

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CISCO SYSTEMS INC.,

Petitioner,

v.

VIDEO SOLUTIONS PTE. LTD.,

Patent Owner.

IPR2024-00194

Patent No. 9,204,099

Friday, September 6, 2024

10:03 a.m. (EDT)

REMOTE DEPOSITION OF DR. JACOB SHARONY

(This proceeding was conducted via Zoom.

All participants appeared remotely.)

STENOGRAPHICALLY REPORTED BY:

Deanna J. Dean, RDR, CRR

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Friday, September 6, 2024
10:03 a.m. (EDT)

Remote deposition of DR. JACOB SHARONY,
held via Zoom videoconference, before Deanna
Dean, a Registered Diplomate Reporter, Certified
Realtime Reporter, and licensed court reporter
of the state of New Hampshire.

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1 I N D E X

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3 Examination Page

4 DR. JACOB SHARONY

5 By Attorney Goryunov 7

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8 E X H I B I T S

9

10 Number Description Ref.

11 Exhibit 1001 US Patent No. 9,204,099 11

12 Exhibit 1005 US Patent Application 65

13 Publication 2010/0287238 A1

14 (Setton)

15 Exhibit 2009 Declaration of Dr. Jacob 40

16 Sharony

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1 P R O C E E D I N G S

2 THE REPORTER: Here begins the remote
3 deposition of Dr. Jacob Sharony, taken in the
4 matter of Cisco Systems Inc., Petitioner, v.
5 Video Solutions Pte. Ltd, Patent Owner, pending
6 in the United States Patent and Trademark Office
7 before the Patent Trial and Appeal Board, Case
8 No. IPR2024-00194.

9 Today's date is September 6, 2024. The
10 time is now 10:03 a.m. Eastern Daylight Time.

11 This deposition is being held remotely by
12 Zoom videoconferencing. I am the licensed
13 stenographic court reporter, Deanna Dean,
14 presenting on behalf of Henderson Legal
15 Services.

16 Will counsel please introduce themselves
17 and state whom they represent, beginning with
18 the party noticing the deposition.

19 ATTORNEY GORYUNOV: Good morning. Eugene
20 Goryunov on behalf of Cisco, from the law firm
21 of Haynes and Boone.

22 I am also joined by my colleague, Brett
23 Bostrum.

24 ATTORNEY KAUFMANN: Adam Kaufmann with
25 Barnes & Thornburg on behalf of Video Solutions,

1 and with me is my partner, Chris Hoff.

2 THE REPORTER: At this time, do all
3 parties agree to waive any objection, now or in
4 the future, to me swearing in the witness
5 remotely?

6 ATTORNEY GORYUNOV: No objection.

7 ATTORNEY KAUFMANN: No objection.

8 ATTORNEY HOFF: No objection.

9 DR. JACOB SHARONY,
10 a witness called for examination, having been first
11 duly sworn according to law, was deposed and
12 testified as follows:

13 EXAMINATION

14 BY ATTORNEY GORYUNOV:

15 Q. All right. Good morning, Dr. Sharony.
16 How are you today?

17 A. Good morning. I'm good, thank you.

18 Q. How many times have you been deposed
19 before?

20 A. About 15. 15 to 20 times, more or less.

21 Q. Do you always represent patent owners in
22 your depositions?

23 A. No. The number of, you know, working as
24 an expert for plaintiff and defendant varied. So
25 sometimes it's 50/50. Sometimes it's 70/30.

1 **So the answer is no, not always patent**
2 **owner.**

3 Q. All right. You understand that you're
4 here to answer my questions. Is that correct?

5 A. **Yes.**

6 Q. And if you answer my question, it's fair
7 for me to understand that you heard my question and
8 you understood it. Correct?

9 A. **Yes.**

10 Q. Okay. And if you later realize that you
11 gave an incorrect answer and you'd like to correct
12 your answer, you will clarify.

13 Is that all right?

14 A. **Yes.**

15 Q. Okay.

16 All right. Do you have any devices in
17 front of you other than the computer you are using
18 right now?

19 A. **A watch and AirPods. Air -- you know, the**
20 **earpiece of Apple.**

21 Q. Do you have any direct communication lines
22 open at this moment with Mr. Kaufmann or with Mr.
23 Hoff?

24 A. **Not at all.**

25 Q. Okay.

1 All right. Sir, I believe you have a
2 number of patents to your name. Is that correct?

3 A. Yes.

4 Q. Close to 50?

5 A. Yes.

6 Q. So it's fair to say that you're familiar
7 with how patents are drafted and how they're
8 prosecuted. Right?

9 A. We can say so, yes.

10 Q. Do you do the drafting and prosecution
11 yourself or do you work with a law firm?

12 A. No. Most of the patent that I -- that
13 were issued in my name as an inventor were done
14 while I was working for different companies.

15 So usually the counsel in the company
16 and -- or outside law firm that would basically --
17 so I would give them, let's say, a PowerPoint of
18 the invention and they would draft, and I would
19 review it and make any correction/suggestion, and
20 they basically prosecute it.

21 I'm not an attorney, so I was just
22 providing them with the technical input, and they
23 would basically draft the -- write the
24 specification, draft the claims, and carry it from
25 there.

10

1 Q. Okay. But you're familiar with some of
2 the techniques for patent drafting, claim drafting
3 specifically?

4 A. Depends what you mean. But, yes.

5 Q. Sounds like we may find out.

6 A. Yeah.

7 Q. All right. You understand that when you
8 draft a claim of a patent, that claim generally
9 defines the scope of the invention. Right?

10 A. Yes.

11 Q. Okay. And much of the time, a claim
12 recites certain components, but it doesn't have to
13 recite each and every component that can be in an
14 invention. Is that correct?

15 A. Do you mean like if it says "comprising"
16 or something like that? So . . .

17 Q. Okay. If you're comfortable with words
18 like "comprising," let's go there.

19 If a claim uses the term "comprising" in
20 its preamble, you would understand that to mean
21 that the claim includes certain limitations, but an
22 invention could include further unstated
23 limitations?

24 A. Yeah. Like, for example, in a graphics
25 claim, if it say "comprising a display processor,"

1 we know that it has also like a network interface
2 card, so it doesn't have to mention it --

3 Q. Okay.

4 A. -- although it is there.

5 Q. In other words, a comprising claim can
6 allow for certain components like your network
7 interface that you just explained, but it doesn't
8 have to expressly recite those terms. Right?

9 A. Yes.

10 Q. All right. Let me share with you in our
11 Zoom chat feature the first exhibit.

12 (Exhibit 1001 is placed in Zoom chat.)

13 Q. Please let me know when you've downloaded
14 it.

15 A. Okay.

16 Where is the window of --

17 Q. I think you have to go into the chat. So
18 at the very bottom of your screen, it will have --
19 below all the other windows, there should be a
20 button called "Chat."

21 A. Yes, I see. Yeah. Okay.

22 Q. If you click it, you should see a message
23 from me. It's a PDF file.

24 A. Yeah. Got it. Yeah.

25 Got it. Okay.

1 Q. All right. Were you able to open the PDF?

2 A. Yes.

3 Q. Excellent.

4 All right. This is Exhibit 1001
5 previously marked.

6 Sir, do you recognize this as US Patent
7 9,204,099?

8 A. Yes.

9 Q. And this is the '099 patent that is the
10 subject of your declaration?

11 A. Correct.

12 Q. And you've reviewed the '099 patent
13 before?

14 A. Correct.

15 Q. How many times?

16 A. Many times. Each time I read the
17 declaration or consider it with reference to some
18 of the prior art and doing preparation. So . . .

19 Q. When was the last time you reviewed it?

20 A. Yesterday.

21 Q. Yesterday.

22 All right. Let's go to Figure 1 of the
23 '099 patent, please.

24 A. Yes.

25 Q. One moment here. I am having a momentary

1 technical issue.

2 All right. Sorry about that.

3 So you're looking at Figure 1. Correct?

4 **A. Yes.**

5 Q. All right. Do you see in the middle of
6 Figure 1, there's an oval within which it says
7 "endpoint"?

8 **A. Yes.**

9 Q. I think you'd agree with me that an
10 endpoint can comprise a collection of devices.
11 Right? It's not just one device?

12 **A. That's correct.**

13 Q. Okay. All right. I just wanted a little
14 clarification there.

15 Let's go to Claim 3, please. Let me know
16 when you're there.

17 **A. Okay.**

18 Q. You're there?

19 **A. Yes.**

20 Q. Okay. Excellent. Let's talk about the
21 limitation in Claim 3 that starts with "a proxy."

22 Do you see that?

23 **A. Yes.**

24 Q. Okay. The limitation -- and I will read
25 it for us -- is "a proxy at the selected

1 mesh-connected endpoint for the non-mesh-connected
2 endpoint."

3 Do you see that?

4 **A. Yes.**

5 Q. Okay. Now, take a look at Claim 3, and
6 please confirm for me that there's only a single
7 proxy that's recited in the claim.

8 **A. It says a proxy at the mesh-connected**
9 **endpoint.**

10 Q. It doesn't say multiple proxies, or
11 plurality of proxies, or more than one proxy? It
12 just says "a proxy." Right?

13 **A. It says "a proxy."**

14 So you are asking if this could be a
15 plural?

16 Q. Correct.

17 **A. Could be. Could be.**

18 Q. So when the claim recites a proxy, it
19 could contemplate multiple proxies. Right?

20 **A. Could be. But the claim basically**
21 **requires or the limitation require proxy, as we see**
22 **that in Figure 3. I think Figure 3. Or -- sorry.**
23 **Not Figure 3. Figure 10.**

24 Q. All right. In the context of the '099
25 patent, what is a proxy?

1 A. The word "proxy" is a very general word.
2 It basically means that -- sort of -- it's a entity
3 that basically performs certain function on behalf
4 of another entity.

5 So let's say you have entity A and B. So
6 A can interact with C to perform any function with
7 B, but it is done through C.

8 Do you want that I give you any example?

9 Q. I think for now that's going to get us
10 started.

11 A. Okay.

12 Q. If we're looking at Claim 3 of the '099
13 patent, the proxy receives video feeds from
14 mesh-connected access points for the
15 non-mesh-connected endpoints. Is that correct?

16 A. If we look at the Figure 10.

17 So you are saying that the star proxy
18 receives video from other -- or media from other
19 mesh points for the non-mesh point -- endpoint?

20 Q. No. I'm looking at Claim 3.

21 A. Okay.

22 Q. So Claim 3, the limitation talks about a
23 proxy.

24 Do you see that?

25 A. Yeah.

1 Q. Okay. It receives --

2 A. **Video feeds.**

3 Q. Yes, they do. Receives video feeds from
4 the mesh-connected endpoints for the
5 non-mesh-connected endpoint. Is that correct?

