

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CISCO SYSTEMS, INC.,

Petitioner,

v.

PORTSMOUTH NETWORK CORP.,

Patent Owner.

IPR2024-00503

Patent No. 7,035,279

REMOTE VIDEOTAPED DEPOSITION OF

JAMES OLIVIER, PH.D.

January 16, 2025

9:03 a.m. CST

Reported by:
Janice M. Kocek, CSR, CLR
Job No. 56546

1 The videotaped deposition of
2 JAMES OLIVIER, PH.D., via Zoom videoconferencing,
3 called by the Petitioner for examination, reported
4 stenographically by Janice M. Koczek, License
5 No. 084-002871, Certified Shorthand Reporter,
6 Certified LiveNote Reporter, and Notary Public for
7 the State of Illinois, commencing at the hour of
8 9:03 a.m. CST, on the 16th day of January, 2025.

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2 ** ALL PARTIES APPEARING REMOTELY **

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6 DEPOSITION EXHIBITS

7 NUMBER DESCRIPTION PAGE

8 Exhibit 1001 United States Patent 9

9 7,035,279 B2

10 Exhibit 1005 United States Patent 46

11 6,920,113 B1

12 Exhibit 1018 The Cisco SRP MAC Layer 46

13 Protocol

14 Exhibit 1022 The SRP MAC Layer Protocol 70

15 Exhibit 2004 Declaration of 46

16 James Olivier, Ph.D.

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18

19 REPORTER'S NOTE: All quotations
20 are used for clarity and are
21 reflected in the manner in which
22 they were read into the record
and do not necessarily indicate an
exact quote from the document.

1 THE VIDEOGRAPHER: Here begins
2 video 1 in the video deposition of Dr. James
3 Olivier taken in the matter of Cisco Systems,
4 Inc., versus Portsmouth Network in the United
5 States Patent and Trademark Office before the
6 Patent Trial and Appeal Board, Case Number
7 IPR2024-00503.

8 Today's date is January 16th,
9 2025, and the time is 9:03 a.m. Central Time.

10 This deposition is being held by
11 Zoom video remote conferencing. The court
12 reporter is Janice Koczek and the videographer
13 is DeShawn White. Both are presenting on
14 behalf of Henderson Legal Services.

15 Will counsel and others please
16 introduce themselves and state whom they
17 represent, followed by the court reporter
18 administering the oath.

19 MR. GORYUNOV: Good morning. Eugene
20 Goryunov on behalf of Cisco from Haynes
21 Boone.

22 MS. CAPPAERT: Kate Cappaert on behalf

1 of Portsmouth from Steptoe and with me is Ben
2 Ho.

3 (Witness remotely sworn.)

4 JAMES OLIVIER, PH.D.,
5 called as a witness herein, having been first duly
6 sworn, was examined and testified as follows:

7 EXAMINATION

8 BY MR. GORYUNOV:

9 Q. All right. Good morning,
10 Dr. Olivier. How are you this morning?

11 A. Good. How are you?

12 Q. Good. Have you given a deposition
13 before?

14 A. Yes.

15 Q. How many?

16 A. Well, I think I stopped counting after
17 30 or so.

18 Q. That's a fair -- fair practice.
19 Were they mostly on behalf of patent
20 owners or a mix of patent owner and defense side?

21 A. A mix.

22 Q. If you had to assign a percentage to

1 each, what would that be?

2 **A. If I had to assign, probably 50/50.**

3 Q. How often do you appear in front of the
4 PTAB?

5 **A. How often appear in front of the PTAB.**

6 **You mean go to a trial -- a PTAB trial?**

7 Q. That's a fair question.

8 How often have you been deposed in
9 connection with your participation in a PTAB
10 proceeding?

11 **A. Probably more than ten times.**

12 Q. All right. So fair to say you
13 understand how depositions work, right?

14 **A. Yes.**

15 Q. You're here to answer my questions.
16 Do you understand that?

17 **A. Yes.**

18 Q. And if you understand my question, it's
19 fair for me to understand that you understood my
20 question and are giving a full and thorough
21 answer, correct?

22 **A. Yes.**

1 Q. And if at any point you feel that you
2 need to clarify your answer, you'll do so, right?

3 A. Yes.

4 Q. All right. I'm going to share with you
5 in the chat window what has been previously marked
6 as 1001.

7 Please let me know when you've
8 downloaded it and when you have it open.

9 (Deposition Exhibit 1001 was
10 introduced for identification.)

11 MS. CAPPAERT: Eugene, did you share
12 with everybody or just Dr. Olivier?

13 MR. GORYUNOV: Oh, no, no, no. I think
14 I -- it says group meeting. So I assume
15 everyone should have gotten it through the
16 chat feature. Kate, if that's not the case,
17 let me know.

18 MS. CAPPAERT: I didn't, but I can pull
19 it up on my own. No worries.

20 MR. GORYUNOV: Really? Hold on.

21 MS. CAPPAERT: It may be a firm thing,
22 not a you thing. So don't worry.

1 MR. GORYUNOV: Just so you are aware,
2 our IT blocked us using the chat feature for
3 exhibits. I assume that's the same for you.
4 We had a test yesterday with Henderson to
5 make sure that this worked.

6 Unfortunately I found about that
7 IT change in the middle of a different
8 deposition. Made things a little awkward.

9 BY MR. GORYUNOV:

10 Q. Sorry. Dr. Olivier, you have Exhibit
11 1001 open?

12 A. **Yes, I do.**

13 Q. Excellent. Do you recognize this as
14 U.S. Patent 7,035,279?

15 A. **Yes.**

16 Q. And is this the '279 patent on which
17 you -- that you reviewed and you offered an
18 opinion on?

19 A. **Yes.**

20 Q. And it's okay if I refer to this patent
21 as the '279 patent, correct?

22 A. **Correct.**

1 Q. All right. Let's flip forward to Claim
2 1 of the '279 patent. It's in the middle of
3 column 9.

4 A. Okay.

5 Q. And I realize that the actual exhibit
6 that we're looking at doesn't have all of the
7 limitations numbered. But I will try to use the
8 same numbering that were presented in your
9 declaration as well as in the other pleadings that
10 you, I'm sure, have looked at in this case; is
11 that okay?

12 A. Sure. It may be easier to pull up my
13 declaration. But yes.

14 Q. I will give your declaration in a
15 moment. But I'd like to actually look at
16 Claim 1 in its entirety first.

17 All right. Looking at Claim 1,
18 limitation 1.1, which begins at column 9, line 25.
19 Do you see that?

20 A. Yes.

21 Q. And that's the limitation that recites
22 (as read): Allocating a respective number of

1 quanta of one or more resources in the network to
2 each of the nodes.

3 Do you see that?

4 **A. Yes, I do.**

5 Q. All right. What is your understanding
6 of a resource as used in the claim?

7 **A. Well, for schedulers, queues, (audio
8 distortion), things of that nature.**

9 **(Stenographer clarification.)**

10 THE WITNESS: Queues.

11 BY MR. GORYUNOV:

12 Q. Queues, you mean q-u-e-u-e, right, like
13 a buffer queue?

14 **A. Correct. It could be other things.
15 It could be link bandwidth, link utilization.
16 There's a lot of things that could be covered
17 under the term "resources." It's kind of broad.**

18 Q. Would it also include things like
19 processing power?

20 MS. CAPPAERT: Object to form.

21 THE WITNESS: Typically in networking
22 we don't think of that as a resource. I

1 guess I'd have to review the patent and see
2 -- see how exactly they used the term
3 "resource." But typically that's not what we
4 refer -- if I'm in my networking protocols
5 class I don't teach processing power as being
6 a -- a resource associated with a data flow.

