

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

Case: IPR2025-01307

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SAMSUNG ELECTRONICS CO., LTD. AND
SAMSUNG ELECTRONICS AMERICA, INC.

Petitioners

v.

MAXELL, LTD.,
Patent Owner
-----X

DEPOSITION

OF

JOSEPH A. PARADISO

FRIDAY, MARCH 27, 2026

HELD REMOTELY

Reported by:
Candida Borriello
Stenographic Court Reporter
Job No. 7088413-001

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DATE: March 27, 2026

TIME: 10:10 a.m. (Eastern Time)

Deposition of JOSEPH A. PARADISO, held
REMOTELY, before Candida Borriello,
Stenographic Court Reporter and Notary
Public of the State of New York.

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A P P E A R A N C E S:

Appearing on Behalf of Samsung Electronics
Co., Ltd. and Samsung Electronics America,
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1 J. Paradiso

2 THE COURT REPORTER: We're on the
3 record.

4 J O S E P H P A R A D I S O,
5 called as a witness, having been
6 duly sworn by a Notary Public,
7 was examined and testified as
8 follows:

9 EXAMINATION BY

10 MR. STANFORD:

11 Q. Good morning, Dr. Paradiso.

12 A. Good morning.

13 Q. So would you please state your name
14 for the record?

15 A. My name is Joseph Paradiso.

16 Q. Would you please spell that to make
17 sure we have a clear record?

18 A. Sure. P-A-R-A-D-I-S-O. And when I
19 sign, I use my middle initial A.

20 Q. And where are you located right
21 now?

22 A. Right now I'm at the DLA Piper
23 office in Boston, downtown Boston.

24 Q. And are you in a conference room?

25 A. Yes. I'm in a conference room just

1 J. Paradiso

2 by myself with the Zoom facility here.

3 Q. Okay. Do you have any physical
4 documents on the table in front of you or in
5 the room with you?

6 A. Nothing. Just a cup of coffee and
7 a can of water.

8 Q. Any electronic devices?

9 A. No, they're in the other room.

10 Q. Great. And do you have any
11 applications open on your computer, except
12 for obviously the Zoom application that we're
13 using right now?

14 A. I didn't set this up, but it
15 doesn't look like there's anything.

16 Q. Yeah, if you wouldn't mind
17 double-checking, I'd appreciate it.

18 A. Zoom Workplace. Sangwon's mail is
19 up, should I close that?

20 Q. Yes.

21 MR. SUNG: Thank you.

22 I appreciate that.

23 A. Not so much of a Windows guy, but
24 this works.

25 MR. SUNG: Just don't turn it off.

1 J. Paradiso

2 A. Zoom Workplace I will keep. That's
3 it. That's all we got.

4 Q. Great. Thank you.

5 So I know you've been deposed
6 before. About how many times have you been
7 deposed over your career?

8 A. On the order of 30 times probably,
9 something like that.

10 Q. Okay. And I believe the most
11 recent time was just a couple weeks ago; is
12 that right?

13 A. Indeed it was. In this very room,
14 yeah.

15 Q. And I think with one of my
16 colleagues out of the DC office from
17 Mayer Brown.

18 A. Yeah, that was true.

19 Q. And in those approximate 30 cases
20 that you had depositions in before, about
21 what percentage of those were patent related?

22 A. 90 percent, maybe more.

23 Q. And what would be the other
24 10 percent or so?

25 A. Trade secrets, yeah, I think that

1 J. Paradiso

2 was the main exception.

3 Q. And have you served as an expert in
4 cases where you did not give a deposition?

5 A. Yes.

6 Q. So about how many cases total would
7 you say you served as an expert in?

8 A. Oh, you guys have my case list.
9 I think it's current and there might be
10 40 cases there, 50 cases there, something
11 like that. It's a page full of cases.

12 Q. Okay. Great. So since you've been
13 through this a number of times, I won't go
14 through all of the rules, but just a few
15 refreshers from your prior deposition a
16 couple weeks ago.

17 A. Sure.

18 Q. So obviously we're doing this
19 remotely, so we need to make sure that we
20 don't talk over each other so that the court
21 reporter can have a clean record.

22 You understand?

23 A. Yes.

24 Q. So I'll do my best after I ask a
25 question to give you enough time to fully

1 J. Paradiso

2 answer, but if I accidentally cut you off
3 before you finished answering, just please
4 let me know, I'll stop talking and obviously
5 let you finish.

6 A. Sure.

7 Q. Okay. And your attorney may object
8 from time to time, but if he objects, you are
9 still required to answer unless the objection
10 is for privilege.

11 Do you understand?

12 A. Yes.

13 Q. Okay. And we'll try and take a
14 break about every hour or so; is that okay?

15 A. That's good.

16 Q. Okay. And just as a reminder
17 please do not discuss your testimony with
18 your attorney during any of those breaks.

19 A. I won't.

20 Q. Thank you. And is there any reason
21 you can't truthfully and accurately testify
22 here today?

23 A. No, I should be fine.

24 Q. Excellent.

25 How did you prepare for today's

1 J. Paradiso

2 deposition?

3 A. I went over all of the -- well, at
4 least much of the art that's associated with
5 the patent, that was disclosed in my
6 declaration, went over my declaration and
7 discussed with attorneys.

8 Q. About how many hours did you spend
9 preparing?

10 A. Oh, probably on the order of
11 30 hours, 25 hours, something like that.

12 Q. And besides meeting with your
13 attorneys, did you meet with anyone else?

14 A. No, I didn't.

15 Q. Anyone from the petitioner,
16 Samsung?

17 A. No.

18 Q. So when did you first hear about
19 this Inter Partes Review proceeding?

20 A. It's when DLA Piper reached out to
21 me asking me about serving as an expert a
22 year or so ago, it was last spring I think.