6 A. **Yes.**

7 Q. Okay. The proxy in Claim 3 in the
8 claim -- well, let me rephrase that question.

9 The claim doesn't say that the proxy
10 receives videos from non-mesh-connected endpoint
11 for the mesh-connected endpoint. Correct?

12 A. **Did you say -- can you rephrase it? You**
13 **said not from non-mesh to a non-mesh?**

14 Q. Close.

15 So in the claim, okay, the last part of
16 the limitation that talks about the proxy --

17 A. **Yes.**

18 Q. Okay?

19 -- it says the proxy receives video feeds
20 from the mesh-connected endpoint --

21 A. **Yes.**

22 Q. -- for the non-mesh-connected endpoint.
23 Right?

24 A. **Correct. Correct.**

25 Q. Okay. My question is the claim doesn't

1 say that the proxy receives video feeds from
2 non-mesh-connected endpoints for the mesh-connected
3 endpoints?

4 **A. But it could be.**

5 Q. Could be. But the claim doesn't say it.
6 Right?

7 **A. The claim doesn't say that, yeah. But**
8 **it -- yeah, it could be.**

9 Q. Okay.

10 **A. Like we see it in Figure 10, for example,**
11 **that the non-mesh can send video to the mixer, and**
12 **then the repeater there send it to a mesh point.**

13 Q. All right. Let's take a look. Still at
14 Claim 3.

15 **A. Yeah.**

16 Q. The next limitation talks about a server.
17 Do you see that?

18 **A. Yes.**

19 Q. All right. The limitation here is -- I'm
20 going to read just a part of it -- "a server
21 associated with the proxy."

22 Do you see that?

23 **A. Yes.**

24 Q. Okay. There's only one server. Right?

25 **A. It's talking about a server, yeah.**

1 Q. The claim language doesn't say multiple
2 servers, or a plurality of servers. It just says
3 "a server." Right?

4 A. **Yeah. But as we said before, could be**
5 **that there are several servers. So . . .**

6 Q. But the claim doesn't recite multiple
7 servers. It just recites "a server." Right?

8 A. **It says "a server," yeah.**

9 Q. Now, when we say -- strike that.

10 When the claim says that "a server
11 associated with the proxy," what does it mean to be
12 associated with the proxy?

13 A. **That there is some affiliation or**
14 **connection with that proxy. So that server is**
15 **basically -- there is some affiliation or**
16 **connected -- or connection with that -- or a link**
17 **with that proxy.**

18 Q. All right. So the server in Claim 3
19 serves filmstrips "with frames containing
20 reduced-size video feeds from the mesh-connected
21 conference participants to the non-mesh-connected
22 endpoints."

23 Do you see that?

24 A. **Yes.**

25 Q. Okay. The claim doesn't say that the

1 server serves reduced-size video feeds from the
2 non-mesh-connected endpoints to the mesh-connected
3 conference participants. Right?

4 **A. But as we said, could be. It just that's**
5 **what is claimed. But it could be.**

6 Q. But the words are not in the claim.
7 Correct?

8 **A. The words mention the filmstrip with**
9 **frames containing -- it could contain other things**
10 **as well -- the mesh for the purpose of providing it**
11 **to the non-mesh-connected endpoint.**

12 Q. All right. Let's look at Figure 9,
13 please, of the '099 patent.

14 **A. Figure 9?**

15 Q. Please.

16 **A. Yes.**

17 Q. Let me know when you're there.

18 **A. I'm there.**

19 Q. Okay. So the '099 patent has two
20 networking concepts, one of which is a mesh
21 connection and one of which is a non-mesh
22 connection. Is that right?

23 **A. Yes.**

24 Q. Okay. Looking at Figure 9, would you
25 agree that endpoint 81, 82, and 83 are connected in

1 a mesh style?

2 **A. Yeah. That's -- they are connected in a**
3 **mesh topology. Yeah.**

4 Q. And then you have endpoint 84. Do you see
5 that in the upper right-hand corner?

6 **A. Yes.**

7 Q. Fair to say that endpoint 84 is connected
8 in a non-mesh topology?

9 **A. Yes.**

10 Q. And the reason why endpoint 84 is non-mesh
11 is because it is connected only to endpoint 82 and
12 not also to endpoint 83 and endpoint 81?

13 **A. There's only one link to a specific mesh**
14 **endpoint.**

15 Q. And the fact that there is only one link
16 makes it non-mesh. Correct?

17 **A. It is a non-mesh.**

18 Q. Okay. Also still looking in the upper
19 right-hand corner of Figure 9, do you see the -- I
20 think it's a laptop computer 92?

21 **A. Yes.**

22 Q. Is that computer connected in a non-mesh
23 fashion as well?

24 **A. It just says that it is connected to the**
25 **star server. So there is one link there.**

1 Q. So consistent with your earlier testimony,
2 laptop 92 is connected in a non-mesh fashion?

3 ATTORNEY KAUFMANN: Objection. Form.

4 A. There is only -- there is no reason to
5 connect the laptop to something else, because the
6 laptop, as we see, basically through a browser
7 shows a filmstrip for the purpose of endpoint 84,
8 and the star server basically send it to that -- to
9 that laptop.

10 You know, usually, this is a part of the
11 art. Usually you talk about several nodes in order
12 to determine the topology: Is it a mesh? Is it a
13 star? So if you have like two nodes, so you can
14 say, "Well, is it a star or is it a mesh?"

15 So, in this case, the laptop is not part
16 of the topology. It's just like you have a cable
17 from your laptop to hard drive or something like
18 that. So I wouldn't believe it is part of -- is it
19 the mesh or a star.

20 Q. All right. So the laptop, are we going to
21 assume that there is a user at the laptop?

22 A. Well, someone has to look there at the
23 screen, at the filmstrip. So . . .

24 Q. Can the laptop be an endpoint?

25 A. It doesn't say so. It's basically

1 providing the filmstrip, and there could be a user
2 or two users, you know, one activating something on
3 the laptop. It says that the endpoint is 84.

4 Q. Okay. Well, let's try this.

5 Can you go back to Claim 3, please.

6 A. Yes.

7 Q. Okay. Here's my question for you.

8 By the way, you've read Claim 3 a number
9 of times, and it's fair to say you understand it.
10 Correct?

11 A. Yes.

12 Q. Okay. So in the very first limitation
13 that starts with "a plurality of endpoints."

14 Do you see that?

15 A. Yes.

16 Q. Okay. At the end of that limitation,
17 okay, there is a reference to "the conference
18 participants."

19 Do you see that?

20 A. At the end of that limitation, "from the
21 conference participants." Yes.

22 Q. Do you see that?

23 A. Yes.

24 Q. Okay. So, so far we've talked about
25 endpoints. We've talked about conference

1 participants. And then, if you look at the last
2 limitation, the one that talks about a control
3 connection -- do you see that?

4 **A. Yes.**

5 Q. Okay. "A control connection permitting a
6 user."

7 Do you see that?

8 **A. Yes.**

9 Q. Okay. So now we have a third term called
10 "user."

11 I guess -- I would love for your help to
12 understand this claim a little bit. What is the
13 difference between an endpoint, a conference
14 participant, and a user?

15 **A. Okay. An endpoint is a -- is a device or**
16 **collection of device -- devices, as we said.**
17 **Conference participant, I assume is human. And a**
18 **user is also likely a human.**

19 **Is that what you are looking for, or -- or**
20 **something else?**

21 Q. I think it's getting us some clarity, and
22 I appreciate that, sir. Thank you for your -- for
23 your help here.

24 I guess I'm still a little confused about
25 the distinction between a conference participant

1 and a user. Can there be multiple conference
2 participants at a single endpoint?

3 **A. Could be.**

4 Q. What about -- let's do a little
5 hypothetical.

6 Let's pretend that I'm in a conference
7 room. Okay? And at the front of the conference
8 room, you have a big TV and a camera on top of it.
9 Right? And that camera and that TV is signed on to
10 a conference.

11 In that scenario, is it fair to say that
12 the TV plus the camera is the endpoint?

13 ATTORNEY KAUFMANN: Objection. Form.

14 **A. So you have a TV and a camera?**

15 Q. Sure. Let's -- let me clarify a little
16 bit. I mean, we need more than just the TV.

17 Let's say we have a big conference room.
18 Many people are attending a conference, and they
19 are sitting in one big conference room. They are
20 viewing the conference room -- I'm sorry -- they
21 are viewing the conference from a big TV that's at
22 the head of the conference room.

23 **A. Okay.**

24 Q. On top of the TV is a camera that takes
25 pictures and video streams of everyone who is

1 seated in the conference room.

2 A. Okay.

3 Q. Obviously, that TV and camera are
4 connected to some kind of a computer which enables
5 it to be connected and receive and send video feeds
6 from the main conference.

7 A. Okay.

8 Q. Do you have that scenario in your head?

9 A. Yeah. We were all in this scenario one
10 time in our life.

11 Q. Yes.

12 So in that scenario, is it fair to say
13 that the big TV, the camera, and the computer is
14 the endpoint of Claim 3?

15 A. Could be.

16 Q. Okay.

17 A. Like, for example, if you go to Figure 1,
18 it's exactly what you are talking about.

19 Q. So still in my example of this big
20 conference room, all of the people sitting in that
21 conference room, those are conference participants.
22 Right?

23 ATTORNEY KAUFMANN: Objection. Form.

24 A. We can refer to them also as a conference
25 participant, in the -- you know, in the eastern

1 **part of the city, for example.**

2 Q. Okay. And then a tech support person who
3 sets up and uses the computer to connect that
4 particular conference room to the main conference,
5 that would be the user of the claim. Is that
6 correct?

7 A. **No. The user could be a user -- in the**
8 **context of the specification, it could be a -- an**
9 **end user that basically access or send or receive**
10 **video through that endpoint.**

11 Q. All right. Let's keep looking at Claim 3,
12 and I'd like to talk to you about the limitation
13 that starts with "a server."

14 Do you see that?

15 A. **Yes.**

16 Q. Okay. So that limitation, the one that
17 begins with "a server" in Claim 3, talks about
18 reduced video feeds from the mesh-connected
19 conference participants.

20 Do you see that?

21 A. **Yes.**

22 Q. Okay. This is the first time that
23 "mesh-connected conference participants" term is
24 recited in Claim 3. Would you agree?

25 A. **Well, in the first part, it says "the**

1 conference participants." So they are kind of
2 included in that term.

3 The mesh-connected -- let me -- the
4 mesh-connected conference participants is sort of a
5 subgroup of the conference participants. So it
6 looks the first time, but it was mentioned already
7 earlier.

8 Q. Where does Claim 3 say that mesh-connected
9 conference participants is a subgroup of the
10 earlier recited conference participants?