7 Because typically the processing
8 powers for doing the routing protocols if
9 we're talking about the route processor in a
10 -- in a particular router or switch. I guess
11 it depends what you mean by processor when
12 you say that.

13 BY MR. GORYUNOV:

14 Q. Okay. Well, let's just run with your
15 example.

16 It seems like you're saying that
17 processing power to process network protocols
18 would fall under the umbrella of resources as used
19 in Claim 1, right?

20 A. **No, that's opposite of what I said.**

21 Q. Oh, okay. Please correct what I'm
22 saying.

1 **A.** **Okay. I said typically we don't think**
2 **of like resources for the route processor in a**
3 **switch or router as being a resource associated**
4 **with a data flow.**

5 You could think of a network processor
6 perhaps through -- the processing power of a
7 network processor in, let's say, a line card as
8 something you could consider being a resource.
9 **Like I said, it kind of depends.**

10 **Q.** What about processing power to, I don't
11 know, encrypt or decrypt data, would you consider
12 that to be a process -- sorry, a resource?

13 MS. CAPPAERT: Object to form.

14 THE WITNESS: It could or couldn't be.

15 BY MR. GORYUNOV:

16 **Q.** What about electric power used to run a
17 particular node, would you consider that to be a
18 resource within the scope of Claim 1?

19 **A.** **No, I would not.**

20 **Q.** What about the existence of a
21 connection or a link between two nodes, would that
22 be a resource?

1 MS. CAPPAERT: Object to form.

2 THE WITNESS: Again, I -- I don't know.

3 I'd have to see it in what context you're
4 talking about.

5 BY MR. GORYUNOV:

6 Q. In the context of Claim 1, the
7 limitation that you and I looked at.

8 A. No, I mean -- I would say I'd have to
9 know the context of what link you're talking
10 about, how that's set up.

11 Q. Got it. All right.

12 Let's look back at Claim 1 of the '279
13 patent. Let's take a peek at limitation 1.2, the
14 one that begins at column 9, line 27.

15 Do you see that? It begins with
16 "receiving a request."

17 A. Yes. I'm sorry, yes.

18 Q. All right. In that limitation at line
19 28 there is reference to data flow.

20 Do you see that?

21 A. Yes.

22 Q. And that's (as read): Data flow

1 between the first and second nodes over one or --
2 over one of a plurality of paths therebetween.

3 Did I read that correctly?

4 **A. Yes.**

5 Q. In this context, again, in the context
6 of Claim 1, data flow includes one or more just
7 standard packets, right?

8 MS. CAPPAERT: Object to form.

9 THE WITNESS: No, you can't call one or
10 more packets a data flow. It needs to be
11 more than that.

12 Typically a data flow in
13 networking has to do with a flow between a
14 source address and a destination address.
15 And typically it also includes the port
16 designation, too. It's the flow between two
17 connections typically in the operating system
18 of the sender and receiver.

19 BY MR. GORYUNOV:

20 Q. You know, I think that what would help
21 us continue this conversation is we talk about
22 this data flow a little bit more.

1 But in that context could you explain
2 to me a little bit about how packet forwarding
3 works?

4 MS. CAPPAERT: Object to form.

5 THE WITNESS: Packet forwarding.

6 Packet -- what type of -- what type of
7 networks?

8 BY MR. GORYUNOV:

9 Q. Well, in the context of the -- of the
10 '2- -- '279 patent I believe relates to any
11 network, right?

12 A. Well, you are asking me a very broad
13 question about what to define. So I guess I'm
14 confused on what exactly is your question.

15 Q. All right. Let me try to help us
16 along.

17 We can agree packets have a header,
18 right?

19 A. Correct.

20 Q. Okay. And this header identifies a
21 source and a destination, right?

22 A. If we talk about terms of IP address

1 **it would be source and destination IP addresses.**

2 Q. Okay. So the identification of a
3 source and destination IP addresses in IP packets,
4 so that's an instruction for the sender to
5 transmit the packet to a destination, right?

6 A. **An instruction?**

7 Q. That is my question.

8 A. **I've never heard -- I've never heard**
9 **the term "instruction" to use in regards to an IP**
10 **header. If you were talking about segment**
11 **routing, maybe the header is sometimes termed, a**
12 **segment ID is sometimes termed as an instruction**
13 **for the network.**

14 **But it's -- the header in an IP**
15 **network, which is what the '279 is kind of**
16 **describing in its embodiment, the source and**
17 **destination IP addresses are the source and**
18 **destinations of the particular operating system**
19 **that's running.**

20 Q. How would the sender of an IP packet
21 interpret the header's identification of a source
22 and destination IP address?

1 **A.** The sender would put his IP address as
2 the source and he'd put the destination IP
3 address as the destination he thinks he's talking
4 to. You could do NAT and do -- address --
5 network address translations and things like
6 that. But it's the destination address you'd put
7 in the IP packet would be the one that he thinks
8 he's talking to.

9 **Q.** And in this case the sender of this IP
10 packet would try to transmit the packet to the
11 destination IP address, correct?

12 **A.** Correct.

13 **Q.** All right. Let's, again -- I'm going
14 to look at our -- our Claim 1. And, again, the
15 data flow that's in limitation 1.2 is to -- is
16 between a first and second node.

17 Can we refer to those nodes as
18 node A and node B just to make it a little easier
19 for our conversation?

20 **A.** I hesitate to do that because the
21 other expert in the case used node A and node B
22 in his description of some stuff. So how about

1 **we just call it node 1 and node 2.**

2 Q. Let me make a note of that.

3 **A. We can say first and second.**

4 Q. We can do that, too.

5 So if a first node is transmitting
6 packets to a second node, the first node is using
7 network bandwidth to transmit the packets, right?

8 MS. CAPPAERT: Object to form.

9 THE WITNESS: Can I hear your question
10 again? Because I think we're confusing --
11 these are intermediate nodes in a network and
12 not the sender and receiving nodes in the
13 network that we're talking about in Claim 1.
14 Because this is a plurality of nodes
15 interconnected by links. So I'm trying to
16 understand the context of your question.

17 So could I hear it again?

18 BY MR. GORYUNOV:

19 Q. Sure. If a first node is transmitting
20 packs to a second node, the first node is using
21 network bandwidth to transmit the packets to the
22 second node, correct?

1 **A. Yes.**

2 **Q. If a first node is transmitting packets**
3 **to a second node, the first node is using its own**
4 **processing power to transmit packets to the second**
5 **node, correct?**

6 **A. I guess when you say processing**
7 **power -- I mean, we can do -- if we're doing**
8 **switching and it's done in an ASIC, or an**
9 **integrated circuit, would we still consider that**
10 **processing power.**

11 **So there's -- if you were using a node**
12 **processor to do your packet forwarding and that's**
13 **how the particular node that's doing the packet**
14 **forwarding operates on node processors, then I**
15 **think you could say that it's using processing**
16 **power to do it.**

17 **Q. Now, if we're talking about a bandwidth**
18 **here, there's no guarantee the bandwidth will be**
19 **available when a first node wants to send packets**
20 **to a second node, right?**

21 **A. I don't understand your question.**
22 **We're talking about bandwidth.**

1 Q. Well, let me clarify.

2 A. **Where are we talking about bandwidth**
3 **here?**

4 Q. Sure, sure. Earlier you and I spoke
5 about if a first node is transmitting packets to a
6 second node, the first node is using a part of
7 network bandwidth to transmit the packets to the
8 second node.

9 Do you remember that conversation?

10 A. **Correct. Yes.**

11 Q. Okay. There's no guarantee however
12 that in a network there will be available
13 bandwidth at any particular time when the first
14 node wants to transmit packets to the second node,
15 right?