23 Q. A little bit of time before the
24 petition was filed; would that be about
25 right?

1 J. Paradiso

2 A. I don't know when the petition was
3 filed, but, you know, it was circa the
4 spring.

5 Q. And you mentioned that you served
6 as an expert in many cases. Have you served
7 as an expert in an inter partes before?

8 A. Yes, I have.

9 Q. About how many times?

10 A. Maybe order of 10, don't know, 15.

11 Q. And from what you can remember were
12 all of those for the petitioner or the patent
13 owner?

14 A. I believe they were petitioner.

15 Q. Okay. Have you -- have you served
16 as an expert for the patent owner in an inter
17 partes before?

18 A. No, I have not.

19 Q. And as I'm sure you're aware, the
20 patent owner in this case is Maxell?

21 A. Yes.

22 Q. And were you familiar with Maxell
23 before being retained for this case?

24 A. Yes, I was.

25 Q. What did you know about them?

1 J. Paradiso

2 A. Well, I go back to the '70s and I
3 remember the recording media that you're
4 famous for, I used Maxell tape, did a lot of
5 recording. And so I know it as physical
6 media company making, you know, physical
7 media.

8 And then I did represent Apple on a
9 case where Maxell was Hitachi Maxell in a
10 case involving portable devices and maps and
11 so on. So those would be the two encounters
12 that I've had with Maxell and just knowing
13 from a kid, the physical media and that. Of
14 course, I don't know if Maxell is a company
15 that makes devices as such that we talk about
16 here. But I do remember the days when you
17 made that great tape.

18 Q. Those were actually -- it wasn't
19 me, this was before my time unfortunately,
20 but I do remember them from when I was a kid.

21 A. I have a lot of it in boxes
22 somewhere at home. Old recordings.

23 Q. All right. Well, I am dropping a
24 document into the chat box.

25 A. Sure.

1 J. Paradiso

2 Q. Which hopefully you can see. Let
3 me know.

4 A. I see it. There it is. I am not a
5 Windows -- I use a MAC all the time so I can
6 deal with it, but it takes me a second to
7 find it.

8 Q. You should be able to click on it
9 and it should open for you.

10 A. It doesn't open in the chat, I
11 think I have to go to Explorer and open it
12 there. The chat just wants to download it --
13 oh, it did. It worked. Good. I have it,
14 yes.

15 Q. And let me know once you get it
16 open.

17 A. I've opened it, it worked.

18 (Exhibit 1003 was introduced.)

19 Q. So do you recognize this document?

20 A. Yes, this looks like my
21 declaration.

22 Q. All right. And is that your
23 signature there on the cover page?

24 A. It is.

25 Q. Let's turn to page 127, this is of

1 J. Paradiso

2 the PDF document. You should see a cover
3 page labeled Appendix A. Let me know when
4 you get there.

5 A. I am there.

6 Q. This appendix is your CV; is that
7 correct?

8 A. Yes, it's my CV as of April 2025.

9 Q. Have there been any changes to your
10 CV since April of 2025?

11 A. Yes.

12 Q. What are those changes?

13 A. The main one is I'm now an IEEE
14 fellow and, you know, there's more awards,
15 there are more papers. There may even be
16 another patent or two. Things like that.
17 And I'm department head now, so here it says
18 I'm acting academic head, I'm now department
19 head.

20 Q. Are you looking at Section 7 on
21 page 129 --

22 A. Yes.

23 Q. -- when you say that?

24 A. Yes, Hive Robotics is actually now
25 Rendezvous Robotics and I still advise them.

1 J. Paradiso

2 So little things like that. They're more
3 theses students, not a whole lot, but there's
4 some stuff like that.

5 Q. Well, congratulations on the
6 promotion.

7 A. Thank you.

8 Q. And as a part of your new role you
9 said as department head as opposed to acting
10 department head, how have your
11 responsibilities changed?

12 A. Well, when I was acting department
13 head, essentially the Media Lab, we have a
14 separate academic end and we have a lab end.
15 The academic end works more with faculty and
16 students in tenure cases and promotions and
17 things like that. And that is what I'm
18 heading up now. So the difference from
19 acting head to head is basically I'm now
20 officially head. Before the real academic
21 head was on sabbatical, I was associate head,
22 I stepped in to fill it. And then when he
23 came back from sabbatical, I went on
24 sabbatical for a year. And then I came back
25 from sabbatical into this position as he's

1 J. Paradiso

2 now associate faculty director of the Media
3 Lab.

4 Q. So your sabbatical, were you
5 working anywhere else or was that for
6 personal reasons?

7 A. I was mainly in my music studio.
8 Is one of the other things I do is design and
9 build electronic music synthesizers for my
10 own use, which I love. And I was doing a lot
11 of that, it was a great time. But, of
12 course, I still ran the research in my group.

13 Q. Well, I guess I have to ask then,
14 so you make your own music?

15 A. Yes.

16 Q. What kind of music?

17 A. Electronic music, ambient music,
18 soundscapes. I have to deliver a blues piece
19 to a compilation album next month. But I
20 build my own synthesizers, I have a unique
21 system, no one else has one like I have
22 because I designed and built it over
23 50 years.

24 Q. Wow. So I won't be hearing your
25 music at any EDM festivals any time soon?

1 J. Paradiso

2 A. I don't really do EDMs so much,
3 more New Age kind of dreamy stuff, but it's
4 been used as soundtracks for Venice Biennale
5 last year.

