGESS: Objection to form.	11:33:05
3	A No. This is -- how the LAG works is, the	11:33:05
4	port has to receive packets, right, first. Inside	11:33:13
5	of a switch, various ports. Incoming has to go to	11:33:19
6	different port. Whether they are part of a LAG or	11:33:24
7	not, they still need to be received.	11:33:28
8	So the ports gets a MAC address. They	11:33:31
9	are the MAC entities. And when they get aggregated,	11:33:35
10	now they have both some kind of a personal PHY, PHY	11:33:40
11	is here, but individually, there's an assigned MAC	11:33:46
12	address for each of the ports.	11:33:50
13	They will be represented by a MAC,	11:33:53
14	another MAC that corresponds to the PHY. And that's	11:33:57
15	how the link aggregation is working.	11:34:01
16	(Recess from 11:34 a.m. until 11:45 a.m.)	11:34:01
17	MR. SUAREZ: Okay. So Dr. Min, I'm going	11:45:15
18	to go ahead and mark the exhibit that I added to the	11:45:20
19	Dropbox that's new in this case. So we'll mark that	11:45:23
20	as -- I think it would be Exhibit 2008 in this	11:45:27
21	proceeding.	11:45:36
22	(Exhibit 2015 marked for identification	11:45:38

1	and attached to the transcript.)	11:45:38
2	BY MR. SUAREZ:	11:45:38
3	Q Can you open that document, please. It's	11:45:39
4	the 802.3 --	11:45:41
5	A 1998?	11:45:50
6	Q Yeah, exactly.	11:45:51
7	A Yeah, okay.	11:45:55
8	Q All right. So do you recognize that as	11:45:57
9	the 802.3 1998 standard?	11:46:00
10	A I'm sure I have seen this document	11:46:09
11	before. At least part of it, I have reviewed	11:46:12
12	carefully.	11:46:16
13	Q Okay. And you understand that this is	11:46:16
14	the foundational document for 802.3 onto which the	11:46:18
15	802.3ad standard was built on top of, correct?	11:46:25
16	MS. BURGESS: Objection to form.	11:46:28
17	A Yes, that's correct.	11:46:29
18	Q Okay. So I'd like to go to page 60. Or	11:46:32
19	actually -- yeah, we can go to page 60. It's of the	11:46:45
20	PDF.	11:46:51
21	A PDF 60?	11:46:53
22	Q PDF page 60, yeah.	11:46:54

1	A	Okay.	11:46:59
2	Q	For clarity of the record, it's the	11:47:00
3		bottom of page 20 on the bottom left, but page 60 of	11:47:03
4		the PDF.	11:47:09
5		And this should be in the middle of a	11:47:10
6		bunch of definitions of the standard starting at	11:47:12
7		1.4.136.	11:47:17
8		Do you see that?	11:47:18
9	A	Yes, I do.	11:47:20
10	Q	And so you would agree that the	11:47:21
11		definitions in 802.3ad that are in clause 1 of that	11:47:24
12		802.3ad, they are essentially added into the	11:47:35
13		definitions listed in clause 1 of 802.3 1998	11:47:39
14		edition, right?	11:47:48
15		MS. BURGESS: Objection to form.	11:47:49
16	A	Generally speaking, that's correct. But	11:47:55
17		since 802.3ad is a modification or update of this	11:47:57
18		particular document, some content could change.	11:48:05
19		But generally speaking, that is correct.	11:48:10
20	Q	Okay. Fair enough.	11:48:11
21		And if you recall, when we were looking	11:48:13
22		at the definitions that were being added by 802.3ad,	11:48:16