16 A. **Well, I mean, you could reserve**
17 **bandwidth and then you'd be guaranteed it. So**
18 **that's why your question is a little confusing.**

19 Q. Okay. Put aside bandwidth reservation.
20 Let's -- if we're talking about like best effort
21 traffic transmission, okay?

22 A. **Okay.**

1 Q. My understanding of best effort traffic
2 transmission is that there is no like reservation
3 of bandwidth, right?

4 A. Typically there's no reservation of
5 bandwidth in best effort. So I've seen that
6 broken in some situations. Sometimes you don't
7 reserve bandwidth for what's called the scavenger
8 class and reserve some for best effort network
9 designs.

10 So typically the best effort traffic
11 -- and I guess best effort we're talking about
12 DiffServ now, that -- because that's where the
13 term best effort comes from, that you don't
14 reserve bandwidth for the DiffServ code point
15 tagged best effort.

16 Q. In other words, again, in the context
17 of best network traffic, if the first node is
18 trying to send a packet to the second node and
19 there's not enough bandwidth, then the traffic
20 will not be transmitted absent some kind of
21 back-end reservation, correct?

22 MS. CAPPAERT: Object to form.

1 THE WITNESS: That's a -- that's a -- I
2 mean, kind of a confusing question.

3 So if there's not enough bandwidth
4 to do the transmission it stores the packet
5 in a queue and then can transmit it if we're
6 talking about a particular -- let's say, we
7 designed the QOS parameters for a network and
8 we set up our queues and we were putting a
9 best effort class in that, we would put --
10 and we had a priority traffic coming in,
11 let's say, an expedited forwarding, the -- if
12 the packet came in to be transferred on the
13 link and it was best effort and an expedited
14 forwarding got put in front, you'd queue up
15 the best effort traffic until you got time to
16 send it across a link at that -- transmitted
17 across the link.

18 BY MR. GORYUNOV:

19 Q. All right. But the mere fact that
20 you're putting a packet into a queue means that at
21 the particular instant when the packet came up for
22 sending there was an insufficient bandwidth,

1 right, otherwise you wouldn't put it into the
2 queue?

3 MS. CAPPAERT: Object to form.

4 THE WITNESS: Insufficient --
5 insufficient bandwidth to handle all the
6 particular -- let's see, insufficient
7 bandwidth. I mean, there's no such thing as
8 unlimited bandwidth so that's why we have
9 queues in systems unless we're setting up a
10 circuit and we're pre-allocating queues and
11 traffic.

12 But I guess in your hypothetical
13 we are not setting up any sort of resource
14 allocation, we are just taking traffic in
15 with no -- with no resource allocation and
16 hoping that it goes by based on statistical
17 multiplexing.

18 In that case if a low priority
19 traffic comes in, it will be queued up to go
20 behind the high priority traffic if at that
21 particular instance when the packet arrived
22 at that node there wasn't sufficient

1 transmitting capability on the outgoing link.

2 BY MR. GORYUNOV:

3 Q. You know, I actually do have one more
4 question.

5 Remember a little bit earlier we spoke
6 about packet headers containing a source and
7 destination IP address?

8 A. An IP header, yes.

9 Q. Thank you. An IP header.

10 The sender node, in other words the
11 first node, that would reading that header --

12 A. Okay. So two things. Sorry. I
13 didn't mean to interrupt.

14 But the first node, if it's a sender,
15 isn't reading that header. He's generating that
16 header.

17 Q. Thank you. Yep. That's why I paused
18 for a moment because I was like, wait, I'm not
19 sure my question makes a lot of sense. All right.
20 So let me try again.

21 The first node that is trying to
22 transmit packets to a second node generates that

1 first header, which includes the source IP
2 address, which is the IP address of the first
3 node, and the destination IP address of -- which
4 is the IP address of the destination node, right?

5 A. So I would say that's incorrect
6 because when you use first and second nodes,
7 we're talking about the nodes in the claim and
8 those are -- those are sender/receiver packets
9 but they're not the sender and receivers of the
10 two originating and terminating endpoints of the
11 data flow.

12 Q. What's the distinction?

13 A. So the first node -- oh, well, one's a
14 computer and one's like a router or a switch DIP
15 that carries the traffic. So if you imagine --
16 you talked about your Wi-Fi router earlier,
17 correct?

18 Q. Yes.

19 A. Well, your -- your computer will
20 generate a source address, send it to the -- the
21 router, the Wi-Fi router up there. And the Wi-Fi
22 router will receive that IP address, look up

1 where to send it, and send it to -- I guess if
2 it's connected to your fiber modem it would then
3 recognize that that address is outside of the
4 network and then send it on the link, the fiber
5 link, going outside to the AT&T network.

6 Q. Okay. So thank you for that
7 clarification.

8 In other words, the intermediate nodes
9 between my -- between the first node and the
10 second node, they're not modifying the IP -- the
11 IP header, they're just reading and following its
12 instructions, correct?

13 MS. CAPPAERT: Object to form.

14 THE WITNESS: Yeah, so I think when you
15 say first node and second node, that that is
16 part of Claim 1, which is what we're talking
17 about. And if you refer to like Figure 1,
18 none of those nodes are the originating nodes
19 for -- or the terminating nodes for the IP
20 packet. So they're not generating an IP
21 header. They're just reading it.

22

1 BY MR. GORYUNOV:

2 Q. Okay.

3 A. So if you want to say sender and
4 receiver, originator and terminator, of the flow,
5 then I think you -- you have it in an
6 understandable form of your question. But the
7 way you have it now it's a bit confusing.

8 Q. So in the context of Claim 1, the first
9 node and the second node, they're not the
10 originators, they're the -- shall we say routing
11 nodes?

12 A. Let's call them intermediaries --
13 intermediate nodes -- intermediary nodes.

14 Q. Fair. In the context of the Claim 1
15 the first node and the second node are
16 intermediary nodes. These nodes do not generate
17 an IP header for the packet, they merely read it
18 and follow the instructions that are in that
19 header, correct?

20 A. Well, there's no instructions in that
21 header. But they read the -- they read the
22 header and determine the IP address perhaps. And

1 if they're doing routing, they'll route it that
2 way. If it's just layer 2 switching, they'll
3 just look at the Ethernet destination address.

4 So they'll do some switching and
5 routing function based on the header is probably
6 the broadest way of interpreting what you're
7 saying.

8 Q. So in other words, these intermediary
9 nodes will review the header, and based on the
10 information in the header, which is the source and
11 destination IP addresses, they will perform
12 switching based on that information, correct?

13 MS. CAPPAERT: Object to form.

14 THE WITNESS: Or it could be (audio
15 distortion) their information. They're not
16 restricted to just using an IP header or the
17 header -- because you could set up a circuit
18 ID, which wouldn't look at header and the IP
19 packet if you were doing like ATM switching.
20 You would just look at the ATM cell.

21 (Stenographer clarification.)

22

1 BY MR. GORYUNOV:

2 Q. Dr. Olivier, sorry, we're having some
3 networking issues. Let me just ask the question
4 from scratch.

5 Does that work for you, Dr. Olivier?

6 A. Sure.

7 Q. My question was: In other words, these
8 intermediary nodes will review the header and
9 based on the information in the header, which is
10 the source and destination IP addresses, they will
11 perform switching based on that information,
12 correct?

13 MS. CAPPAERT: Object to form.

14 THE WITNESS: And so there's more
15 information in the header than the source and
16 destination addresses. And they can perform
17 switching and routing on other information in
18 that header.

19 Typically they use -- it all
20 depends which header but typically if it's a
21 -- let's take an MPLS network. In the shim
22 header we used the label to tell us how to

1 move the packet from one node to another.