11 A. Well, the conference participants include
12 all the participant.

13 Q. Where does the claim say that conference
14 participants includes all participants?

15 A. Okay. So if we go earlier, it basically
16 describes the endpoint, the plurality of endpoints.
17 And it says that at least some of which are in a
18 mesh configuration, and at least one of which is
19 connected in a non-mesh configuration.

20 So you need -- in order to satisfy, you
21 need at least two endpoints that are connected via
22 mesh, and one that is non-mesh. Could be more, but
23 this is the lowest in number that would satisfy
24 the -- this limitation.

25 Q. I'm sorry. I have a quick question for

1 you.

2 So, in your view, the claim could include
3 more than one non-mesh-connected endpoint. Right?

4 A. It said "some of which," so it's at least
5 two.

6 Q. Okay.

7 A. And then at least -- and it said at least
8 one is a mesh -- in non-mesh configuration.

9 So -- which is connected to one of the
10 mesh-connected. And then it says and that are
11 configured such that we have a filmstrip with frame
12 containing reduced video feeds from the conference
13 participants at the mesh endpoints. So the
14 conference participants are -- we mentioned the
15 people or, you know, at each endpoint you have a
16 conference participant. So the -- and there can be
17 also two people there sharing the screen. But at
18 each endpoint, assume that you have a conference
19 participant. So this is the -- when you say
20 conference participant, this is the total sum of
21 all the participant, mesh or non-mesh.

22 So, in this example, let's say you have
23 only three -- two mesh and one non-mesh. The
24 conference participant would be these three. You
25 could add more mesh, but in this example -- you

1 could have, for example, let's say five conference
2 participants. Four are connected via mesh, in a
3 mesh topology, and there is one non-mesh-connected
4 to one of the four.

5 So we have altogether five conference
6 participants. And this strip -- filmstrip of five
7 would be displayed at the mesh endpoints, because
8 they have to see the whole participant or the whole
9 conference participants.

10 Q. Where does the claim say that conference
11 participants includes both mesh and non-mesh
12 connected?

13 A. It's based on the context, when you read
14 the specification in the first part of the claim,
15 so that you have a plurality of endpoints. These
16 endpoints includes at least two mesh and one
17 non-mesh. And you also, as we saw like in Figure
18 1, in each endpoint, you have a participant.

19 So, now -- so from this first part, you
20 can see that the participants can be informed of a
21 mesh endpoint or informed of a non-mesh-connected
22 endpoint.

23 Q. Okay. We can agree that the words do not
24 appear in the claim that a conference participant
25 can be both mesh and non-mesh?

1 A. But that's -- that's the context. I think
2 it's very clear.

3 Q. Okay. But the words are not in the claim.
4 Right?

5 A. What words?

6 Q. Conference participants include mesh and
7 non-mesh-connected endpoints. That's just an
8 example.

9 A. The very same verbiage that you mentioned
10 is not there, but the context is -- based on the
11 context of the specification and what a POSITA
12 would understand is including all the . . .

13 Q. So let me ask it this way.

14 In the first limitation --

15 A. The question -- the question what was --
16 what is an -- what a conference participant means.
17 You know, throughout the specification of the
18 '99 -- '099, it just went to -- and this is one of
19 the point of the invention -- is that it doesn't
20 matter if you are a non-mesh node or you are a mesh
21 node. We want to give the same user experience to
22 the non-mesh.

23 Q. Where does it say in the claim, which
24 defines the scope of the invention, and only the
25 claim that we want to give the same user experience

1 to non-mesh? Remember, claims define the
2 invention.

3 So my question for you is where in the
4 claim does it say that we want to give users same
5 experience on non-mesh?

6 ATTORNEY KAUFMANN: Objection. Form.

7 A. Yeah, but -- but the specification
8 basically give you the whole -- how you can
9 determine the scope of a claim without the
10 specification? So let's just have claims.

11 Q. That's not my question, sir.

12 A. Okay.

13 Q. My question is, you just testified that
14 the specification wants to give the users the same
15 experience whether they are at mesh and
16 non-mesh-connected endpoints.

17 Did I understand your testimony correctly?

18 A. Yes. Specifically, they say about the
19 non-mesh-connected, that they are basically as if
20 they were a mesh-connected. So they would get a,
21 you know, the video. They can select the video.
22 They can promote the video.

23 Q. Sure.

24 The claims define the scope of the
25 invention. So my question to you, sir, is where in

1 Claim 3 does it say that the '099 patent wants to
2 give users the same experience at mesh and
3 non-mesh-connected endpoints?

4 A. They are not talking about the experience,
5 but the plain and ordinary meaning of conference
6 participants when you read the claim, it is clear,
7 in my opinion, to a POSITA, that it includes all
8 the participants of the conference, mesh-connected
9 or non-mesh-connected.

10 Let's say I'm connected by a -- we have
11 here a strip or something like that similar, and
12 I'm connected by a non-mesh, and the rest of you
13 are connected by a mesh. So you can see me; I can
14 see you. I can promote you; you can promote me.
15 It's not -- they are talking about the conference
16 participant. It's includes all the participants.

17 Q. Well, right now we're talking about an
18 example of a situation. My question for you is
19 very specific about Claim 3, because Claim 3 is
20 what defines the invention as we've agreed already.

21 So where in Claim 3 does it talk about
22 giving the same user experience to mesh and
23 non-mesh? Point to me the words.

24 ATTORNEY KAUFMANN: Objection. Form.

25 A. No, it doesn't talk about experience.

1 Q. Let's keep moving, then.

2 When we're talking again about the
3 conference participants in the first limitation,
4 the one that talks about a plurality of
5 endpoints --

6 A. Yes.

7 Q. Okay?

8 -- show me the words where it says that
9 conference participants includes both mesh and
10 non-mesh-connected endpoints.

11 Just the words, sir, in Claim 3.

12 ATTORNEY KAUFMANN: Objection. Form.

13 A. The -- basically the words that describe
14 the plurality of endpoints basically can -- what is
15 this plurality of endpoints? It says you have two
16 mesh, at least two mesh, and one non-mesh. In
17 the -- and we know also that the conference
18 participant sit in front of these each endpoints.

19 So if you wanted to limit it, had you want
20 to have the conference participant include only
21 mesh -- let's say it's with mesh, so you would use
22 the word "mesh," mesh conference participant. For
23 example, hypothetically, if you want to show the
24 mesh endpoints, only the mesh conference
25 participants. So the very same thing that appears

1 later, mesh-connected conference participants. So
2 it would put it there.

3 If you wanted just that the mesh endpoint
4 would see just the non-mesh participant, so it
5 would say "non-mesh-connected conference
6 participant." This is a general conference
7 participant. It include -- even if you just apply
8 common sense, you basically want to see all the
9 conference participant, either mesh or non-mesh.
10 So, to me, it's clear.

11 Q. Okay. Let me ask you a different
12 question.

13 You just said that if you want to see all
14 the participants, that would make them conference
15 participants.

16 The claim -- okay, again, let's keep
17 looking at that limitation, a plurality of
18 endpoints. Okay? -- it makes a reference to
19 "reduced-size video feeds from the conference
20 participants is displayed at the mesh endpoints."

21 Do you see that?

22 A. I'm sorry. In -- yeah. I do see that,
23 yeah.

24 Q. Okay. And it says "from the conference
25 participants." Right?

1 A. It says that, yeah.

2 Q. It doesn't say from all, or from every, or
3 from each conference participant. It says "the
4 conference participants." Right?

5 A. Yes.

6 Q. Okay. So we already agreed that endpoints
7 include a video camera and a microphone. Right?

8 A. Makes sense, yes.

9 Q. Okay. What if a particular endpoint
10 doesn't have a camera? Is it still a conference
11 participant?

12 ATTORNEY KAUFMANN: Objection. Form.

13 A. When you refer to conference participant
14 in the -- and you don't send video, you know, it
15 is -- usually you would expect a -- that the
16 conference participant would send the video. But
17 you would expect it. Or like -- I know that your
18 camera is -- you have a bandwidth issue. So -- but
19 at least I hear you and we participate in
20 something.

21 That's what I think. You have to send
22 something. Otherwise, what is participants, you
23 know? If you are just in -- but the claim doesn't
24 talk about it. This is my -- if someone just is
25 listening and does not provide any input, is he a

1 participant? Would you say I participated or I
2 just listened?

3 Q. Well, you tell me.

4 A. I think it makes sense that you send some
5 media so we can call you a participant. You know,
6 it's like -- I don't know. An example, you have
7 like kids playing in a -- in the garden, and one
8 kid is standing on the side and watching.

9 So the mother ask him later, "Did you
10 participate in the game?"

11 He said, "No, I just looked at them."

12 So I think when you say participate, to
13 participate, there is some -- some activity.
14 That's what it tells me.

15 Q. All right. Let's go back to Claim 3.

16 All right. If we look at the limitation
17 that starts with "a server." Do you see that?

18 A. Yes.

19 Q. Okay. It says "the server associated with
20 the proxy for serving the filmstrip with frames
21 containing reduced-size video feeds from the
22 mesh-connected conference participants to the
23 non-mesh-connected endpoints."

24 Do you see that?

25 A. Yes.

1 Q. So it is your view that at least one
2 non-mesh-connected endpoint can receive video from
3 a mesh-connected endpoint. Correct?

4 A. So in this -- in this limitation -- so
5 let's say you have like four mesh points,
6 endpoints, and you have one non-mesh-connected
7 endpoint, altogether five.

8 So you just said that the -- that the
9 filmstrip includes containing -- containing the
10 four mesh-connected conference participants, and in
11 the -- the guy with the non-mesh-connected will
12 see -- will see. Containing. It doesn't mean to
13 be only the four. Could be others, you know, if
14 there were like other star -- other
15 non-mesh-connected. I mean, it's not that it says
16 you will only see mesh-connected in the filmstrip.
17 It says containing. So the non-mesh-connected will
18 see the other mesh-connected -- the mesh-connected
19 participants on the --

20 Q. If you're -- sorry about that. I
21 apologize.

22 Is it your view that non-mesh-connected
23 will also see videos from other non-mesh-connected
24 participants?

25 A. Could be, sure. I mean, think about it.

1 **It's common sense. Let's say another guy in our**
2 **conference is non-mesh. I don't care if it's a**
3 **non-mesh or mesh. I want to see you.**

4 Q. The claim doesn't preclude one
5 non-mesh-connected endpoint receiving video from
6 another non-mesh-connected video?