1	it would say, 1.4.xxx, and that xxx was because they	11:48:22
2	were going to be inserted into this numerical	11:48:28
3	sequence somewhere, correct?	11:48:31
4	MS. BURGESS: Objection to form.	11:48:33
5	A Yes. Generally speaking, that's correct.	11:48:34
6	Q And so ultimately, in the larger	11:48:44
7	standard, the intention is to intersperse the	11:48:46
8	various 1.4.xxx definitions we spoke of earlier into	11:48:50
9	this larger standard that has the master list of all	11:48:56
10	the definitions, right?	11:48:59
11	MS. BURGESS: Objection to form.	11:49:01
12	A Yes, I believe that's correct.	11:49:06
13	Q Okay. And so I just want to point to	11:49:07
14	this definition here. So 1.4.141, link.	11:49:16
15	Do you see that?	11:49:22
16	A I do.	11:49:24
17	Q So that is defined as, The transmission	11:49:24
18	path between any two interfaces of generic cabling.	11:49:28
19	Do you see that?	11:49:33
20	A Yes, that's what it says.	11:49:37
21	Q Are you aware of any change of the	11:49:38
22	definition of "link" in the underlying 802.3	11:49:41

1	standard since you've been aware of the standard?	11:49:47
2	MS. BURGESS: Objection to form.	11:49:52
3	A 802.3ad does not specifically address any	11:49:56
4	changes in this 1.4.141. It does not. It adds	11:50:02
5	different definitions specifically related to the	11:50:12
6	LAG, the link aggregation group, but it does not	11:50:14
7	really change this particular definition.	11:50:17
8	Q Okay. Now, you would agree that	11:50:20
9	understanding the definitions in the entirety of	11:50:35
10	802.3 is relevant to making sure you understand	11:50:39
11	what's in the amendments to 802.3, right?	11:50:43
12	A Yes.	11:50:49
13	MS. BURGESS: Objection to form and	11:50:49
14	scope.	11:50:50
15	Q So now let's go to your reply	11:50:58
16	declaration. I just have a few questions on that.	11:51:04
17	(Previously marked Exhibit 1034 presented	11:51:06
18	to the witness.)	11:51:19
19	THE WITNESS: Okay. And I have an	11:51:19
20	unmarked clean copy of my reply declaration in front	11:51:21
21	of me.	11:51:25
22	BY MR. SUAREZ:	11:51:26

1	Q	Okay, great. And for the record, it's	11:51:26
2		Exhibit 1034.	11:51:29
3	A	Yes.	11:51:35
4	Q	Let's go to paragraph 36 of your reply.	11:51:35
5		So in the middle of 36, you say, Raz	11:54:13
6		describes that, quote, the subports used on both	11:54:20
7		sides of the next hop, however, are independent of	11:54:22
8		the current hop.	11:54:26
9		Do you see that?	11:54:27
10	A	Just one second, please. I'm still	11:54:28
11		trying to find where you read. Is it on page 26 or	11:54:41
12		27?	11:54:49
13	Q	It's on page 26 of the declaration,	11:54:53
14		paragraph 36.	11:54:55
15	A	Yes. And could you read that excerpt one	11:54:57
16		more time, please?	11:55:02
17	Q	Yeah. So it says, Raz describes that,	11:55:03
18		quote, the subports used on both sides of the next	11:55:06
19		hop, however, are independent of the current hop.	11:55:09
20		Do you see that?	11:55:13
21	A	Yes, right. I read that.	11:55:14
22	Q	Yeah. And so -- and you're welcome to go	11:55:17

1	back to Raz. But why does Raz think it's important	11:55:24
2	to have the subports on each hop to be independent	11:55:27
3	from each other?	11:55:35
4	MS. BURGESS: Objection to form.	11:55:38
5	A I mean, this is how MPLS works. So to	11:55:42
6	me, the fact that the receiving port assigned by a	11:55:49
7	particular MPLS/LAG to the tunnel is not determined	11:55:58
8	by what the next hop is to be. And that's how MPLS	11:56:04
9	and RSVP traffic engineering worked.	11:56:12
10	So it is important for me to point out	11:56:17
11	that it is comparable with the RFC 3209 document,	11:56:19
12	which is the base document, and we are starting from	11:56:27
13	there. This is MPLS -- I'm sorry -- RSVP traffic	11:56:30
14	engineering.	11:56:33
15	And having the Raz doing the provisioning	11:56:34
16	of all subports across this tunnel in the same way	11:56:41
17	is an important fact to know.	11:56:46
18	Q Okay. And so just like Raz, RFC 3209	11:56:48
19	teaches that port assignment is an independent	11:57:00
20	decision that's made at each hop?	11:57:04
21	MS. BURGESS: Objection to form and	11:57:08
22	scope.	11:57:09