2 So there's all sorts of ways of
3 doing this data flow between two nodes. And
4 I don't think -- it depends how you define
5 header. But when you say IP address, source
6 and destination address, you leave out a lot
7 of other networking technologies.

8 If we're saying level 3 IP routing
9 based on IP header, you might be able to say
10 that's correct.

11 BY MR. GORYUNOV:

12 Q. All right. I'm just processing this.

13 Let's look, again, at Claim 1 of the
14 '279 patent. And, again, let's look at the
15 limitation of 1.2, the one that's in column 9,
16 line 27, the one that begins with "receiving a
17 request."

18 A. **Okay. "Receiving a request at the**
19 **first node," yes.**

20 Q. Correct. Now, limitation 1.2 doesn't
21 recite what network element actually makes this
22 request, right?

1 **A. No, it just says who receives it.**

2 Q. What node in your experience could be
3 responsible for making this request?

4 MS. CAPPAERT: Object to form.

5 THE WITNESS: Let's take RSVP, resource
6 reservation protocol. In that particular
7 world, the source of the data flow, which is
8 the person who would be originating the IP
9 packet, would be the one making a request of
10 the network. And so in that regards the
11 first node would receive it if it was part of
12 the network, this resource reservation
13 request for a certain bandwidth.

14 Other examples of it could be, in
15 an SDN network, the SDN controller could be
16 making a request of nodes in the system.

17 In an MPLS network it would be the
18 ingress router that could be making requests
19 of other nodes in the system for -- to
20 reserve the -- to use a portion of the
21 resources.

22 In ATM it would be a signaling

1 protocol that -- typically generated by the
2 user that would make a request. Though it's
3 possible to do network-to-network interface
4 where a network node would -- would generate
5 a request for resources.

6 BY MR. GORYUNOV:

7 Q. By the way, this is more of a higher
8 level question.

9 But I mean, you reviewed the '279
10 patent multiple times, right?

11 A. Correct.

12 Q. And you understand what it's -- what
13 it's claiming, correct?

14 A. Correct.

15 Q. Is it your opinion that the patent is
16 focused on resource reservations in the network?

17 MS. CAPPAERT: Object to form.

18 THE WITNESS: Well, the patent is
19 focused on reserving resources in a network.

20 BY MR. GORYUNOV:

21 Q. Would you -- do you believe that the
22 '279 patent is related to managing network

1 congestion?

2 **A. Well, typically if your network**
3 **doesn't have any congestion, you don't have to**
4 **worry about reserving resources. You've, what we**
5 **call, over-provisioned it.**

6 **So when you are performing resource**
7 **allocation, some people call it connection**
8 **admission controller, or CAC, it's because you**
9 **believe you will -- may experience congestion or**
10 **you're planning for a day when you think you will**
11 **experience congestion.**

12 **Q. Got it. So by the fact that the '279**
13 **patent is doing resource reservation, it is**
14 **therefore at least inferentially related to**
15 **managed network congestion?**

16 **A. I'm sorry. You broke up.**

17 **Q. Sure.**

18 **A. Can you say it again?**

19 **Q. Yeah. Can you hear me now?**

20 **A. Yeah, yeah.**

21 **Q. The fact that the '279 patent is doing**
22 **resource reservation, it is therefore at least**

1 inferentially managing network congestion; is that
2 right?

3 MS. CAPPAERT: Object to form.

4 THE WITNESS: Yeah, I guess
5 inferentially. I think what I said was you
6 either believe you may experience network
7 congestion in the future and that's why
8 you're putting in the energy and time to --
9 to perform this function or you're already
10 experiencing congestion.

11 So I guess you can infer that
12 congestion is something that the network
13 provider considers something they need to
14 plan for perhaps in the future.

15 BY MR. GORYUNOV:

16 Q. Okay. Do you -- all right.

17 Let's look back at limitation 1.2 in
18 the '279 patent. And, again, I'm still looking at
19 the limitation "receiving a request."

20 A. Uh-huh, yes.

21 Q. So, again, the limitation doesn't refer
22 to what network element makes the request.

1 Would you agree with me that the
2 limitation also does not recite how the request is
3 made?

4 **A. How the request is made. Well, I**
5 **think it's made to -- how it's made is it's made**
6 **to a first -- to the first node, to use a portion**
7 **of the resources to carry the data flow.**

8 Q. There's no mechanism disclosed or
9 recited in Claim 1 for how that request is created
10 or issued, correct?

11 **A. There's no -- well, I mean, the**
12 **mechanism makes a request of the first node to**
13 **use a portion of the resources. I guess I'm**
14 **confused what you mean by "mechanism."**

15 Q. Well, I guess at a broader level the
16 limitation says "receiving a request." And that's
17 all it says. It doesn't describe how that request
18 is made.

19 It just says "receiving a request,"
20 right?

21 **A. It says (as read): Receiving a**
22 **request at the first node to use a portion of the**

1 **resources so as to carry the data flow between**
2 **the first and second nodes over a plurality of**
3 **paths.**

4 Q. Okay. That doesn't say how the request
5 is actually made, right?

6 A. **It says it's made to the first node.**

7 Q. Okay. So it says who receives the
8 request but it doesn't talk about like the process
9 for making the request, right?

10 A. **Process for making --**

11 MS. CAPPAERT: Object to form.

12 THE WITNESS: I guess I -- I can't -- I
13 don't quite understand your question.

14 So the process to make a request
15 is to request at the first node to use a
16 portion of the resources to carry the data
17 flow.

18 But you're saying that's not the
19 process of the request?

20 BY MR. GORYUNOV:

21 Q. Oh, okay. I think I see -- I think I
22 understand where our disconnect is.

1 Like the claim doesn't describe, you
2 know, some intermediary or oversight node issuing
3 a request that defines a various number of
4 parameters, correct, all Claim 1 says is
5 "receiving a request at the first node to use a
6 portion of the resources"?

7 **A. That's what it says, yeah. (As read):**
8 **Receiving a request at the first node to use a**
9 **portion of the resources to carry the data flow**
10 **between the first and second nodes.**

11 You really broke up there. I didn't
12 hear anything you said.

13 Q. I was just coughing.

14 **A. Oh, okay.**

15 Q. I'm recovering from something that the
16 kids brought home.

17 **A. Oh, no.**

18 Q. It's a perpetual issue during the
19 winter.

20 All right. So still staying with
21 limitation 1.2, (as read): Receiving a request at
22 the first node to use a portion of the resources

1 so as to carry the data flow between the first and
2 second nodes.

3 You see that, right?

4 **A. Yes, I do.**

5 Q. When does the data flow arrive at the
6 first node?

7 In other words, does it arrive before
8 or after this request is received by the first
9 node?

10 MS. CAPPAERT: Object to form.

11 THE WITNESS: So a request is something
12 that can be allowed or denied and the data
13 flow would be after the request because it
14 would make no sense to deny a request and
15 then still have the data flow.

16 So the data flow becomes after the
17 request because the request is something that
18 can be allowed or denied.

19 BY MR. GORYUNOV:

20 Q. Earlier we said that the data flow
21 would consist of packets, right?

22 **A. Yes, typically. Could be cells.**

1 **Could be frames.**

2 Q. Sure. Let's just use packets for our
3 conversation.

4 I mean, if the first node doesn't yet
5 have the packets, how does it know whether it has
6 sufficient resources to transmit them?

7 A. Because the claim says receiving a
8 request to use a portion of the resources. So
9 that's -- getting a request to use that portion.
10 At that point it knows what its resources are and
11 knows whether or not it has that portion or not.

12 Q. How does it know if it --

13 A. So your question --

14 (Simultaneous speaking.)