7 A. **It just said containing the mesh for the**
8 **non-mesh. It doesn't mean it cannot include**
9 **others.**

10 Q. Okay. Can a -- in your view, can a
11 non-mesh-connected endpoint provide video?

12 A. **Sure. Yes.**

13 Q. Where does it say that in Claim 3?

14 A. **That it is not claimed, but, again, when**
15 **we read the specification, in I think Figure 10, we**
16 **said, it shows that the videos comes from mesh or**
17 **non-mesh into this repeater and basically provided**
18 **to all the other participants. So . . .**

19 Q. Okay.

20 We've been going for about an hour. Do
21 you want to take a short break or do you want to
22 keep going a little bit?

23 A. **We can take a bio break quick.**

24 Q. All right. 10 minutes?

25 A. **Fine.**

1 THE REPORTER: All right. Off the record

2 at 10:57 a.m.

3 (Recess taken from 10:57 a.m.

4 to 11:08 a.m.)

5 THE REPORTER: Back on the record at

6 11:08 a.m.

7 BY ATTORNEY GORYUNOV:

8 Q. Welcome back, Dr. Sharony.

9 A. Hi.

10 Q. During break, did you speak with counsel
11 about the substance of your testimony?

12 A. No.

13 Q. All right.

14 I would like for -- first of all, let's
15 briefly talk about Claim 3, and then I'll share
16 another exhibit with you.

17 Claim 3 has a limitation at the very end:
18 "a control connection." Do you see that?

19 A. Yes.

20 Q. Okay. And the limitation in full is "a
21 control connection permitting a user located at the
22 non-mesh-connected endpoint to select a video feed
23 on the filmstrip or promotion to full-size and to
24 initiate transfer of the full-size video feed to
25 the non-mesh-connected endpoint."

1 Do you see that?

2 A. Yes.

3 Q. All right. Now, with that limitation in
4 mind, please allow me to share with you your
5 declaration.

6 (Exhibit 2009 is placed in Zoom chat.)

7 Q. All right. Please check the chat feature
8 for that. Please let me know when you have it
9 downloaded.

10 A. Yes, I do.

11 Q. All right. Okay.

12 Now, if you flip with me to the very last
13 page of the PDF that I shared with you, it's PDF
14 page 89, document page 86.

15 Are you there?

16 A. Yeah.

17 Q. Is that your signature?

18 A. Yes.

19 Q. And is it correct that you signed your
20 declaration, which is this document, on or around
21 July 5th of 2024?

22 A. Yes.

23 Q. They made you work over 4th of July
24 weekend?

25 A. Yeah.

1 Q. All right. Let's go to your paragraph 87.

2 A. 87. Yes.

3 Q. All right. So in paragraph 87, you talk
4 about the interpretation of this -- of the very
5 limitation you and I just read in the '099 patent,
6 and that's the "a control connection" limitation.
7 Is that correct?

8 A. Yes.

9 Q. And the last three lines of your
10 paragraph 87 propose a construction of the last
11 limitation in Claim 3. Is that correct?

12 It's in quotes.

13 A. Yes. Yes. Yeah.

14 Q. Okay. So, then, your proposed
15 construction for the last limitation of Claim 3 is,
16 in quotes, "a control connection ... permitting a
17 user located at the non-mesh-connected endpoint to
18 select a video feed on the filmstrip for promotion
19 to full size, initiating transfer of the full-size
20 video feed to the non-mesh-connected endpoint."

21 Did I read that correctly?

22 A. Yeah.

23 Q. All right. So your proposed construction
24 of the limitation adds a comma after "full size"
25 and before "initiating transfer." Is that right?

1 **A. Yes.**

2 Q. Okay. Now, can we flip back to Claim 3 of
3 the '099 patent, please.

4 Are you there?

5 **A. Just one second.**

6 **Yeah, '099, Claim 3. Yes.**

7 Q. So your construction adds a comma after
8 "full size." There is no comma in the claim as it
9 is currently recited in the '099 patent, in the "a
10 control connection" limitation. Is that correct?

11 **A. There is no comma in there.**

12 Q. You would agree with me that whoever
13 drafted Claim 9 knew how to use commas when they
14 wanted to. Right?

15 **A. I'm sure.**

16 Q. One second, please.

17 All right. We can --

18 **A. You're asking me about my construction.**

19 **So if you wish, I can explain why basically -- you**
20 **know, it's kind of initiating -- this operation is**
21 **basically --**

22 Q. I think we'll get to that in a few
23 minutes, if you don't mind.

24 **A. Oh, okay.**

25 Q. Yeah.

1 But first, before we get too far ahead of
2 ourselves, let's -- in your declaration, okay, your
3 analysis -- and this is in your paragraph 90, if it
4 will help.

5 **A. Yeah.**

6 Q. Okay. Especially at the last part of your
7 paragraph 90 talks about, you know, there's, in
8 your view, particular requirements about initiating
9 versus selecting. And you say that all of these
10 considerations would significantly and needlessly
11 increase the bandwidth requirement.

12 Do you see that? It's at the end of your
13 paragraph 90.

14 **A. Where do you see that?**

15 Q. Paragraph 90 in your declaration. It's
16 page 54 at the bottom. It will be document page
17 54, the last sentence of paragraph 90.

18 **A. "This is because"?**

19 Q. Do you see that?

20 Oh, yeah, yeah. Thank you. You're right.
21 Yes.

22 **A. Yes.**

23 Q. I'm speaking about that sentence, the one
24 that starts with "This is because."

25 **A. Can I read it quick?**

1 Q. Yes, of course.

2 A. Yes.

3 Q. Okay. So one of your reasons for the
4 construction is you would like to avoid
5 significantly and needlessly increasing bandwidth
6 requirements. Is that correct?

7 A. Yeah. I mean, there is a good example in
8 Figure 10 that shows the mesh -- the
9 non-mesh-connected.

10 So if you recall, with star, we are
11 connected to -- there is only one link to the
12 mesh -- to the mesh endpoint. So unlike in mesh
13 where you have a link from each other mesh
14 participant, here over this link -- I think they
15 call it link 89 -- you would have to send all the
16 videos in full size. This would be tremendously --
17 would cause congestion and latency.

18 So by promoting one of the pictures or
19 low-resolution video on the filmstrip, you would
20 initiate the transfer of the full-size video that
21 you intended to promote. So that's what I meant
22 to, that you want -- you don't want to needlessly
23 increase the bandwidth requirement by sending all
24 the videos at full size.

25 Q. In Claim 3 of the '099 patent, there's no

1 discussion of bandwidth or reducing bandwidth
2 consumption or anything like that. Right?

3 **A. Yeah. The word of "bandwidth" is not**
4 **mentioned verbatim. So . . .**

5 Q. Now --

6 **A. But, again, within the context of the**
7 **specification, one would understand that.**

8 Q. But the words don't appear expressly in
9 the claim. Correct?

10 **A. The word "bandwidth" doesn't appear there.**

11 Q. Okay. Now, we already talked about the
12 limitation in the '099 patent, discussing a control
13 connection. You'd agree with me that
14 non-mesh-connected endpoint receives a full-size
15 video feed at some point?

16 **A. A non-mesh-connected?**

17 Q. Mm-hmm.

18 **A. It does, yeah. If you select and initiate**
19 **the transfer, yes.**

20 Q. Does the claim prevent the
21 non-mesh-connected endpoint from receiving more
22 than one full-size video feed?

23 **A. It doesn't say so. You basically select a**
24 **video feed on the filmstrip, and then you initiate**
25 **the transfer of the full-size video.**

1 Q. All right. Let's go back to your
2 declaration. Again, I want to focus on
3 paragraph 90, and it's still that last sentence
4 that we were talking about.

5 So let me know when you're there.

6 **A. Yes, I'm there.**

7 Q. Okay. Again, you're talking about
8 significantly and needlessly increasing the
9 bandwidth requirements.

10 I guess my question is, needlessly
11 increasing bandwidth requirements in comparison to
12 what? Like, what's your metric? What's your
13 baseline against which you measure reducing
14 bandwidth consumption?

15 **A. Sending multiple -- sending all the**
16 **full-size versions of all the feeds would**
17 **needlessly increase the bandwidth requirement. You**
18 **basically send full version of the videos that you**
19 **would like to see. Meaning if there are like 10 or**
20 **20 mesh points, that you don't want to send all the**
21 **video from all the 20. Maybe you want to send one**
22 **or two, but not all of them.**

23 **So there is -- that's why it's needlessly**
24 **increase the bandwidth requirement.**

25 Q. Okay. Let's go back to the '099 patent,

1 please.

2 A. Yes.

3 Q. And let's go to column 4.

4 Let me know when you're there.

5 A. Yes.

6 Q. Okay. Column 4, let's look around -- at
7 line 64. There's a sentence that begins with "The
8 filmstrip consists of."

9 Do you see that?

10 A. Yes.

11 Q. Okay. Let me read the portion that I want
12 to talk about for us.

13 "The filmstrip consists of a frame strip
14 containing reduced-size video feeds from the
15 various participants. Its purpose" -- and "its
16 purpose" is referring to the filmstrip -- "is to
17 allow users to see video and collaboration
18 materials from all conference parties and to
19 determine which particular video streams or
20 collaboration materials will be promoted."

21 Do you see that?

22 A. Yes.

23 Q. Okay. So my question for you is an
24 interesting one. The sentence on line 65 that
25 begins with "Its purpose is to," do you see that?

1 **A. Yes.**

2 **Q. Okay. In the context of the sentence, the**
3 **act of seeing video and collaboration materials,**
4 **does that trigger the user to determine which**
5 **particular video streams will be promoted?**

6 **ATTORNEY KAUFMANN: Objection. Form.**

7 **A. So the filmstrip consists of -- of a**
8 **filmstrip containing reduced video from all the**
9 **participants. And its purpose, why we do so, we**
10 **want to allow user to see video and collaboration**
11 **material from all the conference parties and to**
12 **determine which particular video stream will be**
13 **promoted.**

14 **In order to promote something, you need**
15 **sort of an icon or something to select. So that's**
16 **why we have the filmstrip. And the filmstrip, we**
17 **said, could be, you know, a slide or -- or someone**
18 **that start to talk.**

19 **So you want to promote it --**

20 **Q. Sure.**

21 **A. -- to see it on a big screen.**

22 **Q. Could the user see the video and**
23 **collaboration material, but elect not to determine**
24 **which video stream will be promoted?**

25 **ATTORNEY KAUFMANN: Objection. Form.**

1 **A. I'm not sure I understand. How -- how you**
2 **would see it if you don't promote it?**

3 Q. Well, the way I see this is you can
4 have -- again, this is me reading the '099 patent.
5 You have a filmstrip with a bunch of videos and
6 collaboration materials. Right?

7 **A. Yes. Yes.**

8 Q. And you see all of them in miniature form?

9 **A. Yes.**

10 Q. Then the user has the option to determine
11 which particular video or collaboration material is
12 to be promoted or not at all. Right?