1	A	Yeah. So those two are completely	11:57:11
2		consistent in that matter.	11:57:16
3	Q	Okay. Let's go to paragraph 55 of your	11:57:19
4		reply declaration.	11:59:14
5	A	I'm there.	11:59:22
6	Q	So in paragraph 55, you write, Lastly,	11:59:32
7		Dr. Rouskas argues that how packets are processed	11:59:44
8		and move within a switch differ from how they are	11:59:48
9		communicated between switches, asserting three	11:59:51
10		technical reasons why packets are not communicated	11:59:53
11		the same way within and between LSRs and why as a	11:59:54
12		result a POSITA would not be motivated to modify	11:59:58
13		RFC 3209 with Raz and Ferguson.	12:00:01
14		Do you see that?	12:00:05
15	A	I do.	12:00:06
16	Q	And then you go on, It has already been	12:00:07
17		demonstrated above that the subports in Raz are used	12:00:10
18		for data communication in addition to data	12:00:13
19		processing. Further, while Dr. Rouskas's analysis	12:00:15
20		of the process executed for data packet is not	12:00:19
21		technically inaccurate, these issues are irrelevant	12:00:21
22		to my analysis.	12:00:25

1	Do you see that?	12:00:26
2	A Yes.	12:00:26
3	Q I understand you have this opinion that	12:00:27
4	it's irrelevant, but I just want to confirm for the	12:00:29
5	record.	12:00:32
6	So you agree that Dr. Rouskas's analysis	12:00:32
7	of how data packets are processed and moved within a	12:00:39
8	switch as opposed to communication between switches	12:00:43
9	are different, correct?	12:00:47
10	MS. BURGESS: Objection to form.	12:00:50
11	A Generally speaking, that's correct.	12:00:53
12	Within a switch is the available physical layer of	12:00:55
13	processing of those data at that level would be	12:01:01
14	different from physical layer which communicates	12:01:09
15	between the switches.	12:01:12
16	So technically speaking, that is correct.	12:01:13
17	Q Now, let's look at paragraph 54.	12:01:17
18	A Okay.	12:02:28
19	Q You write, The subports in Raz, as the	12:02:29
20	specification in Raz made it clear, are for	12:02:37
21	communicating, and a POSITA would have reached this	12:02:39
22	conclusion after reading Raz.	12:02:42

1	Do you see that?	12:02:44
2	A Oh, okay. Okay, I see what you read.	12:02:52
3	Q Okay. And so my question is, you do	12:03:08
4	agree that the location of the subports in Raz is	12:03:15
5	inside the label switch router, right?	12:03:23
6	A Yes.	12:03:27
7	Q And so you would agree that even if the	12:03:28
8	subports are being used for communication in some	12:03:35
9	sense, they are not being used as the physical links	12:03:39
10	between nodes such as, like, an Ethernet cable,	12:03:52
11	right?	12:03:55
12	MS. BURGESS: Objection to form.	12:03:56
13	A So subports are MAC entities, MAC	12:04:00
14	entities. As I earlier stated, a MAC entity resides	12:04:06
15	within (inaudible) LSR. Now, there's a	12:04:13
16	subsequent -- the following LSR, and that, too, has	12:04:16
17	a MAC entity. So the MAC entity in LSR, LAG	12:04:20
18	switch 1, will communicate with the MAC entity in	12:04:27
19	the LSR, the LAG switch number 2.	12:04:31
20	Q Okay.	12:04:35
21	A In doing so, it utilized the physical	12:04:35
22	layer.	12:04:38