15 BY MR. GORYUNOV:

16 Q. Sorry. Go ahead. I apologize.

17 A. So your question didn't make sense.

18 If I'm already sending the packets,
19 I'm already using a portion of resources for
20 that. So that the sending of packets occurs
21 before a request for a portion doesn't make
22 logical sense.

1 Q. I guess my question is this: How does
2 a node know that it has sufficient resources
3 without having insight into what this traffic that
4 it will be sending is?

5 MS. CAPPAERT: Object to form.

6 THE WITNESS: Oh, so you made -- you
7 made -- we talked about best effort.

8 And so if -- let's say, expedited
9 forwarding, which comes with so many megabits
10 per second, a bandwidth requirement. And so
11 you would make a request for a portion of
12 resources, let's say, 10 megabytes, and then
13 you would look down into your existing queues
14 and say I have 10 megabytes and therefore I
15 will allow this request.

16 Otherwise if you didn't have
17 10 megabytes of sufficient capacity in your,
18 let's say link budget, you would deny that
19 request. So you would have to do it before
20 you allowed or denied your request. You're
21 given some information, which in the claim is
22 the portion of resources that allows you to

1 determine whether you can admit this data
2 flow or not.

3 BY MR. GORYUNOV:

4 Q. So when you're -- when the node is
5 making that determination, is the data already in
6 its queue or is the data still at the prior node?

7 MS. CAPPAERT: Objection.

8 THE WITNESS: It better be at the prior
9 node because otherwise you have a guy who's
10 putting data into your queues without
11 permission. And that can cause horrible
12 problems with your network, cause other
13 people to overflow their queues. And like I
14 teach my class, you have to police your
15 networks, otherwise your networks become
16 unstable.

17 BY MR. GORYUNOV:

18 Q. So if the data is still at the prior
19 node, then how does the node making the request or
20 determining whether it has sufficient resources
21 know specifically what that data -- what that
22 incoming data is?

1 A. It's told what kind of resources it
2 needs to handle that data.

3 Q. How?

4 A. How. I mean, there's any number of
5 ways. There's a whole -- whole thing of
6 connection admission control. And that is how
7 you, given some parameters, calculate that you
8 can as a node allow this connection to go through
9 it.

10 I gave you one example where you were
11 -- let's say, you're doing RSVP, so resource
12 reservation protocol, which is a pretty standard
13 one. You would give it a T-Spec, T-S-p-e-c -- so
14 it's T, dash, S-p-e-c -- which gives you one -- a
15 bunch of parameters. But one of the parameters
16 would be the bandwidth and the priority at which
17 we want to send this bandwidth. And then you
18 calculate at your particular node whether or not
19 you have the capacity to handle this connection.

20 Only then do you respond back, yes, I
21 have the capacity. And then the first packet
22 starts going into your node.

1 Q. Okay. Then on the topic of your
2 priority, let's take a look at Claim 7 and Claim 8
3 of the '279 patent.

4 Let me know when you're there.

5 **A. I'm there.**

6 Q. Claim 7 adds the use of a resource
7 budget to the method of Claim 1 and so does
8 Claim 8; is that right?

9 **A. Yes.**

10 Q. The claims don't specify the type of
11 traffic or the type of data flow they're
12 transmitting, right?

13 MS. CAPPAERT: Object to form.

14 THE WITNESS: They -- they talk about
15 the data flow of Claim 1.

16 BY MR. GORYUNOV:

17 Q. Correct. The claims don't refer to low
18 priority or high property or any type of specific
19 traffic, right?

20 **A. Right. As a matter of fact, you would**
21 **think it's for the traffic that is being**
22 **assigned.**

1 Q. And that could be any kind of traffic?

2 MS. CAPPAERT: Object to form.

3 THE WITNESS: Let's see. It could be
4 any type of data flow only if the requested
5 resource will not cause the total resources
6 allocated to exceed the budget.

7 BY MR. GORYUNOV:

8 Q. Let's go back to the Zoom window. I'm
9 going to share with you a couple of documents
10 here. All right. I'm going to go share with you
11 what has been previously marked as Exhibit 2004.

12 Please download it and let me know when
13 you are ready. And then I'm also going to share
14 with you what has been previously marked as
15 Exhibit 1018, and while we're at it, 1005.

16 (Deposition Exhibit 2004, Exhibit 1018,
17 and Exhibit 1005 were introduced
18 for identification.)

19 MR. GORYUNOV: Kate, since you don't
20 see the chat window, again, that's 2004,
21 1018, and 1005.

22 MS. CAPPAERT: Thanks. I've got them.

1 BY MR. GORYUNOV:

2 Q. Do you have all three documents
3 downloaded?

4 A. Let me check real quick. Yes.

5 Q. Then I will ask that you open all three
6 documents and let's talk about them.

7 A. All three. Okay. Got 'em.

8 Q. All right. Let's start with 1018.

9 A. Okay.

10 Q. Do you recognize Exhibit 1018?

11 A. Yes.

12 Q. Is this the document that you have
13 reviewed and analyzed, RFC2892?

14 A. Yeah, I think that had to do with
15 Claim 7. Yes.

16 Q. All right. So you're familiar with
17 this document, correct?

18 A. Yes.

19 Q. Under Abstract on the very first page,
20 the very first paragraph, do you see that, it says
21 "this document"?

22 A. Yes.

1 Q. I'll read that for us.

2 (As read): This document specifies the
3 MAC layer protocol, "Spatial Reuse Protocol" (SRP)
4 for use with ring-based media. This is a second
5 version of the protocol (V2).

6 Did I read that correctly?

7 A. Yes.

8 Q. What is SRP?

9 A. **Spatial reuse protocol.**

10 Q. I had that coming.

11 What is spatial reuse protocol?

12 MS. CAPPAERT: Object to form.

13 THE WITNESS: It's a protocol for
14 typically ring networks to send traffic.

15 BY MR. GORYUNOV:

16 Q. Let's go down one page. It's the table
17 of contents.

18 Do you see that?

19 A. Yes.

20 Q. And 3.3 on the table of contents is SRP
21 Fairness Algorithm (SRP-fa) Overview.

22 Do you see that?

1 **A. Yes.**

2 Q. All right. What is the SRP fairness
3 algorithm?

4 MS. CAPPAERT: Object to form.

5 THE WITNESS: It's an algorithm that --
6 it kicks off in this protocol if the nodes
7 experience a congestion that will help it
8 manage that congestion.

9 BY MR. GORYUNOV:

10 Q. I'm sorry. Were you done with your
11 answer? I don't want to interrupt.

12 **A. Yes.**

13 Q. Now, would you agree with me that
14 interoperability of equipment from different
15 vendors is an important element of network design?

16 **A. It is the reasons we have standard
17 bodies. So it's an important element of
18 interoperability between network elements.**

19 Q. And that's why documents like this RFC
20 were written and referred to, right?

21 MS. CAPPAERT: Object to form.

22 THE WITNESS: I'm sorry. For

1 interoperability?

2 (Stenographer clarification.)

3 BY MR. GORYUNOV:

4 Q. Let me clarify the question.

5 All right. You just testified that the
6 reason we have standard bodies is to encourage and
7 assure interoperability, right?

8 A. Yeah, I like the term "encourage"
9 because I worked on standard bodies and I would
10 never say we ensure it but we definitely
11 encourage it.

12 Q. Sure. And an RFC such as RFC2892 is an
13 example of such a standard that encourages
14 interoperability between different vendors'
15 technologies, right?

16 A. Yeah, I don't know the acceptance of
17 this RFC. But the idea was Cisco wrote it and
18 other people would adopt it as a protocol that
19 would allow for interoperability.