13 **A. If you select to promote, it will be**
14 **promoted, yeah.**

15 Q. But I don't have to select to promote. I
16 can just leave it alone and just have the small
17 video feeds. Right?

18 **A. So you are asking me in reference to Claim**
19 **3?**

20 Q. I'm asking in regards to the text that we
21 see in column 4, line 65, through column 5, line 1.
22 I just want to understand your understanding of the
23 sentence that we're talking about.

24 **A. No one is forcing you to do something. So**
25 **my point, if it was like a method claim and it says**

1 **selecting, you know, you have to do it. But this**
2 **is just a system. So as long as you have the**
3 **capability, you can do it; you can undo it. You**
4 **can decide what you want to do.**

5 **If you have good eyes and you don't want**
6 **to promote anything, that's also fine.**

7 Q. So just because I see a video and
8 collaboration material doesn't automatically force
9 me to determine which particular video stream or
10 collaboration material will be promoted. Right?
11 There's nothing forcing me to do it?

12 A. **Nothing is forcing. Sometime, you know,**
13 **it's a setting in the system that, you know,**
14 **automatically someone that is talking, you know, is**
15 **promoted. It's not -- no one is forcing.**

16 Q. Okay. Let's go to column 15, please.

17 A. **15.**

18 Q. Line 51, please.

19 Let me know when you're there, and I'll
20 point you to what I'd like to talk about.

21 A. **Yeah. Okay.**

22 Q. The sentence in column 15, line 51 through
23 53, is "A web page including the filmstrip is
24 hosted on a star server and displayed at the star
25 endpoint location."

1 Do you see that?

2 A. Yes.

3 Q. Just because a web page is hosted on the
4 star server doesn't necessarily require it to be
5 displayed at a star endpoint location. Right?

6 A. But it said "and displayed."

7 Q. Yes, it does say that.

8 A. Okay. Let's make things clear.

9 So usually when we watch on a browser --
10 Netscape, for example -- so the page -- so you have
11 a server and you have a client. The browser is the
12 client, and the server basically hosting it.

13 So you could have, for example, a server
14 and a client -- I can have on my computer a server
15 to host a page locally and watch it on a browser,
16 but it's not necessarily they have to be together.
17 In most cases, it's -- they are separate in a way
18 that --

19 Q. Well, let me clarify my question.

20 A. Okay.

21 Q. So the sentence that you and I are looking
22 at, there is a web page that includes a filmstrip
23 hosted by a server. Okay?

24 A. Yes.

25 Q. And then the web page, it says, "and

1 displayed at a star endpoint location." Okay?

2 So my question for you is this: Just
3 because there's a web page at -- hosted by a star
4 server doesn't automatically mean that it has to be
5 displayed by at least one star endpoint location,
6 or could it just be that there are no star endpoint
7 locations online connected to view the web page?

8 ATTORNEY KAUFMANN: Objection. Form.

9 **A. So the star server host the filmstrip, and**
10 **it is displayed at the non-mesh endpoint on a**
11 **browser.**

12 Q. So my question is, I -- there's a lot of
13 servers out on the internet, all of which host web
14 pages.

15 **A. Correct.**

16 Q. But there's no requirement that any one
17 person is ever looking at a particular page.
18 Right? Just because it's a web page doesn't mean I
19 have to look at it.

20 **A. Correct. But if you want to participate**
21 **in the -- in a conference and you want to see**
22 **collaboration material or, you know, promote a**
23 **video, you want to see it.**

24 So then it say "and displaying." Again,
25 no one is forcing you to -- if you don't want to

1 **promote something, to display or select it.**

2 Q. Right.

3 Would you agree with me that hosting of a
4 web page on a star server is a separate action from
5 displaying the web page at a star endpoint
6 location?

7 **A. Could you rephrase, please?**

8 Q. Sure.

9 So the sentence that you and I have been
10 talking about, the way I see it, there's two
11 actions going on. There is a web page including a
12 filmstrip that is being hosted on a star server, so
13 that's action 1. Action 2 is displaying this web
14 page at a star endpoint location.

15 You agree with me that those are two
16 separate actions by possibly two separate
17 computers?

18 **A. You could display or not display. It's**
19 **not . . .**

20 Q. Right. And whether you display or not,
21 those are two separate actions?

22 **A. I just want to check something.**

23 Q. Please.

24 **A. Yeah. So in column 16 of the '099, it**
25 **says that computer 92 -- this is the laptop that we**

1 saw there -- running a browser or equivalent app
2 that can display a web page or other suitable
3 presentation, hosted by the star server 91.

4 Q. Okay. It can. It doesn't have to?

5 A. Yeah. I said "can."

6 Q. Okay. Let's move on.

7 Have you ever heard of the term
8 "multicasting"?

9 A. Yes.

10 Q. How do you understand the term
11 "multicasting"?

12 A. Basically, I think the -- the easiest way
13 to understand it, to explain it to a person, that
14 there is a one-to-one communication, and there is
15 one-to-everyone, or many, communication. This is
16 called broadcast.

17 And the multicast is basically -- it's a
18 group which is smaller than the broadcast group.
19 So it's a select group. So it's, again, a
20 one-to-many communication where you send it to a
21 selected group, which is the multicast group.

22 Q. Okay. And when you use multicasting
23 within this multicast group, the devices exchange
24 information between themselves. Right?

25 A. Not always. For example, remember we said

1 multicast is like a subgroup of the broadcast.

2 Q. Mm-hmm.

3 A. So when you are listening to the radio,
4 it's a one-way communication. The media is send
5 and you decide that you will, you know, to switch
6 channel and to look what you want.

7 Some has -- some multicast could have a --
8 also sending some control. It depend on the
9 protocol. Like, for example, you want to subscribe
10 to a certain -- certain programs or -- so to answer
11 your question, it's not always the -- what did you
12 ask? My point is not always two-way. There could
13 be some control that go upstream to ask for
14 something, but the media usually follows
15 downstream, you know, from the server to the -- to
16 the viewer.

17 But in some situation, it's like a
18 broadcast, just a smaller group, just go one-way.

19 Q. Right. But even in the context of, you
20 know, control information, in a multicast
21 situation, you would establish a connection,
22 authenticate endpoints, do quality-of-service
23 controls. Right?

24 A. It depends on the protocol. You could
25 have some control going upstream and the media come

1 down. Some protocol, you just send it one way.
2 It's not -- you know, we did loads of multicast in
3 probably one of the first group that did this over
4 wireless. So we would have a server this would
5 basically -- and you would appreciate there is
6 barely any control for that specific operation.

7 So you basically send, let's say, a movie,
8 and within the IP addresses, you have like a
9 certain part which is multicast IP addresses. So
10 you send it and it arrives to your network. And
11 then all what you have to do is, in your browser,
12 you have to put that multicast IP address.

13 Now, the server doesn't know who you are,
14 how many are listening to that movie. So this is
15 completely one-way. The media just flow down, and
16 that's it.

17 And some -- so this is one protocol that
18 were doing it. Some protocol could be more
19 sophisticated. They can say, You know what? I'm
20 getting a very choppy video. You know, I'm
21 driving, or I don't have good connection, you know,
22 reduce the resolution. So the server could send
23 you, you know, a lower resolution, if it's built to
24 do that.

25 So I don't want you to generalize that

1 **there is kind of a two-way always. It depends on**
2 **the protocol.**

3 Q. In the case where a server doesn't know
4 how many people are listening to a movie, for
5 example, you'd still have to have a connection
6 establishment exchange. Right? Because the server
7 has to know who to send data to.

8 A. **No. Because the way it works, you can**
9 **later, you know, look at the -- there was a project**
10 **on the internet called MBONE, M-B-O-N-E. So you**
11 **just send it out of your server and it would arrive**
12 **to a router. And the router say, "Oh, this is**
13 **multicast, so I should send it further."**

14 So just think about like a huge multicast
15 tree that basically send it all over in the --

16 Q. Okay.

17 A. So the packets are all around. You just
18 have to open the -- you know, think about it like a
19 radio. A radio is a good example. You have
20 multiple programs and you just send it on a
21 specific frequency or channel. So think about it
22 as if it's the multicast IP address.

23 I think I have a patent on a -- but it's
24 not related to that -- on multicast tree.

25 Q. Well, let me ask you this.

1 If I'm broadcasting something at a
2 particular IP address, okay, anything who contacts
3 to that IP address can see whatever media I am
4 broadcasting.

5 Let's say a user, an end device, wants to
6 connect to that IP address and watch the media
7 stream.

8 **A. Okay.**

9 Q. Isn't the end user device still connecting
10 and establishing a connection at least with the
11 router? I mean, it has to be some kind of protocol
12 exchange, some negotiations about synchronization.
13 I mean, you have to make sure that the packets are
14 synchronized, if nothing else.

15 **A. Not with the source. The source doesn't**
16 **know. And you don't want to overwhelm the source,**
17 **if there are like 100,000 people listening through**
18 **the movie. So it would be a burden on the server.**

19 The router -- the router -- look at the
20 one example. I remember it was like 224, the first
21 thing -- you know, you have like four parts. So it
22 sees this is multicast; I'm sending it further. So
23 the next router see, oh, this is multicast; send it
24 further.

25 So eventually it would then basically

1 arrive -- if you -- you are connected to the
2 internet, so the packets flows there. And you can
3 also define at the source like how -- how wide is
4 it to the -- we are sending it to the whole world
5 or maybe to a certain country or city. Because
6 router have a geographic association. They know --
7 like, for example, sometimes they block you because
8 they say, Oh, you are from a different country.

9 So the router has geographic association,
10 so they know where it is, so they can limit it to
11 that. And you just, like, open the radio and you
12 can subscribe or listen to a certain channel. And
13 this is the IP address.

14 Q. Well, sure. If we run with --

15 A. Not necessarily connection. Yes, later,
16 it makes sense to, you know, to say, "You know,
17 this is not so good for me. It's overwhelming.
18 Send me something" -- you subscribe to something
19 better, or you give some -- how many packet were
20 lost or -- but it is -- you cannot overwhelm the
21 server. So we used to look into multi -- pure
22 multicast, and some multicast are called
23 multi-unicast.

24 So, then, yeah, you can make a connection,
25 but this is not -- it's not scalable to a large

1 **group.**

2 Q. Okay.

3 A. It's called -- multicast is a one-way, and
4 you basically tune to a multicast IP address and
5 you receive it. And no one knows if you are -- it
6 just sent over the link or the air, and you just
7 capture packets. Your network interface card in
8 your laptop either would filter it if you didn't
9 ask for it, or if you open the gate, it would get
10 it. But you don't need any permission. Yeah, of
11 course, if it's a paid movie, you're --

12 Q. Well, I was going to say, let's talk about
13 another radio provider called SiriusXM. Okay?
14 Sirius Radio. My car has it. I don't subscribe to
15 it, but I know it's there. Right?