1	Q	Okay. But I just want to make sure I'm	12:04:38
2		precise with my question.	12:04:41
3		So the MAC entity, you would agree that I	12:04:42
4		plug an Ethernet cable into a label switch router,	12:04:52
5		right?	12:04:56
6	A	Okay.	12:04:57
7		MS. BURGESS: Objection to form.	12:04:58
8	Q	And that Ethernet cable, I plug it into	12:04:58
9		something called a port, right?	12:05:02
10		MS. BURGESS: Objection to form.	12:05:05
11	A	No. So we've got to be careful with the	12:05:07
12		terminology of a "port" here. "Port" is defined	12:05:13
13		precisely as a MAC entity. The port you are	12:05:16
14		referring to where the Ethernet jack is going into	12:05:20
15		is something that is related to physical	12:05:24
16		interconnects. That's not the term "port" that we	12:05:27
17		are talking about.	12:05:30
18		The port is inside of a switch that has a	12:05:31
19		MAC address. This is defined and specified in black	12:05:36
20		and white in 802.3ad.	12:05:46
21		What you're talking about as a port is an	12:05:50
22		Ethernet port. That's where the Ethernet cable jack	12:05:52

1	will just snap into. That's not the port that we	12:05:55
2	are talking about.	12:05:59
3	Q Well, look, I'm just trying to	12:05:59
4	understand. So I honestly am not assuming that. So	12:06:00
5	let me just ask the question again, because I just	12:06:03
6	want to make sure the record is clear.	12:06:08
7	And maybe it would help to look at that	12:06:09
8	diagram in 802.3ad again, because I think that might	12:06:20
9	help us get to the right place here.	12:06:23
10	So --	12:06:27
11	(Cross-talk.)	12:06:34
12	Q -- going back to 43-2 figure of	12:06:35
13	Exhibit 1033.	12:06:41
14	A Yes.	12:06:44
15	Q Okay. So in the transmission direction	12:06:45
16	here from the perspective of the MAC client at the	12:06:54
17	top --	12:06:56
18	Right?	12:06:57
19	A Yes.	12:06:59
20	Q -- you have a single stream of	12:07:01
21	transmission going into the link aggregation	12:07:04
22	sublayer, right, and then --	12:07:07

1	A	Yes.	12:07:10
2	Q	-- you have three streams of transmission	12:07:11
3		coming out of the link aggregation sublayer,	12:07:14
4		correct?	12:07:17
5	A	This diagram shows that, yes.	12:07:19
6	Q	Okay. And you have, for each of those	12:07:22
7		streams of transmission, a corresponding MAC,	12:07:27
8		correct?	12:07:32
9	A	Yes.	12:07:34
10	Q	And each of those corresponding MACs have	12:07:35
11		a corresponding physical layer, correct?	12:07:39
12	A	Yes, that's right.	12:07:45
13	Q	And so if -- so I'm trying to bridge this	12:07:46
14		to the real world. So if I were to have Ethernet	12:07:51
15		cables, right, those would be attached at the	12:07:55
16		physical layer there, correct?	12:07:58
17	A	That's correct.	12:08:01
18		MS. BURGESS: Objection to form.	12:08:03
19	Q	And so each MAC has an -- in the context	12:08:04
20		of LAGs, each MAC has an associated physical layer	12:08:10
21		to which I can connect an Ethernet cable, correct?	12:08:15
22		MS. BURGESS: Objection to form.	12:08:19

1	A	In this diagram, MAC has a physical	12:08:21
2		layer, and the physical layer will accept the	12:08:26
3		Ethernet cable.	12:08:29
4	Q	Okay. And so going back to my question	12:08:29
5		about Raz, I understand your position that you could	12:08:37
6		potentially say that those subports correspond to	12:08:45
7		MACs within Raz. I understand that's your position.	12:08:52
8		Go ahead.	12:09:01
9	A	I'm sorry. The Raz itself says subport	12:09:02
10		has a MAC. And that MAC is inside of this link	12:09:07
11		aggregation sublayer.	12:09:11
12	Q	Right.	12:09:12
13	A	Not the MAC that's shown at the bottom.	12:09:13
14		That's something that has already been aggregated.	12:09:16
15		By the time you reach the bottom portion	12:09:20
16		of this 802.3 Figure 43 -- I'm sorry -- 802.3ad,	12:09:22
17		Figure 43-2, way at the bottom, the three boxes	12:09:29
18		which contains MAC, those are already aggregated	12:09:35
19		from the link aggregation sublayer. The subport	12:09:41
20		that we are talking about is within this link	12:09:45
21		aggregation sublayer. So we're talking two	12:09:50
22		different things.	12:09:54