20 Q. Are you aware of any other SRP
21 standards out there?

22 MS. CAPPAERT: Object to form.

1 THE WITNESS: Well, this is Version 2.

2 So I imagine there's a Version 1. But I am
3 not, as I sit here, aware of any other
4 spatial reuse protocol standards.

5 BY MR. GORYUNOV:

6 Q. Okay. Let's open Exhibit 1005, please.

7 A. Okay.

8 Q. Is this U.S. Patent 6,920,113 to
9 Kovvali that you have reviewed and are familiar
10 with for this case?

11 A. Yes.

12 Q. And you've reviewed Kovvali and you are
13 familiar with his disclosures, right?

14 A. In general, yes.

15 Q. Let's go to column 4, please.
16 Let me know when you're there.

17 A. I'm there.

18 Q. Let's look at column 4, line 15 to line
19 21.

20 Would you agree that that portion of
21 Kovvali also refers to the spatial reuse protocol,
22 SRP?

1 **A. Hold on one sec. Yes.**

2 Q. And you would agree with me that the
3 spatial reuse protocol referred to in Kovvali is
4 the same SRP as in RFC2892, correct?

5 **A. I have no idea.**

6 Q. Do you have any reason to doubt that?

7 **A. Well, let's see. They didn't put the**
8 **RFC number in there; did they?**

9 Q. Well, they're also referring to the SRP
10 fairness protocol at line -- I think that's line
11 19 or line 20 of column 4, the SRP-fa, which is
12 the same SRP fairness algorithm, SRP-fa that we
13 looked at in the index of RFC2892, right?

14 MS. CAPPAERT: Object to form.

15 THE WITNESS: It has that same name,
16 yes.

17 BY MR. GORYUNOV:

18 Q. Do you have any reason to believe that
19 they're not referring to the exact same
20 technologies?

21 MS. CAPPAERT: Object to form.

22 THE WITNESS: I don't know. I haven't

1 studied this in regard to that. They didn't
2 list it as art as far as I can tell. So I
3 don't have an opinion on that one way or
4 another.

5 BY MR. GORYUNOV:

6 Q. But you can agree with me that the
7 spatial use protocol, SRP, referred to Kovvali is
8 at least the same language, the same words, as
9 used by RFC2892, correct?

10 A. It uses the same words for -- where is
11 it at -- yeah, SRP fairness algorithm. I would
12 probably want to look up and see what this DTP,
13 which defines the spatial reuse protocol in order
14 to reach an understanding on whether or not
15 they're talking about the same RFC or not.

16 As you can see, RFCs change. So it's
17 difficult to say whether it's the same one or
18 not.

19 Q. Well, my question at the moment is
20 whether the language spatial reuse protocol, SRP,
21 is the same language as used by RFC2892.

22 MS. CAPPAERT: Object to form.

1 THE WITNESS: Yes, 2 -- yes, 2892 uses
2 the words "SRP fairness algorithm."

3 BY MR. GORYUNOV:

4 Q. And RFC2892 also refers -- when it
5 refers to the SRP fairness algorithm it also
6 called it SRP-fa, correct?

7 A. Let me see.

8 Q. You can take a look at the table of
9 contents in RFC at 3.3 to help you.

10 A. So here's my issue. RFC2892 is August
11 2000 and Kovvali was filed March 2000. So that's
12 a confusion point for me.

13 Q. Well, you said that it's Version 2,
14 right?

15 A. Okay.

16 Q. Any reason why a standard like an RFC
17 would change language that seems to be pretty
18 material throughout the entire RFC?

19 MS. CAPPAERT: Object to form.

20 THE WITNESS: So it would seem more
21 logical that Kovvali was referring to Version
22 1 since this is Version 2.

1 BY MR. GORYUNOV:

2 Q. Okay. My question --

3 A. You said is Kovvali referring to this
4 RFC2892. And my confusion is it would have to
5 know it's -- you know, what's in the future
6 coming.

7 So it may be more logical since the
8 words are similar that it may be referring to
9 Version 1, though I don't know because I don't
10 have Version 1.

11 Q. Again, at the moment I'm just trying to
12 establish that both Kovvali and the RFC are
13 referring to the same spatial reuse protocol and
14 to the same SRP fairness algorithm.

15 A. Yeah, and I don't see how we can do
16 that given that this document, RFC2892, is after
17 the filing date of Kovvali.

18 Q. Okay. Would you at least agree with me
19 that both Kovvali and the RFC use the exact same
20 words, "spatial reuse protocol SRP" and "SRP
21 fairness algorithm SRP-fa"?

22 A. They use those words, yes.

1 Q. Excellent.

2 MR. GORYUNOV: We've been going for
3 about an hour. Let's take a break. Ten
4 minutes?

5 MS. CAPPAERT: Sounds good.

6 THE WITNESS: Sure.

7 MR. GORYUNOV: Excellent. Thank you.

8 THE VIDEOGRAPHER: The time is 10:06
9 a.m. We are now off the record.

10 (Whereupon, a recess was taken
11 from 10:06 a.m. to 10:20 a.m.)

12 THE VIDEOGRAPHER: The time is 10:20
13 a.m. We are now on the record.

14 BY MR. GORYUNOV:

15 Q. Welcome back, Dr. Olivier.

16 During break did you speak with counsel
17 regarding the contents of your testimony?

18 A. No.

19 Q. Let's open your declaration, which has
20 been previously marked as Exhibit 2004.

21 Let me know when you're there.

22 A. I've got it.

1 Q. All right. All right. First page, is
2 this document your declaration regarding the '279
3 patent that you prepared for this case?

4 A. Yes.

5 Q. If you go to the very, very last page
6 of this document for me.

7 Let me know when you're there.

8 A. I'm there.

9 Q. Is that your e-signature?

10 A. I think so.

11 Q. Did you apply that signature or did you
12 instruct counsel to apply that signature on your
13 behalf?

14 A. I have no idea.

15 Q. Did you review this document before it
16 was signed?

17 A. I wrote this document. So yes, I
18 reviewed it before it was signed.

19 Q. And did you finalize it on or around
20 November 12th of last year, 2024?

21 A. Yes, I think so.

22 Q. All right. Give me one moment, please.

1 All right. Let's take a look at your
2 paragraph 41, please. That's on document page 15.

3 Are you there?

4 A. Okay. Yes.

5 Q. I'm looking at the second sentence of
6 your paragraph 41, specifically the portion that
7 follows the first comma.

8 Now, this is in reference to the Kalman
9 reference.

10 Do you see that?

11 A. Yes.

12 Q. Kalman teaches -- this is according to
13 you -- (as read): That node monitors the status
14 of each link that it's connected to, and in the
15 event of a link failure, broadcasts the failure to
16 all nodes triggering a reconfiguration of path
17 routing within each node.

18 Do you see that?

19 A. Yes.

20 Q. Kalman requires each node to perform
21 network monitoring throughout the network,
22 correct?

1 **A. Each node knows the status of the**
2 **network as far as link status. I don't know what**
3 **you meant by network monitoring. But definitely**
4 **the status as far as link status.**

5 Q. All right. Each node, according to
6 your interpretation of Kalman, actively monitors
7 the status of each link to which it is connected,
8 correct?

9 **A. That's true also, yes.**

10 Q. All right. Now, another way to monitor
11 the status of all links is to do so from a
12 centralized node or computer, right?

13 **A. Another way to monitor each --**

14 MS. CAPPAERT: Object to form.

15 THE WITNESS: In -- in some ways that's
16 possible. In some ways it's difficult.

17 How do you say it monitors -- if a
18 node becomes isolated because it lost a link,
19 it's hard for it to talk to a centralized
20 manager.