16 So it's a radio, it's multicast, and there
17 is a connection set up, because otherwise it
18 wouldn't allow -- I'm sorry. There is a connection
19 setup within SiriusXM, which is a form of radio,
20 because otherwise anybody -- even people who don't
21 pay for the service would still be able to log in
22 and listen to the content. So you have to have at
23 least connection setup, authentication,
24 authorization. Right?

25 A. It may work on a different way, and this

1 also are very similar to the music streaming
2 services.

3 So you have a player that is basically you
4 log in -- you -- the player is basically -- let's
5 put it that way. Even if you don't subscribe,
6 SiriusXM arrive to your car, believe it or not. It
7 is not -- they say, "Oh, we will not send it now to
8 this car." It arrives. Everything is arriving.

9 The player, you have to sort of enable it
10 or log in into it, so it can basically -- would
11 basically bring and play these packets. But the
12 packets arrive there. They are just filtered or
13 they are not played. But --

14 Q. Sure. They arrive at your car.

15 A. They are not connecting to the satellite,
16 coming from the satellite. They are not connecting
17 to the -- you can have zero internet connection in
18 your car, and it coming from the satellite. You
19 would agree with me that you are not communicating
20 to the satellite.

21 Q. Well, I mean, at some point you would have
22 to communicate with the service, because otherwise
23 how does your car's player know that you are
24 authenticated to work with the server?

25 A. No.

1 Q. Like a subscription server -- a
2 subscription is not a server --

3 A. It is enabled -- it is enabled by the
4 player. Like in the music services, you could
5 download -- I did it many time; maybe you, also --
6 you can download like Apple Play or whatever or --
7 or the music server. You can download it into a
8 laptop or iPhone and you would listen to it. Zero
9 connection. Zero connection to the internet.
10 Okay? You listen; you enjoy the music.

11 Once a month also, you will be in a -- you
12 will be connected to the internet. If you are not,
13 you will be in a bad luck. You will not be able to
14 play. The player would just not play. It needs to
15 get like a token or authorization from the service
16 provider once a month, because you pay every month
17 and it would enable the player to play --

18 Q. Right. So, here. Let's run with that
19 example --

20 A. -- with a server. It would be
21 overwhelming.

22 Q. Well, let's run with that example. All
23 right? Let's run with your example of Apple
24 Play -- or Apple Music. Apple Music; right? It's
25 called Apple Music.

1 Let's run with your example of Apple
2 Music. Today I subscribe to Apple Music, and, like
3 you, I download the content that I really enjoy
4 listening to. Okay? Let's say this is on my
5 iPhone.

6 Tomorrow I install the latest firmware
7 update, and my iPhone is, quote/unquote, bricked.
8 In other words, the WiFi antenna, as well as the
9 LTE 5G chip, fries. The device still works, but it
10 can still play my music that I have stored on the
11 device.

12 **A. Yeah, but next month --**

13 Q. Well, hold on. Hold on. Hold on.

14 Then I download all this content, and then
15 a couple weeks later, I decide, you know what? I
16 really don't need Apple Pay. So I go on my
17 computer and I cancel my account.

18 **A. Not Apple Pay.**

19 THE REPORTER: I'm sorry. You're going
20 too fast. Please, can you guys slow it down?

21 **A. Apple Music. Apple Pay is something**
22 **different.**

23 Q. Let's say -- I mean Apple Music. Let's
24 try this example again.

25 I have a subscription to Apple Music. I

1 download a bunch of content today.

2 A. Okay.

3 Q. Tomorrow, I turn off all WiFi connections
4 and all cellular connections on my device.

5 A. Okay.

6 Q. My device is still able to play the music
7 that I have downloaded. Correct?

8 A. For a short period of time.

9 Q. Sure. All right.

10 Then next week, using my computer, I log
11 in to Apple and I cancel Apple Music. My device
12 can still play the music because my device hasn't
13 synchronized with the server to find out that I no
14 longer have the service.

15 A. No. Because what it would do -- so, you
16 know -- perfect. Lets me download like 10,000
17 music. You know, all the Rolling Stones and The
18 Beatles and everything. I'm now happy. I have
19 10,000 song.

20 Q. Let's go with Beatles.

21 A. I'm now canceling. Do you think it will
22 be able to play? No, because there is a digital
23 right management, and you would be -- you would
24 need to enable it. They basically send like a time
25 bomb with it. So if you don't pay the next month,

1 **it would expire. So from time to time you need**
2 **connectivity, but not in real time.**

3 Q. Got it.

4 A. **Not in real time.**

5 Q. All right. Let's -- this is a great
6 conversation, very interesting.

7 But let's turn our attention to --

8 A. **No, I tried it. I'm telling you.**

9 Q. I just shared with you a --

10 A. **In the early days of music streaming, you**
11 **know, everyone would think, wow, let's do it and**
12 **cancel the service.**

13 Well, someone is smarter than you, you
14 know.

15 Q. Excellent.

16 Let's move on to Setton. I've shared with
17 you an exhibit previously marked 1005.

18 (Exhibit 1005 is marked for
19 identification.)

20 Q. Let me know when you can open it.

21 A. **I opened it.**

22 Q. All right. Dr. Sharony, do you recognize
23 this as the Setton prior art patent publication
24 that's the subject of this IPR?

25 A. **I do.**

1 Q. Excellent.

2 And you've reviewed Setton?

3 A. Yes.

4 Q. And you would say you're familiar with
5 Setton?

6 A. I am.

7 Q. Okay. Let's go to Setton's paragraph 014.

8 A. Okay.

9 Q. One second.

10 All right. So I want to talk to you about
11 a sentence that is in Setton, and it splits from
12 page 1 of Setton into page 2. So it's still in
13 paragraph 014, but it breaks the page. It begins
14 with "In doing so."

15 Do you see that?

16 A. "In so doing."

17 Q. Oh, I'm sorry. I apologize. Yes, "In so
18 doing."

19 The full sentence for the record: "In so
20 doing, embodiments in accordance with the present
21 invention provide a real-time multi-way video
22 communication protocol based on peer-to-peer
23 technologies."

24 Do you see that?

25 A. Yes. Yes.

1 Q. Okay. How do you understand multi-way?

2 A. Where are we?

3 One to many.

4 Q. Okay. Well, when we're talking about
5 real-time, multi-way video communication protocol.
6 All right?

7 A. So they are talking about the peers in --
8 I believe in the active group. So it's like
9 everyone can send to everyone. Something like
10 that.

11 Q. Well, in a multi-way video communication
12 protocol, would you expect the communications
13 between the devices to be bidirectional?

14 A. Multi-way video, it's like what we are
15 doing now. Everyone sends their own video. So I
16 send and receive. That's with the reference of --
17 this relates, you know, for the peer-to-peer for
18 the active group now.

19 Q. Well, Setton talks about using multicast
20 protocols between both active sources and the relay
21 receivers.

22 A. Right, but the listener or the observers
23 are not sending video. They are just receiving
24 video.

25 Q. Okay. Back to our --

1 A. It's a -- basically you send -- so among
2 the active -- the active group create content
3 video, and they are basically sending it to each
4 other in a -- say a mesh fashion. But you also
5 send it -- based on Figure 1, you send it to a
6 multicast stream or for observer, that just observe
7 or listen to it.

8 Q. Sure.

9 But wouldn't you still expect there to be
10 a connection setup? You don't want anybody to log
11 in and view your video stream. Right?

12 A. Well, a connection from where to where?

13 Q. Well, let's say that I'm in a conference
14 room with many other people listening to your
15 presentation. Let's say your presentation is a
16 paid presentation. You don't want everybody to be
17 able to dial in without having paid for it. Right?

18 So even though it's a multicast video
19 protocol, you'd still want some kind of connection
20 setup. Right?

21 A. There is no connection setup -- at least
22 Setton does not teach that there is a control or --
23 a control connection to the active group.

24 One thing for sure, I think we all agree,
25 that they don't -- they do not create content.

1 They do not send video upstream to the active
2 group. Video, in fact, is aggregated into a super
3 stream and is sent down the tree. So I think here
4 we are all sort of in agreement.

5 Now, you are saying, "Well, I don't want
6 everyone down there, either the listener or
7 observer, that they would receive the stream." So
8 I think we discussed it before. You have several
9 means to do it. Like you would give to every -- a
10 token or something that would allow you to -- in
11 the player, in the app -- that would allow you to
12 play this video, or allow you to select one of the
13 videos that you are interested in from the
14 aggregated super stream. But there is no teaching
15 that is connected upstream from the observer to the
16 active group.

17 And the fact is, you know, you see the
18 arrows that are pointing in one direction. I mean,
19 they are bidirectional among the active group and
20 unidirectional when they are going there. More
21 than that, the unidirectional is not only between
22 the active group and the relay receivers. It's
23 also within the relay receivers. So if there was a
24 bidirectional, you could have said that a lower --
25 let's call it a son. A son can talk to a father or

1 to a grandfather and tell him, "Look, don't send me
2 everything. I'm interested in just a selected
3 program or group," or something like that. But
4 even there, it's unidirectional. So it's --

5 Q. Well, it's not really unidirectional at
6 that point, because the one party has indicated
7 what it wants to see, and the other party is
8 consuming it. So there's still communication on
9 that front.

10 A. But you send a -- they say the aggregated
11 stream. An aggregated stream is coming and flowing
12 down, and they call it a super stream. They --

13 Q. So you're saying that Setton operates
14 without any connection setup?

15 A. Sorry?

16 Q. Are you saying that Setton operates
17 without any kind of connection-based protocol
18 between all of the various nodes that connect to
19 view the video stream?

20 I mean, it talks about using protocols
21 time and time again. Are you telling me that these
22 protocols are connectionless?

23 A. No. Connectionless and the connection
24 relay has nothing to do with the -- with that.
25 Even with connectionless, you sometimes have like a

1 **feedback.**

2 **My point is that the only thing that we**
3 **know in Setton that if a relay wants to be promoted**
4 **or upgraded to be active, or if an active wants to**
5 **become an observer, you can basically do so. So --**
6 **but it doesn't show the means or how it is done.**

7 **Q. Okay. Well, let's talk about that for a**
8 **second.**

9 **So we know in Setton --**

10 **A. But -- but -- no, I want to emphasize --**
11 **sorry -- that the media -- they repeat it again and**
12 **again. It's an aggregated stream or super stream**
13 **that goes down. There is no single stream. And**
14 **this is one of the problem, if you will recall, we**
15 **talked about in the last part of Claim 3, that you**
16 **select a single, or you select a stream. There is**
17 **no capability here to do that.**

18 **Q. But at least you don't point to any**
19 **capabilities.**

20 **A. Sorry?**

21 **Q. Let's talk about your comment that an**
22 **active peer can become an inactive peer and that an**
23 **inactive peer can become an active peer. Right?**

24 **That's paragraph 26 of Setton. Okay?**

25 **A. Okay.**

1 Q. So a peer that is inactive and wants to
2 become an active source, it has to communicate to
3 the other peers that it is now switching roles.
4 Right? Otherwise, they wouldn't be able to listen
5 to it.