6 (Court reporter clarification.)

7 A. An exhibition at the Venice
8 Biennale on space habitats. One of the
9 astronauts at NASA wants me to score his
10 videos he shot on orbit. It fits that kind
11 of vibe very well. So if you search me,
12 you'll see my music stuff as well as all my
13 engineering activities.

14 Q. I did google you before coming
15 here, I did not click on any of your music
16 yet, but you have me curious now, so I may do
17 that after this deposition.

18 A. I hope you enjoy it. Thank you.

19 Q. All right. So maybe back to the
20 more relevant issues at hand here.

21 So now that you are back from your
22 sabbatical, you said you are now department
23 head; is that correct?

24 A. That's correct.

25 Q. And that is of the media arts and

1 J. Paradiso

2 sciences department; is that right?

3 A. That's correct.

4 Q. And is that department a part of
5 like a school of science or a school of a
6 particular subject matter --

7 A. Well --

8 Q. -- within MIT?

9 A. It's the academy unit of the MIT
10 Media Lab. Are you familiar with the MIT
11 Media Lab?

12 Q. By name.

13 A. It is a laboratory at MIT that's
14 set up to kind of explore the future of
15 technology and how it hits people. So, you
16 know, as I said in my declaration, we
17 pioneered lots of things. I was actually one
18 of the reasons why I became an IEEE fellow
19 was because I was a pioneer in wearable
20 sensing, energy harvesting for wearable
21 systems, intranet of things, applications,
22 wireless sensing, wireless systems.

23 Media Lab is very, very active in
24 these things when they began. We like to
25 start fields and we're very well known for

1 J. Paradiso

2 that. We live in the department of
3 architecture historically because our
4 founding director, Nicholas Negroponte, came
5 from that department, but it gives us freedom
6 to really explore what we want to and build
7 very deep technical expertise around it too.

8 Q. And I believe from your resumé I
9 saw that media labs started -- well, where
10 did Media Lab start first?

11 A. I believe 1984 we started.

12 Q. And as the academic head of the
13 media and art sciences, are you the head of
14 Media Lab?

15 A. No, the head of the Media Lab would
16 be, right now, Jessica Rosenworcel who is
17 running the lab, her along with my colleague
18 Todd Machover. I am heading the academic
19 part in this role, so faculty promotions,
20 faculty hiring, student affairs, classes,
21 everything that has to do with an academic
22 part of the Media Lab.

23 Q. So you teach classes as well?

24 A. Oh, yes.

25 Q. What's your -- what classes do you

1 J. Paradiso

2 currently teach?

3 A. Right now I'm teaching class on
4 music controllers which is about all
5 different kinds of interfaces for controlling
6 music of different sorts including wireless
7 controllers and things that -- built many of
8 them over my span at the Media Lab. I have
9 taught classes on sensor -- actually landmark
10 class on sensors I taught for many years and
11 sensor technology. I just gave that to one
12 of my alums to carry forward after teaching
13 it for over 20 years.

14 And I teach, sometimes, special
15 classes. I taught a class on cross-reality
16 just a few years ago. I was one of the
17 pioneers in that too with intranet of things
18 and VR coming together, so we put together a
19 great class on that. So this is some
20 examples of what I teach.

21 Q. And I saw from your resumé you are
22 listed as the co-director of Media Lab for
23 about 14 years; is that right?

24 A. Co-director of the Things That
25 Think Consortium. I believe that's what

1 J. Paradiso

2 you're talking about. And that was -- Media
3 Lab is funded, at least has been
4 traditionally funded by larger consortia of
5 mainly industrial members. And Things That
6 Think is essentially our consortia set up to
7 look at the intranet of things.

8 Q. Can you give me some examples of
9 some of the industrial members that provide
10 funding to begin with?

11 A. Oh, there are many, depends on the
12 epic you're talking about. So now for
13 instance I was just in China last week to
14 give a talk at DeRUCCI, which is a mattress
15 company, because they're interested in smart
16 mattresses and I have a large project in my
17 group on sensei fibers, which is a sensor
18 network on a fiber you can start to weave
19 into pillows and so on.

20 We have -- oh, geez, many other
21 members, HP I believe are a member, Samsung
22 of course are a member. I have to look on
23 the website, but there's so many members.
24 We've got probably 40 members now, and we had
25 been up to 90 in the past. It fluctuates.

1 J. Paradiso

2 Q. So you mentioned Samsung was one of
3 your funding members?

4 A. Yes, at the Media Lab they are.
5 They have not funded my group explicitly, but
6 they have been members of the Media Lab.

7 Q. And when you say your group, do you
8 mean your group within Media Lab?

9 A. Yes, Responsive Environments Group,
10 that's my research group.

11 Q. And are they still a funding member
12 of Media Lab?

13 A. Yes, I believe so.

14 Q. If you turn to page -- it's gonna
15 be 129 of Exhibit 1003, which is your
16 declaration, there is a section there
17 Section 8 titled Consulting Record?

18 A. Yes.

19 Q. You see that?

20 A. I see it.

21 Q. And looking here, if I'm
22 understanding the list correctly, you have
23 been consulting since the beginning of 1978;
24 is that right?

25 A. That's probably true, yeah.

1 J. Paradiso

2 Q. And then it appears based on the
3 parentheticals you provided after each of the
4 organizations on this list, you started
5 serving as a technical expert around 2014; is
6 that right?