1	Q	No, I understand that.	12:09:54
2		And in terms of what's shown in Figure 2	12:09:58
3		in Raz, the place where I can -- sorry -- Figure 1	12:10:06
4		of Raz. If I look back at Figure 1 at Raz, the only	12:10:14
5		place where I can make a physical attachment to	12:10:21
6		another router is where it's labeled 28, correct?	12:10:24
7	A	28 is the physical attachment, and it	12:10:30
8		will be connected to 24, which is 10G PHY.	12:10:34
9	Q	Right. And the physical layer for	12:10:37
10		purposes of connecting an external Ethernet cable,	12:10:42
11		that would correspond to the MAC that was made	12:10:46
12		available by the 10 gigabit per second PHY, right?	12:10:49
13	A	Something behind the 10G PHY, there would	12:10:55
14		be a MAC. I suspect it will be in port forwarding	12:10:59
15		module. It doesn't really say.	12:11:05
16		MR. SUAREZ: Okay. I think that's all I	12:11:29
17		have for you today. Thank you, Dr. Min.	12:11:30
18		THE WITNESS: Thank you.	12:11:32
19		MS. BURGESS: Can we take a ten-minute	12:11:33
20		break, please?	12:11:35
21		MR. SUAREZ: Sure.	12:11:36
22		(Recess from 12:11 p.m. until 12:27 p.m.)	12:11:37

1	EXAMINATION	12:27:48
2	BY MS. BURGESS:	12:27:48
3	Q I just have a couple of follow-up	12:27:49
4	questions.	12:27:51
5	So Dr. Min, earlier in your deposition,	12:27:54
6	you were discussing the link aggregation group as it	12:27:57
7	was discussed in 802.3ad. And for the record, I'm	12:28:01
8	talking about PDF page 13 of Exhibit 1033, the	12:28:05
9	Definitions section. And you wanted to say	12:28:12
10	something else about what it says on this page.	12:28:14
11	What was it that you wanted to say here?	12:28:17
12	A Yeah, so Mr. Suarez asked me a question	12:28:21
13	about aggregation link, which is an instance of a	12:28:26
14	MAC physical layer, medium physical layer, MAC	12:28:32
15	entity.	12:28:37
16	Then he also asked me a question about	12:28:38
17	link aggregation group, which is a group of links	12:28:40
18	that appear to a MAC client as if they are a single	12:28:43
19	link and all links in link aggregation group met	12:28:49
20	between the same pair of aggregation system.	12:28:53
21	So what I was trying to do was, you know,	12:28:55
22	go and explain what the link aggregation system is.	12:29:00

1	So the link aggregation system is also	12:29:03
2	defined here in this same section as a uniquely	12:29:08
3	identifiable entity comprising an arbitrary grouping	12:29:12
4	of one or more ports for the purpose of aggregation.	12:29:16
5	So you've got to sort of read all three	12:29:20
6	definitions together.	12:29:24
7	So you have a link aggregation system	12:29:25
8	binding the ports. So it's a combination of ports.	12:29:30
9	Between them is a link aggregation group as defined	12:29:34
10	as connecting two link aggregation systems. And the	12:29:39
11	link is MAC, physical layer, medium physical layer,	12:29:44
12	MAC.	12:29:48
13	So that's what I was trying to describe.	12:29:48
14	So link aggregation group is really between the	12:29:51
15	group of ports -- the group of ports.	12:29:53
16	Q And then going to PDF page 105 of	12:30:02
17	Exhibit 1033, I think we read earlier the first line	12:30:08
18	or so of the Terminology section where it says, In	12:30:12
19	this clause, unless otherwise noted, the term link	12:30:16
20	refers to an aggregation link and the term port	12:30:20
21	refers to an aggregation port as defined in 1.4.	12:30:22
22	A Yes.	12:30:30