6 A. No, no, no. No.

7 Q. Really?

8 A. There is no communication between the
9 listeners and the active group, in a sense, "Send
10 me this video." They send an aggregated stream.
11 They send a bunch. And you decide what you want to
12 do with it. But the active -- the active
13 doesn't -- doesn't know.

14 I can work with you on Figure 1, and you
15 have basically three guys in the active group that
16 are filling three sub -- sub trees, sub multicast
17 trees. And they basically send, could be the same
18 or different, to each one of these three multicast
19 group. That's how they -- the media is flowing.

20 Now, you want to create your own content.
21 So you have to contact the registration server, as
22 they say in paragraph 26. They don't describe the
23 link, so how it is done. But you contact the
24 registration server and tell him, "Look, I want to
25 be an active guy." So you become an active guy and

1 **you join the -- the upper part.**

2 Q. Okay. Okay. Hold on a second.

3 So I am an active guy, as you say. I want
4 to become active. I tell the registration server,
5 "Hey, I would like to switch roles."

6 That's consistent with your understanding
7 of Setton paragraph 26-27. Right?

8 A. **Let me take a quick look.**

9 **This is also for a new peer that wants to**
10 **join. It tells you I want to be --**

11 Q. Sure.

12 A. **-- this or this. If a new peer is an**
13 **active source, it will --**

14 Q. Well, here. Paragraph 26, the very last
15 sentence I think is where you want to go: "Another
16 example of a peer transitioning from one portion of
17 a peer-to-peer network to another is a member of
18 the audience (typically a relay/receiver peer)
19 joining the discussion (typically an active source
20 peer)."

21 A. **Yes.**

22 Q. Okay. So that's the transition there
23 we're talking about. You see that?

24 A. **Yes.**

25 Q. Okay. And then in the middle of

1 paragraph 26, it says, "Registration server 106
2 also assists peers in a similar fashion when they
3 transition between being a member of the active
4 source and relay/receivers 104."

5 **A. Yes.**

6 Q. Okay. So if a node right now is a member
7 of the audience and wants to join the discussion as
8 an active peer, it informs the registration server
9 and the registration server helps and facilitates
10 the transition. Correct?

11 **A. Yes. It would tell him how to connect.**

12 Q. Okay. So there is a communication, then,
13 from the relay/receiver peer to the registration
14 server, saying, "Hey, I'd like to participate"?

15 **A. Yeah, there is a communication between
16 them.**

17 Q. Okay.

18 Now, let's look at paragraph 27.

19 Paragraph 27 says -- I'll read to you the sentence.

20 **A. The communication link, I will not
21 describe.**

22 Q. Okay.

23 **A. But if you notify someone, we assume that
24 there is some communication, yeah.**

25 Q. Paragraph 27 has a sentence -- the last

1 sentence begins with, "By incorporating the
2 functionality of the registration server 106 into
3 members of the peer-to-peer network, embodiments in
4 accordance with the present invention further
5 reduce the infrastructure associated with the
6 peer-to-peer network information 100 for media
7 streaming."

8 Do you see that?

9 **A. Yes.**

10 **Q. Great.**

11 So you agree with me that the registration
12 server can be incorporated into one of the
13 peer-to-peer members. Right?

14 **A. That's what it says, but this has nothing**
15 **to do with the media, with the video. This is just**
16 **control data that you notify that you want to**
17 **become an active or you want to be demoted to**
18 **become observer.**

19 **Q. Once I become an active member, I start**
20 **getting all of the media. Correct?**

21 **A. So you are part of the mesh of the active**
22 **members, and you -- it's a -- yeah. You exchange**
23 **video with all the other nodes in the active group.**
24 **And also, your video is, because you are in the**
25 **active group, would trickle down to the observers.**

1 Q. All right.

2 A. It will become -- your video will become
3 part of the aggregated stream or the super stream
4 that would go down.

5 Q. All right. Let's go back to your
6 declaration, and let's go to paragraph 131.

7 Tell me when you're there.

8 A. 131.

9 131. Okay.

10 Q. Okay. Are you there?

11 A. Yeah.

12 Q. Okay. I'm interested in -- there's a
13 question that I had for you about a sentence that's
14 in the middle of paragraph 131. It's on page 83 of
15 your declaration, and it begins with, "Thus,
16 because of the number and identity of nodes in
17 Apostolopoulos."

18 A. Can you send it to me, please?

19 Q. Your declaration? I thought you have a
20 copy.

21 A. Apostolopoulos.

22 Q. I'm talking about your declaration right
23 now.

24 A. Okay.

25 Q. So the sentence that I'm looking at is, in

1 paragraph 131, do you see it? "Thus, because the
2 number and identity of nodes in Apostolopoulos's
3 system is variable and uncertain, if the central
4 servers were not distinct from the nodes' endpoints
5 and were instead incorporated within the nodes'
6 endpoints, the only way to ensure the availability
7 of the central server capability would be to
8 include it within every node endpoint."

9 Do you see that?

10 A. Yes.

11 Q. Okay. I've got to admit I'm not 100
12 percent sure what you mean by that sentence, and
13 I'd appreciate you explaining it to me.

14 A. Well, this is a different scenario. It
15 would be easier if you send me Apostolopoulos.

16 But Apostolopoulos, if you recall, you
17 have a central server that basically connect the
18 star or the non-mesh-connected with the mesh. And
19 the -- Apostolopoulos, by the way, doesn't mention
20 anything about incorporating this central server
21 into any one of the mesh nodes.

22 Now, it's a dynamic topology where you
23 switch between mesh, star -- when I say star, not
24 mesh-connected -- mesh, star, or hybrid of these.
25 And mesh nodes are -- the word "server" or "central

1 node central server" is so -- repeats so many
2 times. I think I counted it's like over 70 times,
3 where the word, like, "decentralized" appears maybe
4 only one or two.

5 So the central server is a very important
6 node that basically bridges between -- and, again,
7 it is temp -- not temporary. It's dynamic,
8 depending on the number of nodes. If more nodes
9 join, I think he said that it like -- if you have
10 like 10 nodes, you'd better do star and not mesh.
11 So the topology is changing here.

12 And even -- so I'm saying even though
13 we -- Apostolopoulos never mentioned that as a
14 possibility, even if you wanted to incorporate the
15 central node, if it was not distinct from the nodes
16 or the endpoints, endpoints come and go.

17 Let's say you were the -- one of the node,
18 the mesh node, let's say, and your role is very
19 important. You are also the central server. But
20 you decided to go home or your battery is dead or
21 whatever. So now everything will fall apart.

22 So you would have to incorporate the
23 central node or the central server in each one of
24 these laptops, not to mention all the processing
25 that you need to do so much, distributing the

1 **videos, et cetera, the distributing and doing all**
2 **kind of video computation. But you have to be**
3 **available. 24/7, maybe.**

4 **So because it's dynamic, people come and**
5 **go, because it does mention that the number changes**
6 **all the time. So you would have to incorporate it**
7 **in -- in every one of the node.**

8 Q. All right. Let me ask you this.

9 A. **This is very cost-prohibitive and**
10 **non-economical or practical solution.**

11 Q. Let me ask you this. The sentence above
12 the one we were looking at says -- it contains your
13 understanding of Apostolopoulos -- that says that
14 any node can transition from being mesh-connected
15 to non-mesh-connected.

16 Do you see that?

17 A. **Where?**

18 Q. It's in your declaration, sir. "These
19 dynamic topology changes allow any node in
20 Apostolopoulos's system from being mesh-connected
21 to non-mesh-connected. See, e.g., Exhibit 1007,
22 column/paragraph 45, 52, 76."

23 A. **Yeah. Just one second. It was fast for**
24 **me.**

25 **These dynamic topology changes allow any**

1 node in Apostolopoulos to transition from being
2 mesh-connected to non-mesh-connected. Right.

3 Q. Do you still agree with that statement?

4 A. It says if you are three or four, do mesh.
5 If it become more -- and he talks about the number
6 N, that it goes like N squared or something like
7 that.

8 Q. Do you still agree with that statement in
9 your declaration?

10 A. It does say that. Apostolopoulos mention
11 that.

12 Q. Okay.

13 A. That's why I say, you know, why don't you
14 send me Apostolopoulos, and we --

15 Q. Right now we're talking about your
16 declaration, sir.

17 A. Yeah. But it is in the context of
18 Apostolopoulos, so I need to see.

19 Q. I'm getting clarification on your
20 statements in your declaration. That's what I'm
21 interested in right now.

22 A. But you are asking me are you still
23 keeping this opinion.

24 Q. Well, yes. Are those words in your
25 declaration still valid? If not, I'm happy to

1 cross them out and move on.

2 A. Oh, no, no, no. I'm telling you that if
3 you -- they appear there, this is my opinion. But
4 you asked me sort of are you still behind it.

5 So if you want me to consider it and maybe
6 cross it out, give me Apostolopoulos, we'll go
7 through, and maybe you will convince me. But you
8 cannot tell me are you -- you are asking me are you
9 still keeping it or not, without showing me
10 Apostolopoulos.

11 Q. Yes, I can. I showed you your
12 declaration. I want to know are you still staying
13 behind every statement in your declaration? That's
14 all I care about this moment.

15 A. Of course, yes.

16 Q. Great. We can move on, then.

17 A. I thought that you are asking me do you
18 want to change your mind or something. So --

19 Q. No. If I wanted to do that, I'd ask you.

20 A. -- if you want that, give me the tools.

21 Q. If I wanted to ask you that, I'd ask.

22 A. Okay.

23 Q. Okay.

24 Now, we can agree also, before we go into
25 too much Apostolopoulos, that it contemplates that

1 low-power devices like smartphones and PDAs can be
2 nodes in a network. Right?

3 **A. It mentioned that, yes.**

4 Q. Okay. And because of that and because of
5 the statement that you have in your declaration in
6 paragraph 131, smartphones or PDAs can either be
7 mesh-connected or non-mesh-connected nodes. Right?

8 **A. They are capable.**

9 Q. Okay. Let's keep talking about your
10 paragraph 131.

11 So you've mentioned earlier during your
12 testimony that Apostolopoulos's central server
13 could become unavailable. What is your
14 understanding of what would happen to
15 Apostolopoulos's system when the central server is
16 unavailable?