21 BY MR. GORYUNOV:

22 Q. Well, correct.

1 But at that point if a node becomes
2 isolated it becomes hard for it to broadcast
3 failures to other nodes, too?

4 MS. CAPPAERT: Object to form.

5 THE WITNESS: No, but the other node
6 detects it.

7 BY MR. GORYUNOV:

8 Q. Okay. But the node --

9 A. **The senders and receivers.**

10 Q. Correct. But the node that has become
11 isolated is no longer in communication with any of
12 the other nodes in the network, right?

13 A. **Right. But the act of becoming**
14 **isolated, the other person could learn of it.**
15 **But yes, you're correct.**

16 Q. The act of each node monitoring the
17 status of links to which it is connected, that
18 takes processing power from each individual node,
19 right?

20 MS. CAPPAERT: Object to form.

21 THE WITNESS: Again, what do you mean
22 by a processing power? It's typically done

1 in bidirectional forward detection, or BFD in
2 large networks. And those are sometimes done
3 within the line card itself -- as a matter of
4 fact, they're always done within the line
5 card itself -- and talk to the forwarding
6 engine.

7 So what processing power are you
8 talking about when you talk about that, when
9 you ask that question?

10 BY MR. GORYUNOV:

11 Q. Well, if we're assuming that each node
12 in the network is a switch or a router of some
13 sort, I mean, it has a processor that performs
14 various functionalities, right?

15 A. **Some of the functionality is performed**
16 **in hardware. Some of the functionality is**
17 **performed in software.**

18 Q. Okay.

19 A. **And that's where I get difficulty**
20 **understanding your question. So you tell me what**
21 **you meant when you said processing power --**

22 Q. Sure.

1 **A. -- so I can understand you better.**

2 Q. You said some of the functionality of a
3 switch or router are performed in hardware and
4 some are performed in software.

5 Well, there has to be a processor that
6 runs the software, correct?

7 **A. Correct.**

8 Q. Okay. So if the software on this
9 router or switch is instructing the node to check
10 the status of links to which it is connected, the
11 processor that is running that software is using
12 its resources to instruct the node to do that
13 monitoring, right?

14 MS. CAPPAERT: Object to form.

15 THE WITNESS: It could be as simple as
16 -- it could be as simple as sending a flag in
17 hardware that when I get a BFD failure to
18 notify me.

19 So earlier it did use some
20 processing power to set a flag in memory.
21 But it doesn't require nor is it typical that
22 we're using processing power to monitor link

1 failures.

2 As a matter of fact, typically
3 hopefully we're not because we have to
4 respond sometimes less than 50 milliseconds.
5 And so we typically do that and the
6 monitoring is done in hardware of some type.

7 BY MR. GORYUNOV:

8 Q. And the purpose of the 50-millisecond
9 rule as I understand it is if you can't process
10 traffic within that time, you have to drop it
11 because it's stale; is that right?

12 A. No, the purpose of the 50-millisecond
13 rule dates way back to Bell Labs days. If you
14 drop more than 50 milliseconds, the voice quality
15 goes too low and people can detect.

16 Q. Let's not convey my confusion to my
17 computer science professors, please.

18 A. Okay.

19 Q. Now, monitoring of the network and
20 links in a network from a centralized computer
21 would place very little burden on any individual
22 nodes within the network, right?

1 **A. Depends how it was monitoring it.**

2 Q. Okay. So it's an implementation
3 detail, right?

4 MS. CAPPAERT: Object to form.

5 THE WITNESS: It's a -- yeah, it's a --
6 the -- the amount of processing power
7 associated to monitoring in it. And then I
8 guess in your centralized when reporting
9 failures up would depend how it was
10 implemented.

11 BY MR. GORYUNOV:

12 Q. Okay. Now, let's continue to run with
13 your interpretation of Kalman.

14 I guess -- and my question is this: If
15 each node is actively monitoring the status of the
16 links to which it is connected, that node -- it
17 may determine that a particular link is down but
18 it can't itself, by itself, change the routing of
19 packets, right?

20 **A. Sure it can. That's the whole purpose**
21 **of -- of fast reroute and MPLS. I mean, the**
22 **whole MPLS technology is built on the ability to**

1 **predetermine a path and then detect a failure to**
2 **send it on a predetermined path.**

3 Q. Well, sure. But if a particular node
4 and network has, let's say, two connections, a
5 connection in and a connection out, and the
6 connection out is down and that node determines
7 it, by itself it cannot redirect the traffic
8 because presumably the traffic is already at that
9 node, right?

10 A. First of all, if anyone built a router
11 and just had one connection in and one connection
12 out, they could replace it with a wire. So
13 that's not, how shall I say, a practical
14 hypothetical.

15 But yes, you're right. If you have a
16 -- a node that's connected as a wire and you send
17 traffic into it, you can't send it any other
18 place other than back to where it came from,
19 which, you know, sometimes in an IP routing
20 before we converge our network, we make storms by
21 routing traffic in circles. So it's not
22 impossible.

1 Q. Okay.

2 A. But --

3 Q. Sorry.

4 A. In general, if you had a -- if it had
5 a router that only had one link in and one link
6 out and the link out broke, yes, there's no place
7 to route it to.

8 Q. Okay. Let's expand my example to a
9 node that has one link in, two links out and both
10 links out are down. Same thing.

11 The only way out is to go back the way
12 you came, right?

13 A. Absolutely.

14 MS. CAPPAERT: Object to form.

15 BY MR. GORYUNOV:

16 Q. Okay. You'd agree with me that there's
17 a difference between packet routing and depacket
18 inspection, right?

19 A. If you say -- well, depacket
20 inspection often can be used in conjunction with
21 routing. So if you're saying just strictly IP
22 longest prefix match destination address routing,

1 **there's -- that's different than depacket**
2 **inspection routing, that would be a correct**
3 **statement.**

4 Q. Can we agree that analyzing a packet,
5 an IP packet, and specifically looking at its
6 header to determine the source and destination IP
7 is a function that each intermediary node in the
8 network performs, right?

9 MS. CAPPAERT: Object to form.

10 THE WITNESS: Again, it depends on the
11 network, the routing protocols that you're
12 using in the network. That doesn't occur in
13 an LPMS network even though they have IP
14 header traffic in it. Doesn't occur in an
15 ATM network when you're sending IP over ATM.
16 So I'd need more details about what you're
17 talking about.

18 BY MR. GORYUNOV:

19 Q. Okay. Is there a network in mind, in
20 your mind, where intermediary nodes would analyze
21 the header of a packet to determine the source and
22 destination IP addresses?

1 MS. CAPPAERT: Object to form.

2 THE WITNESS: To determine the source
3 and destination? That would be a network
4 that's doing accommodation source route --
5 routing destination routing. Typically it's
6 one or the other.

7 BY MR. GORYUNOV:

8 Q. In your mind is there --

9 A. **It can change -- I'm sorry. If you**
10 **change your question to say the longest prefix**
11 **match on destination, yes.**

12 Q. That's exactly where I was going.

13 In your mind is there a network that
14 would inspect every packet, look at the header,
15 and identify the destination IP address?

16 A. **Okay. You broke up a little bit**
17 **there.**

18 **Can you repeat it?**

19 Q. I apologize. I'm having a little bit
20 of a coughing fit. One second.

21 All right. To follow up on our
22 conversation, is there a network in your mind

1 where intermediary nodes would analyze the header
2 of a packet to determine the destination IP
3 address?

4 **A. Yes, they would -- they would look at**
5 **the destination IP address and do longest prefix**
6 **match on that to determine what link to send the**
7 **packet out of.**

8 Q. And what kind of a network --

9 (Simultaneous speaking.)