7 A. Yeah, that looks like it's true.

8 Q. And when you say technical expert
9 report, are you talking about a technical
10 expert in a legal case such as a patent
11 infringement case?

12 A. Yes, most of them have been that.

13 Q. Or I guess patent validity case as
14 well, we're in an inter partes review.

15 A. Yes.

16 Q. And looking around the start of
17 your consulting, it looks like your first
18 time working as a technical expert was
19 March 2014 for -- excuse me if I
20 mispronounce, but Durie Tangri?

21 A. Yes.

22 Q. That's a law firm, right?

23 A. Yeah. They are now part of MoFo.
24 But they're a small independent firm in
25 San Francisco then.

1 J. Paradiso

2 Q. Just before that on the list, we're
3 on page 130 here you state, Samsung
4 Electronics, and then in parentheses Samsung
5 Research Funding and Incubation Center for
6 Future Technology, in brackets, SRFIC expert
7 reviewer.

8 A. Yes.

9 Q. You see that?

10 A. I do.

11 Q. And that was on your CV listed from
12 February of 2014 through present; is that
13 right?

14 A. Well, I haven't reviewed any. This
15 is for reviewing research proposals for them.
16 They have an arm that actually solicits
17 proposals from academics to do projects and
18 they've had me review proposals. I haven't
19 reviewed a proposal for them in over a year
20 now, probably two years. But, you know, once
21 in a while, they'll just approach me and say,
22 we got this proposal, can you evaluate it.

23 Q. Can you tell me a little bit more
24 about your role in reviewing proposals for
25 Samsung Electronics?

1 J. Paradiso

2 A. Oh, they send -- it's like an NSF
3 proposal. Basically you have a 16-page, more
4 or less, proposal coming from a group of
5 academics. They have, you know, academics
6 and researchers, that they reach out to that
7 are external Samsung, ask them to review the
8 proposal and I do and send my review back.

9 Q. What kind of subject matter are
10 these proposals?

11 A. They tend to be about different
12 kinds of wireless sensing, interfacing sensor
13 networks, network environments, things like
14 this.

15 Q. And what kind of feedback are you
16 providing about these proposals?

17 A. Oh, I'm rating the proposal in
18 terms of innovation, in terms of
19 practicality, in terms of just technical
20 merit basically.

21 Q. And as a result of your -- excuse
22 me, rephrase that.

23 What is the result of your -- would
24 it be correct to say recommendation, would
25 that be the right --

1 J. Paradiso

2 A. Yes.

3 Q. -- term to use?

4 A. Yes.

5 Q. What would be the result of your
6 recommendation back to Samsung?

7 A. I believe they present my input at
8 whatever form they have in Samsung to decide
9 on whether they fund this proposal or not and
10 they have other reviewers, of course, that
11 will weigh in and then they make a decision.
12 So it's just input that goes into that
13 process.

14 Q. And how did you start this role as
15 being a reviewer for Samsung?

16 A. They just reach out to me because
17 they know I'm an IoT expert and I do this
18 kind of work.

19 Q. Was it because you had a prior
20 relationship with them, they reached out to
21 you because of that relationship?

22 A. No, I don't think so. I think they
23 just knew I did this work and I'm, you know,
24 people know about me, so they found me.

25 Q. Do you receive compensation for

1 J. Paradiso

2 being a reviewer?

3 A. Yes, I receive compensation for
4 each proposal.

5 Q. And that comes from Samsung
6 Electronics?

7 A. No, it comes from SRFIC which
8 is ---

9 (Court Reporter clarification.)

10 A. -- in the Samsung chain somewhere.

11 Q. I also see, looking still at your
12 consulting record here, more recently -- this
13 was on page 129, the third item down on the
14 list in your consulting record says Samsung
15 electronics (Nextech UX Global expert panel).

16 A. Yes.

17 Q. From -- in 2025.

18 A. Yes.

19 Q. What was the Nextech UX Global
20 expert panel?

21 A. That was a team of experts on the
22 future -- team of futurists basically that
23 Samsung put together and convened in New York
24 just to answer questions and talk about the
25 future and how we're going to be doing things

1 J. Paradiso

2 in the next, you know, 5, 10, 20, 30, years.

3 Q. The future, that sounds pretty
4 broad. Was there any sort of particular
5 subject matter that you all discussed?

6 A. It was very broad, it was, of
7 course, all about technology in the future.
8 But it was just how are people going to be
9 doing things in the future and what role
10 would technology have, more or less.

11 Q. Can you give me an example of
12 something you discussed?

13 (Cross-talk.)

14 THE COURT REPORTER: You're
15 speaking at the same time.

16 THE WITNESS: I'm sorry about
17 that.

18 A. To answer your question, it was
19 confidential. Very broadly, again, we're
20 just talking -- we're not talking about
21 Samsung products, we're just talking about
22 what we thought the future would be like in
23 many different scenarios. And it was me and
24 several other well-known futurists actually
25 that were there.

1 J. Paradiso

2 Q. And during your time as a
3 consultant through these various periods we
4 just discussed, you have continued to work at
5 MIT that whole time; is that right?

6 A. Yes.

7 Q. And have you worked continuously at
8 MIT since you started there?

9 A. I've been at MIT in different roles
10 for a long time. I was with Draper Lab
11 earlier, which is not really MIT, but it's
12 affiliated in some level. And then I was a
13 grad student in the physics department for
14 four years. And then I was back at Draper
15 Lab after ETH in Zurich, I was there for a
16 decade, again not really MIT, but it's in the
17 family. And then I joined the Media Lab in
18 '94. So since I've been at the Media Lab,
19 yes, I've been there continuously.