17 ATTORNEY KAUFMANN: Objection. Form.

18 **A. So the standard will not be served.**

19 Q. Wouldn't it be more robust and more
20 reliable for more than one device to be capable of
21 functioning as a server?

22 **A. You just mentioned a cell phone. You want
23 to put the server inside the cell phone that would
24 do all the job for the other devices.**

25 **I said the central node of server is a --**

1 is crucial for the star architecture. It has to be
2 operational all the time. In fact, you cannot
3 connect from two star nodes if you don't go through
4 the central node. This is the definition of the
5 star topology or architecture.

6 So you need the central node. There is no
7 if and buts. It's part -- that's how -- a star is
8 a topology.

9 Q. That's not my question.

10 My question is for you, isn't it better
11 and more robust network architecture to have more
12 than one device capable of being a central server?

13 You don't have to put it on every node,
14 but more than one.

15 A. Well, Apostolopoulos teaches one.

16 Q. So your opinion is Apostolopoulos does not
17 teach the possibility of having more than one
18 central server?

19 ATTORNEY KAUFMANN: Objection. Form.

20 A. You could, but it's -- I mentioned to you
21 a situation. It's a dynamic architecture. What
22 does -- what does it mean, dynamic? He mentioned
23 mesh, star, and hybrid. Hybrid is in between.
24 When, like, there is a threshold of the number of
25 nodes, or N, or collaborator, they call it capital

1 N. N as in Nancy.

2 So, obviously, the number of nodes
3 changes -- can increase, can decrease. So you need
4 this central server if you want to support
5 everything at any moment that every node will
6 become a central server; no? And this very -- no
7 one would consider this -- this solution. It's
8 nonpractical, economical, technical. We are not
9 going to change every laptop to become a server.
10 It's --

11 Q. What about this?

12 A. It's nonsensical.

13 Q. Can a central server be an endpoint in
14 Apostolopoulos?

15 A. No. It doesn't -- it doesn't teach that.
16 It doesn't even mention -- you know, sometime in
17 the specification, they say "can." You know, not
18 necessarily, but "can." It doesn't even bring
19 these as a -- it doesn't -- it doesn't teach that.

20 Q. Would it be obvious to a PHOSITA that
21 Apostolopoulos's central server could be an
22 endpoint?

23 ATTORNEY KAUFMANN: Objection. Form.

24 A. I just described this. You would need
25 then to have every node to become a central server,

1 to include the central server. Otherwise, it -- I
2 think you agree with me if there is no central
3 server, the star fall apart. Because this is the
4 definition of a star, that the star points are not
5 connected between them. They are connected through
6 the -- through the server. So you must have a
7 central server.

8 Now, the central server definitely or most
9 probably cannot be included in very low capability
10 device like cell phone and the like. So then you
11 would say, okay, so let's include it in a laptop.
12 But the laptops -- I'm giving you an example of a
13 more capable device. So then the laptop, you know,
14 their number changes. They come and go and join
15 the network.

16 So, in that case, would you include the
17 server in every laptop and increase its price and
18 make it -- the battery would last --

19 Q. Well, hold on a second. Hold on a second.

20 A. It's just nonsensical solution.

21 Q. Okay. Well, hold on a second.

22 A server can be a piece of software that I
23 install. Take Apache. I have Apache running on my
24 iPhone right now. Apache is an example of a
25 server, isn't it?

1 A. That's a good wish.

2 Have you been like in the server farms?

3 Q. Yes.

4 A. Do you know how much cooling going there,
5 how much memory, how much hardware is going there?
6 You are doing the most computational -- heavy
7 computational processes like of basic videos. You
8 know, you are --

9 Q. You don't have to. What if I'm only
10 hosting two other devices? That sounds pretty low
11 capability, pretty low complexity to me, if I'm
12 only hosting two devices' worth of videos.

13 Why do I need to have a server farm in
14 order to facilitate how this operates?

15 A. No, I'm -- I brought the server farms to
16 tell you that server are not only a little piece
17 of -- it's always software that basically riding on
18 lots of hardware.

19 Q. Correct.

20 A. Storage and memory, lot of memory. And in
21 some of the low-capability device, you cannot have
22 them. So --

23 Q. Well, again, if I'm taking the example of
24 a software server like Apache, we're not talking
25 about increasing the price of any hardware here.

1 All you need to do is have a device that's capable
2 of running a piece of software. We're not talking
3 about necessitating --

4 **A. But you need --**

5 Q. -- that the server -- hold on a second.
6 Let's do this one at a time.

7 **A. Yeah. Okay.**

8 Q. Let me try my question again.

9 When we're talking about a piece of
10 software server like Apache, you don't have to
11 increase the price of any hardware or laptop. All
12 you need to do is have a device that's capable of
13 running that software. We're not talking about
14 specific requirements of having to host 100,000
15 users. All I want is a server running Apache --
16 I'm sorry -- an Apache server that is capable of
17 hosting some content. I can do that on my iPhone.
18 Why not?

19 **A. Well, I don't think that they -- you**
20 **probably want to give a better example because I**
21 **don't think that the Apache is a good example.**
22 **It's basically -- it's a web server. It's an HTTP**
23 **server.**

24 Q. Okay. Let me give a better example:
25 Plex.

1 Do you know Plex?

2 **A. Yeah, I have, yeah.**

3 Q. Plex is a video streaming service. Right?

4 **A. Yes.**

5 Q. Okay. You don't have to have any special
6 hardware to run the Plex server. All you need is a
7 computer or computing device capable of running a
8 piece of software. Right?

9 **A. You are basically not give -- you are not**
10 **giving consideration to the computation and the**
11 **sources. I can tell you when we served -- so then,**
12 **basically, you say, "Why do we need servers? Every**
13 **computers can be a server." So --**

14 Q. Sir, that's not my question. Let's take
15 this a part at a time.

16 If we're talking about the Plex video
17 server, okay, it's a simple piece of software that
18 can be installed on my computer that's networked.

19 Now, is that correct?

20 **A. No. Depends what you want to do, how many**
21 **user you want to --**

22 Q. Let's talk about users in a moment.

23 My first question for you is can I install
24 the Plex video server on any computer?

25 **A. The word "any computer" is a -- is not**

1 **good. Because a cell phone is also a computer.**

2 Q. Okay. Let's go back to your example.

3 A. **There are requirements. There are**
4 **requirements that tell you what exactly --**

5 Q. Okay. Can I install --

6 A. **You need lots of --**

7 Q. -- the Plex video -- hold on. The court
8 reporter is not going to be able to take us down.

9 Can I install the Plex video server on a
10 computer that meets Plex's minimum hardware
11 requirements?

12 The answer is yes, because if Plex says
13 you need XYZ, and my computer has XYZ, then I
14 should be able to install the software. Right?

15 A. **If your computer is -- is basically**
16 **satisfying the minimum requirement, you can install**
17 **it there.**

18 Q. Right.

19 Now, your next point is that depending on
20 how many users I would like to host, the hardware
21 requirements may need to be improved. Is that
22 correct?

23 A. **Of course.**

24 Q. Right.

25 A. **You need memory. You need more RAM.**

1 **Yeah.**

2 Q. But if I only want to serve data to one
3 other or two other devices, I don't need a server
4 farm. Right?

5 ATTORNEY KAUFMANN: Objection. Form.

6 **A. Listen. I didn't consider it, and**
7 **definitely Apostolopoulos doesn't talk about that,**
8 **you know.**

9 Q. Well, my question to you is as a PHOSITA.

10 **A. Yes.**

11 Q. Okay, sir. Let's take a break.

12 **A. Okay.**

13 Q. 10 minutes?

14 **A. 10 minutes is good.**

15 THE REPORTER: Off the record at 12:30.

16 (Recess taken from 12:30 p.m.
17 to 12:48 p.m.)

18 THE REPORTER: Back on the record at
19 12:48 p.m.

20 BY ATTORNEY GORYUNOV:

21 Q. Welcome back, Dr. Sharony.

22 During break, did you speak with counsel
23 about the substance of your testimony?

24 **A. No.**

25 ATTORNEY GORYUNOV: All right.

1 Nothing further.

2 ATTORNEY KAUFMANN: You're done, counsel?

3 ATTORNEY GORYUNOV: Passed your witness,
4 to the extent you want it.

5 ATTORNEY KAUFMANN: You know, I guess,
6 then, can we take a short break?

7 I don't think -- I'm not sure that I have
8 any redirect, but let me look at my notes.

9 ATTORNEY GORYUNOV: Off the record.

10 THE REPORTER: Off the record at
11 12:49 p.m.

12 (Recess taken from 12:49 p.m.
13 to 12:55 p.m.)

14 THE REPORTER: Back on the record at
15 12:55 p.m.

16 ATTORNEY KAUFMANN: I have no redirect.

17 ATTORNEY GORYUNOV: I think you have our
18 order on file. Thank you very much.

19 We'll take a rough.

20 THE REPORTER: Okay. Attorney Kaufmann,
21 would you like a rough?

22 ATTORNEY KAUFMANN: Yes, please.

23 THE REPORTER: Okay.

24 (Witness excused and deposition concluded
25 at 12:57 p.m.)

1 J U R A T

2

3 I, Dr. Jacob Sharony, do hereby certify
4 that I have read the foregoing transcript of my
5 testimony and it is an accurate record of said
6 testimony (except for the following corrections
7 listed below):

8	Page/Line	Correction	Reason
9	_____	_____	_____
10	_____	_____	_____
11	_____	_____	_____
12	_____	_____	_____
13	_____	_____	_____

14

15 Date: _____
16 _____
17 _____

18 Dr. Jacob Sharony

19

20 Sworn to and subscribed before me this
21 day of _____, 2024.

22

23 _____

24 Notary Public/Justice of the Peace

25 My commission expires: _____

1 CERTIFICATE OF REPORTER

2
3 I, DEANNA J. DEAN, Registered Diplomate
4 Reporter, Certified Realtime Reporter, and New
5 Hampshire licensed court reporter, the officer
6 before whom the proceedings were taken, do hereby
7 certify that the foregoing transcript is a true and
8 accurate record of these proceedings; that said
9 proceedings were taken in Stenotype note by me on
10 the September 6, 2024, commencing at 10:03 a.m. and
11 ending at 12:57 p.m.

12 I further certify that present on behalf of
13 Party Cisco Systems Inc. were Eugene Goryunov and
14 Brett Bostrom of Haynes and Boone LLP, and on
15 behalf of Party Video Solutions Pte. Ltd. were Adam
16 M. Kaufmann and Chris Hoff of Barnes & Thornburg
17 LLP.

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

22 Dated this 12th day of September 2024 at
23 Hillsborough County in the State of New Hampshire.

24
25 



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