10 (Stenographer clarification.)

11 THE WITNESS: Oh, that is a network
12 that's doing IP layer 3 -- typical IP layer 3
13 routing.

14 I'm sorry. Was there a question?

15 BY MR. GORYUNOV:

16 Q. No, no.

17 **A. Okay.**

18 Q. Give me a second. Just trying to make
19 sure I sent this correctly.

20 All right. I'm going to share with you
21 -- or try to share with you a newly marked
22 exhibit, 1022.

1 (Deposition Exhibit 1022 was
2 marked for identification.)

3 BY MR. GORYUNOV:

4 Q. I have already added an exhibit tag for
5 it.

6 So please let me know when you open it
7 and when you are ready to talk about it.

8 A. I have it open.

9 Q. Excellent.

10 MS. CAPPAERT: Eugene, can you please
11 tell me what 1022 is?

12 MR. GORYUNOV: Kate, I'm sorry. I
13 forgot that you don't have access to that.

14 Hold on, Dr. Olivier. Give me a
15 second, please. Let me send the exhibit to
16 Kate directly.

17 And, Kate, forgive me. I'm not
18 going to put any kind of data, I'm just going
19 to say Exhibit 1022.

20 MS. CAPPAERT: That's fine.

21 MR. GORYUNOV: Again, sorry about that.
22 I forgot that you don't have access to this.

1 Please let me know when you
2 receive my email and then let's proceed.

3 Did you receive my email?

4 MS. CAPPAERT: I have not. Go ahead.
5 I'll catch up.

6 MR. GORYUNOV: I'm happy to wait.

7 MS. CAPPAERT: It's fine.

8 MR. GORYUNOV: Okay.

9 BY MR. GORYUNOV:

10 Q. Dr. Olivier, do you have Exhibit 1022
11 open now?

12 A. **Yes, I do.**

13 Q. Do you see this as the SRP MAC Layer
14 Protocol, that's the title?

15 A. **Yes.**

16 Q. And do you see the date on the document
17 of the 10th of June, 1999?

18 A. **Yes.**

19 Q. Would you agree with me that this date
20 predates the March 28th, 2000, filing date of
21 Kovvali?

22 A. **Yes.**

1 Q. Okay. If we look -- the first sentence
2 under the Abstract, it makes reference to spatial
3 reuse protocol, SRP.

4 Do you see that?

5 A. Yes.

6 Q. Are those the same words as used by
7 Kovvali in column 4, lines 15 through 21?

8 A. **So Kovvali line 15 uses the words**
9 **"spatial reuse protocol."**

10 Q. And it refers to it as SRP in the
11 abbreviation?

12 A. Yes.

13 Q. Okay. Now, again, back to newly marked
14 Exhibit 1022, let's move forward to Section 4.3,
15 which is on page 6.

16 Tell me when you're there.

17 A. **4.3. Okay.**

18 Q. Do you see the title of Section 4.3,
19 SRP Fairness Algorithm (SRP-fa)?

20 A. Yes.

21 Q. And are those the same words as used in
22 Kovvali column 4, line 20?

1 **A. Yes.**

2 Q. Now, in Exhibit 1022 can we please go
3 to the very first page?

4 **A. Okay.**

5 Q. Let's look at the top four lines of the
6 document and let's compare the authors of the
7 Exhibit 1018, which is RFC2892.

8 Would you agree with me that those are
9 the same authors?

10 **A. Yes.**

11 Q. All right. Now, let's go to your
12 declaration, please. Again, this is Exhibit 2004,
13 paragraph 4, please.

14 **A. Paragraph 4?**

15 Q. Yep.

16 **A. Yes.**

17 Q. You talk about your work experience at
18 Marconi Communications.

19 Do you see that?

20 **A. Yes.**

21 Q. What kind of access systems did you
22 design and develop while at Marconi?

1 **A. DLCs, BRASSs.**

2 Q. How are those access systems like the
3 claims of the '279 patent?

4 MS. CAPPAERT: Object to form.

5 THE WITNESS: The claims? I don't
6 understand the question.

7 BY MR. GORYUNOV:

8 Q. Okay. The access systems that you
9 designed at Marconi Communications, how are those
10 like the access systems described in the '279 patent?

11 MS. CAPPAERT: Object to form.

12 THE WITNESS: Well, DLCs and BRASSs
13 typically sit on SONET rings. So they would
14 be nodes that are feeding information into
15 the SONET ring.

16 BY MR. GORYUNOV:

17 Q. Did the access systems you designed and
18 developed at Marconi include components or
19 elements of resource allocation?

20 **A. Yes.**

21 Q. What were those components like?

22 **A. What were those components like?**

1 Q. Okay.

2 A. So there was a number of protocols
3 supported on the BRASSs and the digital loop
4 carriers that connected into the SONET ring.

5 Off the top of my head, we did do some
6 classification of traffic as we had video,
7 telephony, and data running through our system.
8 And we would classify the traffic and assign
9 resources to those three different
10 classifications in our products. Almost, gosh,
11 more than 20 years ago but that's what I recall.

12 Q. Do you recall if you designed these
13 access systems in the beginning, the middle, or
14 the end of your term at Marconi?

15 A. Beginning, middle, or the end. I
16 don't have that recollection but seemed like it
17 was something that I worked on throughout my time
18 there. Though I did work out one of my time --
19 one of my projects was packetizing voice and
20 putting that in ATM.

21 But again, that's also -- we had
22 different classifications of traffic in the ATM

1 **networks, too. So I would say throughout it was**
2 **something that I was -- I was working on.**

3 Q. All right. If we stay with the
4 sentence in paragraph 4, it says you "teach SONET
5 rings and bandwidth allocation models like those
6 in my class."

7 What do you mean by "like those," like
8 what's "those" referring to?

9 A. Oh, I guess I should have been
10 **specific. Like those that are -- like those in**
11 **the network technologies of around 2000 -- no,**
12 **that's not correct. I think it's like those**
13 **dealing with the patent. In other words, doing**
14 **CAC and things like we teach in -- I teach in my**
15 **class, a lot of it. And a lot of resource**
16 **allocation. So I think "those" is referring to**
17 **the '279 patent.**

18 MR. GORYUNOV: All right. I have
19 nothing further.

20 MS. CAPPAERT: I have no questions.

21 MR. GORYUNOV: Off the record.

22 THE VIDEOGRAPHER: This concludes for

1 today's deposition. The date is January
2 16th, 2025. The time is 10:47 a.m. We are
3 now off the record.

4 (Time noted: 10:47 a.m.)

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1 CERTIFICATE OF REPORTER

2

3 I, Janice M. Kocek, Certified Shorthand
4 Reporter, Certified LiveNote Reporter, and Notary
5 Public in and for the State of Illinois, County of
6 Cook, the officer before whom the proceedings were
7 taken, do hereby certify that the foregoing
8 transcript is a true and correct record of the
9 remote deposition of James Olivier, Ph.D.,; that
10 said proceedings were taken remotely in Stenotype
11 notes by me on the 16th day of January, 2025,
12 commencing at 9:03 a.m. Central and ending at
13 10:47 a.m. Central.

14 I further certify that present on behalf
15 of Petitioner was Eugene Goryunov of Haynes and
16 Boone, and present on behalf of Patent Owner were
17 Katherine D. Cappaert and Daniel Ho of Steptoe

18 I further certify that I am not related
19 to, nor associated with any of the parties or
20 their attorneys, nor do I have any disqualifying
21 interest, personal or financial in the actions
22 within.

1 Dated this 20th day of January, 2025, at
2 state of Illinois, County of Cook.

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6 JANICE M. ROCEK
7 CSR NO. 084-002871
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