20 Q. And I believe you mentioned earlier
21 that one of the area -- technology areas that
22 Media Lab researches is networks, a network
23 communications; is that right?

24 A. Yes.

25 Q. And so that would include wireless

1 J. Paradiso

2 local area networks too; is that right?

3 A. Yes.

4 Q. Off the top of your head if you can
5 remember, can you give me an example of one
6 of the projects that you've worked on at
7 Media Lab that related to wireless local area
8 networks?

9 A. Oh, we build wireless sensors of
10 all kinds that basically form networks and
11 communicate back at different levels to
12 servers or other architectures. Maybe one
13 example is the Tidmarsh project where we
14 developed a bunch of sensors that we put in a
15 cranberry bog in Plymouth, Mass. here, over a
16 hundred of them. And we built a whole
17 network architecture for that.

18 So it's a low-power network talking
19 to a gateway. The gateway was directional
20 Wi-Fi that talked to a base station that was
21 connected to a head end and with some data
22 through cable down an intranet through a
23 server at MIT. So that's one example.

24 We've done lots of wearable sensors
25 that communicate to gateways and, you know,

1 J. Paradiso

2 stream the data, store the data at different
3 levels. Right now we have sensors on
4 animals. We're working with National
5 Geographic Explorers, so there are wearables
6 for animals. We got them on hyenas and lions
7 in Africa. We got them on goats in Chile.
8 And that data is run through LoRa now
9 actually.

10 (Court Reporter clarification.)

11 A. Through LoRa, L-O-R-A, and it's
12 going to a gateway to servers that we have.

13 Q. You're making my job sound very
14 boring comparison to yours.

15 A. We're fortunate. Actually we do
16 have a little rover on the moon too that was
17 going to be transferring back to us, the
18 world's smallest rover. I've done space work
19 at different parts of my life when I was at
20 Draper. Now we have a space relationship
21 with the Media Lab I've been working with
22 too.

23 Unfortunately, it was an IM-2 and
24 when it landed, it fell over again, so we
25 couldn't power it up to get data back. But

1 J. Paradiso

2 yeah, we would've been able to stream data
3 right from the moon to MIT.

4 Q. Very cool.

5 And just for the court reporter's
6 sake, the first example you gave, I believe
7 you said Tidmarsh; is that correct?

8 A. It's now a nature preserve. It was
9 a cranberry farm. It was by one of the lab's
10 founding members and when she retired, she
11 basically had a whole project of trying to do
12 weapons research together with converting us
13 into a preserve from a cranberry farm. So to
14 monitor that process, we put over 100 sensors
15 out there, over a 100, different kinds. And
16 you can find this, Tidmarsh, little -- you'll
17 see it. Living Observatory is another term
18 for it.

19 Q. How do you spell that?

20 A. T-I-D-M-A-R-S-H.

21 Q. So let's back up just a little bit.

22 What is a wireless local area
23 network?

24 A. It's a network that lets wireless
25 devices connect to an access point, sometimes

1 J. Paradiso

2 they can connect to each other, peer-to-peer,
3 but you get, essentially, information coming
4 from wireless devices into a network and run
5 it out.

6 Q. Can that be any type of wireless
7 device?

8 A. Yes, it can be, there are different
9 classes. You have, of course, Wi-Fi where
10 you do internet or wireless. Then you have
11 other protocols like LoRa where you exchange
12 data in a more restrictive way. I believe
13 these are all wireless local area networks.

14 Q. What is LoRa?

15 A. LoRa is network that is
16 relatively --

17 (Court Reporter clarification.)

18 A. Lower bandwidth especially compared
19 to Wi-Fi, but it is lower power and longer
20 range. It's a network that's become quite
21 well known in recent -- in recent years.

22 Q. Are there any particular devices
23 that are required to be part of a wireless
24 local area network?

25 A. I don't know what you mean by that.

1 J. Paradiso

2 Q. In order to form a wireless local
3 area network, you said that you have wireless
4 devices that are connecting and communicating
5 with each other; is that right?

6 A. Yes.

7 Q. In order to form that network, is
8 there any particular type of device that must
9 be one of those wireless devices in order for
10 it to be -- in order for the network to be
11 considered a wireless local area network?

12 A. Well, you need -- you have to look
13 at the layer, these networks have transport
14 layers and they have different parts; a
15 physical layer, which typically is the
16 transceiver, so it's the radio, and any logic
17 they may have around the radio.

18 And then there's typically a MAC
19 layer, media access layer. Then you have an
20 application layer on top of that. It's
21 typically what you have in a wireless
22 network.

23 Q. And wireless networks are generally
24 governed by standards; is that correct?

25 A. Yes.

1 J. Paradiso

2 Q. Can you give me a couple examples
3 of some standards that would apply to
4 wireless local area networks?

5 A. We know Wi-Fi, of course.
6 I mentioned LoRa. If a low power end,
7 there's also Zigbee. There's -- used to be
8 WiMAX. I mean, there are many names. Hard
9 to remember them all sitting here.

10 Q. No, that's okay. So let's --

11 A. Also LTE, but that's a whole other
12 can of worms.

13 Q. So let's move on to your
14 declaration. Let's scroll back up to the top
15 here.

16 So can you describe for me your
17 drafting process for your declaration?

18 A. Yes. Let me try to scroll up to
19 the top and do it in such a way that it
20 doesn't keep popping up the menu. That's
21 better.

22 I discuss with attorneys.
23 I examine some art. I suggested some things
24 that were happening at the time that could be
25 relevant. I wrote bits of it. You know,

1 J. Paradiso

2 they provided text, and we went back and
3 forth. And I edited and evolved it into the
4 declaration.