1	Q	Do you take this to mean that when the	12:30:30
2		2000 version of 802.3ad, this document, uses the	12:30:34
3		word "link," it refers to an aggregation link?	12:30:38
4		Is that right?	12:30:44
5		MR. SUAREZ: Objection, leading.	12:30:45
6		Go ahead.	12:30:47
7	A	Yeah, so -- I mean, this is for the	12:30:48
8		section -- it's a section or a chapter 43, Link	12:30:52
9		Aggregation. So this one, it says, in this clause,	12:30:56
10		that link means aggregation link, which is the --	12:31:01
11		between collection of ports to collection of ports,	12:31:05
12		in between.	12:31:08
13		So it's different meaning than the link	12:31:09
14		definition that Mr. Suarez and I talked about from	12:31:14
15		802.3 1998 version.	12:31:19
16		So there, "link" means between pair of	12:31:22
17		physical layer, so that's what the link is.	12:31:25
18		But in this section 43, as it says, the	12:31:29
19		link means the aggregation link, which is from the	12:31:33
20		port, which is the MAC to MAC, not physical to	12:31:38
21		physical.	12:31:41
22		So that's really what this one says.	12:31:42

1	Q	And so back to PDF page 13 of this same	12:31:46
2		document, Exhibit 1033, where it says, Link	12:31:51
3		Aggregation Group, and then it says, quote, A group	12:31:56
4		of links that appear to a MAC client as if they were	12:31:59
5		a single link.	12:32:02
6		Do you see that?	12:32:04
7	A	Yes.	12:32:06
8	Q	Do you read the word "links" in that	12:32:08
9		sentence as referring to an aggregation link?	12:32:12
10	A	Yeah --	12:32:17
11		MR. SUAREZ: Objection, leading.	12:32:18
12	A	-- because "link aggregation group," this	12:32:19
13		term only appears in section 43. And the "link	12:32:23
14		aggregation group" is not appearing in any other	12:32:29
15		section of 802.3, other than section 43.	12:32:31
16		So the definition of "link aggregation	12:32:37
17		group" in here, the link means aggregation link.	12:32:39
18		MS. BURGESS: Thank you. I have no	12:32:44
19		further questions.	12:32:46
20		MR. SUAREZ: Just a couple follow-ups on	12:32:47
21		that.	12:32:50
22		EXAMINATION	12:32:50

1	BY MR. SUAREZ:	12:32:50
2	Q First of all, did you have any	12:32:51
3	discussions with counsel during the last break?	12:32:52
4	A Yeah.	12:32:57
5	Q And did you discuss the substance of your	12:32:58
6	testimony during the last break?	12:33:00
7	A At a high level. Nothing detailed.	12:33:04
8	Q Okay. To some extent, you discussed the	12:33:07
9	substance of your testimony?	12:33:10
10	A I mean, I asked counsel that I was cut	12:33:12
11	off, so, you know, and that was really the gist of	12:33:17
12	what I told her. She knows that, too.	12:33:27
13	Q So on this definitional discussion, so	12:33:30
14	now you agree with what counsel pointed you to, it	12:33:40
15	says, In this clause, unless otherwise noted, the	12:33:45
16	term link refers to aggregation link, at 43.1.1.	12:33:48
17	Correct?	12:33:52
18	A Yes.	12:33:52
19	Q And you would agree that this clause	12:33:53
20	refers to clause 43, correct?	12:33:55
21	A Yes.	12:33:58
22	Q Okay. So you would agree that all of the	12:34:00

1	definitions that are listed in the other portion	12:34:02
2	counsel went over with you, those are in clause 1 of	12:34:09
3	the standard, correct?	12:34:14
4	A That is correct. And I know what you're	12:34:17
5	saying.	12:34:20
6	Q Okay. Well --	12:34:21
7	(Cross-talk.)	12:34:22
8	Q It's a yes or no question, okay.	12:34:22
9	So in clause 1, right, link aggregation	12:34:24
10	group is defined as a group of links, correct?	12:34:31
11	A No. It says --	12:34:42
12	Q Okay. Hold on. Let me strike the	12:34:44
13	question. Let me redo the question.	12:34:46
14	You agree that in link aggregation	12:34:48
15	group -- or sorry -- in section 1.4 of clause 1 of	12:34:51
16	the standard, link aggregation group is defined as a	12:34:57
17	group of links that appear to a MAC client as if	12:35:01
18	they were a single link.	12:35:04
19	Correct?	12:35:06
20	A That definition is straight out of the --	12:35:07
21	that's right.	12:35:11
22	MS. BURGESS: Objection to form.	12:35:11