5 Q. Did you write the first draft of
6 the declaration?

7 A. I wrote pieces of it. I didn't
8 necessarily write all of it, but I wrote
9 pieces of it. And anything else I didn't
10 write, I was all over, edited it. These are
11 my opinions in the declaration.

12 Q. About how many hours would you say
13 you spent reviewing materials and drafting
14 your report?

15 A. Oh, probably between 40 and 100,
16 50 and 100 hours I would guess anyway.

17 Q. And you mentioned you -- what kind
18 of materials did you consider when preparing
19 your report -- excuse me, your declaration?

20 A. I believe most of them are
21 summarized here. So there's the prior art,
22 like Iwami, Kim, Weiser, Kato, Liansky,
23 Dowling and that's mainly it. There were a
24 few other patents that I looked at. I don't
25 remember exactly.

1 J. Paradiso

2 Q. Did you look at anything else
3 besides those six references just listed?

4 A. Yeah, I believe I did, but I don't
5 remember exactly what they were. And, of
6 course, my experience as a POSITA went deeply
7 into this too.

8 Q. Would it be fair to say that
9 whatever you did rely on is what is listed
10 on -- let's go to page 23 of your
11 declaration.

12 A. Let me go there.

13 Q. Which is paragraph 50.

14 A. Sorry, I was looking at page 23 of
15 the PDF. So on page 23, you're looking at
16 paragraph 50, so that's Other Materials
17 Relied On; is that correct?

18 Q. Correct.

19 A. Can you repeat your question?

20 Q. Sure.

21 Besides the references that you
22 listed which you consider or you discuss in
23 your declaration, anything else you relied
24 upon would be included within what is
25 described in paragraph 50; is that right?

1 J. Paradiso

2 A. That's right.

3 Q. If you would, could you turn to
4 paragraph 54, which is at the bottom of
5 page 40 of the PDF or 40 of your declaration?

6 A. Yes.

7 Q. And there's a heading there, it's
8 B, Person of Ordinary Skill in the Art.

9 Do you see that?

10 A. I do, yep.

11 Q. Is what is described in
12 paragraph 54 your understanding of what the
13 qualifications a person of ordinary skill in
14 the art would have as it relates to the
15 patent at issue here, which is the
16 '088 patent?

17 A. Yes, it is.

18 Q. And when I refer to the
19 '088 patent, do you understand I'm referring
20 to U.S. Patent number 11026088?

21 A. Yes, I do.

22 Q. Is it okay if I continue to say
23 '088 patent to help us make this more brief?

24 A. That's fine.

25 Q. What is your basis for your opinion

1 J. Paradiso

2 that a person of ordinary skill would have,
3 and I'll quote from paragraph 54 here:

4 A bachelor's degree in electrical
5 or computer engineering or a comparable field
6 of study, plus approximately two to
7 three years of professional experience with
8 wireless LAN communications systems and
9 distribution of information over the same, or
10 other relevant industry experience.

11 A. 'Cause I think that's relevant to
12 what the patent discusses. It's in the
13 domain of computer science, computer
14 engineering EE, so you would expect a
15 bachelor's degree or the equivalent and
16 professional experience in the area of a
17 domain, which again is a wireless LAN
18 communication systems and distribution of
19 information is something that I would want to
20 see as well.

21 Q. And what did you rely on in coming
22 to that conclusion?

23 A. Just reading the patent. My
24 experience knowing I got many students that
25 would be qualified as POSITAs for this. So,

1 J. Paradiso

2 you know, I know what it takes to build
3 systems of this sort 'cause we've done it.

4 Q. So you would consider yourself to
5 satisfy this definition of a POSITA?

6 A. Yes, I would.

7 Q. Can you give me some examples of
8 what a comparable field of study would be
9 that would satisfy a person of ordinary skill
10 in the art?

11 A. Computer science I would put down.
12 It says computer engineering. So that I
13 would add. Network systems, but that's again
14 in electrical and computer engineering, so
15 that's there. Some of this involves media,
16 especially in the patent, media transfer.
17 But those are all protocols that are coming
18 out of electrical and computer engineering,
19 so that fits. Certainly at the Media Lab we
20 have -- we've done a lot, a lot of work in
21 this area. So -- but our students tend to be
22 EECS or have experience there.

23 So yeah, we don't offer a
24 bachelor's degree, so we offer a master's and
25 Ph.D. But yeah, I would say this talks about

1 J. Paradiso

2 the domain and, you know, networking and
3 computer science would be, you know, project
4 onto it.

5 Q. Would physics also be another
6 comparable degree?

7 A. I would say yes, 'cause in physics
8 you have to do a lot of these things,
9 especially if you do experimental physics, so
10 it very well could be. I have a bachelor's
11 in electrical engineering and physics. But
12 I'm very well acquainted with physics having
13 done my Ph.D. in the field and many
14 physicists could be POSITAs for this.
15 Depends on the experience they had doing
16 physics.

17 Q. Understood.

18 I think this is a good time then to
19 turn to the '088 patent, so I just dropped a
20 copy of it into the chat.

21 MR. STANFORD: And for the record,
22 that's Exhibit 1001.

23 (Exhibit 1001 was introduced.)