1	A	And that's what that definition says.	12:35:12
2	Q	And the word "link" is shown in lower	12:35:15
3		case letters, correct?	12:35:17
4	A	Yes.	12:35:21
5	Q	And you would agree that in that same	12:35:22
6		clause, clause 1, the definition of "link" I	12:35:24
7		provided to you is within that same clause, correct?	12:35:29
8		MS. BURGESS: Objection to form.	12:35:34
9	A	So definition of "link," you're referring	12:35:37
10		to 1998 version, you mean, in this definition?	12:35:41
11	Q	Yes.	12:35:44
12	A	Yeah, that's in the same section.	12:35:45
13	Q	And so when a person is looking at these	12:35:47
14		definitions from the IEEE and they read "link	12:35:53
15		aggregation groups" in clause 1, and it refers to	12:35:57
16		"links," they are going to refer to the definition	12:36:01
17		of "links" that is within that same clause 1,	12:36:04
18		correct?	12:36:08
19		MS. BURGESS: Objection to form.	12:36:10
20	A	No. That's where I disagree. I think	12:36:10
21		this "link" here -- because "link aggregation	12:36:15
22		group," this term is only used in clause 43, means	12:36:19

1	the aggregation link.	12:36:22
2	Q Is it possible that another expert would	12:36:23
3	disagree with you on that?	12:36:27
4	MS. BURGESS: Objection to form.	12:36:30
5	A I think so, but my opinion is that this	12:36:33
6	means aggregation link.	12:36:37
7	MR. SUAREZ: Okay. Nothing further.	12:36:39
8	MS. BURGESS: I have nothing either.	12:36:43
9	COURT REPORTER: Anything else for the	12:36:45
10	record?	12:36:47
11	MR. SUAREZ: Nothing from me.	12:36:51
12	(Transcript orders discussed.)	12:36:54
13	COURT REPORTER: Thank you. That's all I	12:38:04
14	need.	12:38:05
15	(Off the record at 12:38 p.m.)	
16		
17		
18		
19		
20		
21		
22		

1 CERTIFICATE OF SHORTHAND REPORTER - NOTARY PUBLIC

2

3

I, Lisa V. Feissner, RDR, CRR and Notary

4

Public in and for the District of Columbia, do

5

hereby certify:

6

7

That PAUL MIN, Ph.D., the witness whose

8

deposition is hereinbefore set forth, was duly sworn

9

by me before the commencement of such deposition,

10

and that such deposition was taken before me and is

11

a true record of the testimony given by such

12

witness.

13

14

I further certify that the adverse party,

15

ARISTA NETWORKS, INC., was represented by counsel at

16

the deposition.

17

18

I further certify that the deposition of

19

PAUL MIN, Ph.D., occurred REMOTELY on FRIDAY, JUNE

20

21, 2024, commencing at 10:08 and concluding at

21

12:38.

22

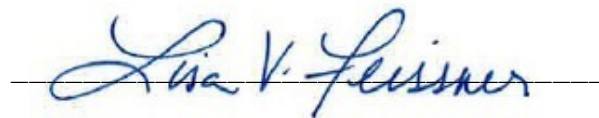
1 I further certify that I am not related
2 to any of the parties to this action by blood or
3 marriage, I am not employed by or an attorney to any
4 of the parties to this action, and that I am in no
5 way interested, financially or otherwise, in the
6 outcome of this matter.

7
8 IN WITNESS WHEREOF, I have hereunto set
9 my hand this 25th day of JUNE, 2024.

10

11

12

A handwritten signature in blue ink, reading "Lia V. Feissner", is written over a horizontal line.

13

NOTARY PUBLIC IN AND FOR

14

THE DISTRICT OF COLUMBIA

15

MY COMMISSION EXPIRES JUNE 15, 2028

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21

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A			
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