24 A. I see it here, I'll download it
25 first.

1 J. Paradiso

2 Q. Are you ready?

3 A. Yeah.

4 Q. Okay. What is your overall
5 understanding of what the '088 patent is
6 describing?

7 A. I believe I summarized it very well
8 in my -- in my declaration, so let me go
9 there first. Okay. I summarize it in
10 paragraph 16, but essentially the '088 patent
11 talks about a wireless LAN communication
12 system that deals with situation when you
13 have a user inside our company who has access
14 to the device or to the network and you have
15 a visitor or somebody outside the
16 organization and the internal user wants
17 to -- would like to be able to give them
18 temporary access to the system, again while
19 ensuring security as it says in the patent.
20 So they authorize them to access the network
21 such that they can connect in the example
22 they give in the patent to a projector and
23 give a presentation, using the projector
24 that's internal to the company.

25 Q. So would you agree the '088 patent

1 J. Paradiso

2 is providing two aspects for its solution?

3 It's providing temporary access to the system
4 as one, and ensuring security as the other
5 sort of general feature or solution; would
6 that be fair to say?

7 MR. SUNG: Objection to form.

8 A. It provides temporary access and it
9 ensures security at least in terms of you
10 have to be authorized to use the network that
11 connects to the projector or the display
12 device so that is true. The patent itself is
13 tilted really toward this application of
14 sharing the projector facility, but to do it
15 they have this system here.

16 Q. In your summary of the '088 patent,
17 you were just mentioning that the situation
18 in which this patent provides deals with a
19 user that's internal to a company and a user
20 or users' device that's external to a company
21 and allowing that external user temporary
22 access.

23 Is that a fair summary of what you
24 described?

25 A. I don't know if user's device is

1 J. Paradiso

2 external to the company. The user is
3 somebody who basically wants to use a shared
4 facility and the example they give in the
5 patent is that they allow that person to
6 connect.

7 Q. That person being -- I'm sorry.

8 A. Yeah, to the projector. They don't
9 say it's the company's device that they
10 connect with or it's their device, but they
11 have another device that can be authorized by
12 the internal device. So they can use the
13 projection system.

14 Q. So the internal device authorizes
15 the external device?

16 A. The internal device authorizes the
17 device that the external person has, or that
18 the visitor has.

19 Q. And what's your understanding of
20 the problem that the '088 patent is
21 attempting to solve in the conventional
22 technology?

23 A. Let me read through the part where
24 I describe it so I stay consistent and then
25 I'll come back.

1 J. Paradiso

2 (Document review.)

3 Okay. Can you repeat your
4 question?

5 Q. Sure.

6 What's your understanding of the
7 problem that the '088 patent is attempting to
8 solve?

9 A. The '088 patent, it's in
10 paragraph 17 of my declaration, it states,
11 essentially what I said, that somebody
12 outside an organization, for example, would
13 be invited to connect their terminal to the
14 wireless communication system for the
15 presentation, right, that's the example they
16 give.

17 And you can have a security problem
18 if external user just accesses the network
19 later, after the temporary access is granted,
20 or just accesses it without authorization.
21 So they offer solution where a user within
22 the organization, an authorized user, can
23 grant temporary access to the user to the
24 network so they can show their presentation.

25 Q. So the authorized user within the

1 J. Paradiso

2 network grants access to the external user to
3 temporarily, say, project the presentation on
4 the projector?

5 A. That appears to be what the patent
6 describes.

7 Q. And could we think of it as a
8 hierarchy where we have the trust, we'll call
9 it, from the projector to the internal user
10 and then because of that trust if the
11 internal user trusts the external user, it
12 will grant a temporary access to be able to
13 use the projector?

14 A. I don't know if I talk about it in
15 terms of trust. Essentially the patent talks
16 about the device that internal user has the
17 control device is able to allow the
18 third-party to access the connection to the
19 projector, connection to the network that
20 talks to the projector. I don't know if I
21 read trust into it as much as it's an action
22 of allowing us to connect.

23 Q. Would "permission" be a better word
24 than trust?

25 A. I think they're allowing this

1 J. Paradiso

2 person to connect. Permission is one of the
3 words the patent uses and also the prior art
4 uses that word as well. But essentially
5 they're creating an environment where they --
6 the user will be able to connect to the
7 projector. So the user will connect. The
8 projector itself authorizes the user, I
9 believe.

10 Q. And what's your understanding of
11 how the patent provides temporary access?

12 A. The patent enables the terminal
13 that the internal user has. Let me see here,
14 that would be user A in the diagram. It
15 allows that user, I believe, to also
16 terminate the connection as well.

17 Q. When you say "diagram," are you
18 referring to Figure 1 of the '088 patent?

19 A. Yes.

20 Q. So looking at Figure 1, can you
21 walk me through your understanding of how
22 access would be granted to the external user
23 or as Figure 1 says user B of company B
24 outside company A?

25 A. Okay. Let me read through my

1 J. Paradiso

2 declaration, first. One minute here.

3 (Document review.)

4 Can you repeat your question?

5 Q. Sure.

6 Looking at Figure 1 of the
7 '088 patent, what is your understanding of
8 how access is granted to the user outside of
9 company A, which in Figure 1 is labeled I
10 believe as reference number 2?

11 A. I believe Figure 2 describes that
12 of the '088 patent where user A is -- let
13 me -- yeah, user A is internal to the
14 company, or the authorized user. The user in
15 control. And user B is the person who's
16 coming in and participating and user A --
17 user B -- sorry, user A authorizes user B to
18 connect to the projector and use the display.
19 And then user A can also terminate the
20 permission. It's at the right of the figure.
21 And then user B is disconnected from the
22 projector.

23 Q. And you're looking at Figure 2 of
24 the '088 patent?

25 A. Yes.

1 J. Paradiso

2 Q. Looking at Figure 2, the permission
3 given from terminal one, which is operated by
4 user A, that's the arrow indicated as 2 --
5 201; is that right?

6 A. Yes.

7 Q. And then following that arrow into
8 Box 221, it provides user B with connection
9 between terminal 2, which I believe is its
10 terminal correct, user B's terminal?

11 A. Yes, it is.

12 Q. It allows user B's terminal 2 to
13 connect to projector 3; is that right?

14 A. Yes.

15 Q. And then going from left to right,
16 we see that in Box 222, use of the display
17 function 31 of projector 3 by terminal 2 with
18 connection 42 established; is that right?

19 A. That's correct.

20 Q. So Box 222 is saying that now that
21 the user -- now that user B has been granted
22 access to connect to the projector, it can
23 then display content on the projector; is
24 that right?

25 A. That's what I would assume, yes.

1 J. Paradiso

2 Q. Okay. Then you also mentioned
3 there can be that user A can terminate
4 permission, and I believe you're referring to
5 the arrow 202; is that right?

6 A. Yes.

7 Q. And that would be terminating the
8 connection between user B's terminal and the
9 projector; is that right?

10 A. Yes.

11 Q. That's what's stated in Box 223,
12 right?

13 A. It is.

14 Q. So looking at this figure, would it
15 be fair to say that user A's terminal which
16 is terminal 1, controls both granting access
17 and terminating access of terminal 2 to the
18 projector?

19 A. In this scenario, user A is
20 terminal, grants access to user B to the
21 projector and does terminate access as well.

22 Q. I believe we've been going for
23 about an hour now if I'm timing correct from
24 when we started, so would you like to take a
25 ten-minute break?

1 J. Paradiso

2 A. That should be helpful, thank you.

3 THE COURT REPORTER: We're off the
4 record.

5 (Off the record.)

6 THE COURT REPORTER: We're back on
7 the record.

8 BY MR. STANFORD:

9 Q. Okay, Dr. Paradiso. So let's move
10 on to the claims of the '088 patent.

11 A. Sure.

12 Q. So if you would navigate your way
13 to Column 27 of the '088 patent, which is the
14 start of the claims and let me know when
15 you're there.

16 A. Yes, I'm there.

17 Q. And Claim 1 starts around Column 27
18 line, I think it's 54.

19 A. Yes.

20 Q. Claim 1 begins with a communication
21 system comprising, and then lists various
22 devices and terminals and other limitations;
23 is that correct?

24 A. Yes, that's correct.

25 Q. So let's walk through Claim 1 just

1 J. Paradiso

2 to make sure, you know, we're all on the same
3 page.

4 Claim 1 recites, a communication
5 system comprising a communication device.

6 Do you see that?

7 A. I do see it.

8 Q. What is your understanding of a
9 communication device?

10 A. It's a device that can communicate.

11 Q. Is there any particular manner in
12 which it's required to communicate?

13 A. I don't believe this claim says
14 specifically how it communicates.

15 Q. Could it be communicating
16 wirelessly?

17 A. It could be, yes.

18 Q. And the claim doesn't require a
19 specific type of communication, correct?

20 A. I don't believe it does, no.

21 Q. Does the claim require any use for
22 any particular structure for the
23 communication device?

24 A. It doesn't talk about a structure.
25 I believe it may have it in a diagram

1 J. Paradiso

2 somewhere, but the claim itself says nothing.

3 Q. To your understanding though, a
4 communication device is just simply some type
5 of device that can communicate with, for
6 example, other devices?

7 A. Yes.

8 Q. So the next going down to the next
9 line in Claim 1 the claim states an access
10 point device.

11 Do you see that?

12 A. Yes, I do.

13 Q. What is your understanding of this
14 claim element?

15 A. That's plain and ordinary meaning
16 and I believe in my declaration I cite to a
17 common definition of access point. It --

18 Q. How about we go over to that
19 definition?

20 A. Yeah, I'm doing that --

21 Q. Which I believe is paragraph 52
22 starts on page 23 of the declaration or
23 page 39 of the PDF.

24 A. Yep. It's a access point, for
25 example, in a wireless LAN network. It's a

1 J. Paradiso

2 transceiver. It connects the LAN to a wired
3 network. Network device that connects a
4 wireless radio network to wire LAN local area
5 network. And these are consistent with what
6 I would think it would be.

7 Q. So.

8 Let's break that down a little bit.
9 You first said that access point device is --
10 just has its plain and ordinary meaning?

11 And by that, do you mean that one
12 of ordinary skill in the art, such as
13 yourself, would understand the meaning of
14 this term just by reading the words on the
15 page, access point device; is that correct?

16 A. If I think of access point, I would
17 think of it as this is described, it's a --
18 it's a -- it's a wireless bridge basically
19 where you go from a wireless network to a
20 wired network to a local network and that's
21 what these definitions say.

22 Q. So if you understand the term from
23 simply reading it, why cite to dictionary
24 definitions in your declaration?

25 A. It's more precise.

1 J. Paradiso

2 Q. Do you believe that one of ordinary
3 skill when reading the claim and seeing the
4 word "access point device" would need to go
5 look to a dictionary to understand its
6 meaning?

7 A. Perhaps not, but the dictionary
8 summarizes it very well.

9 Q. You provide two dictionary
10 definitions in paragraph 52; is that right?

11 A. Yes.

12 Q. One is from the Microsoft Computer
13 Dictionary, 5th Edition from 2002, right?

14 A. Yep.

15 Q. The other is from Newton's Telecom
16 Dictionary, 30th Edition from 2016; is that
17 right?

18 A. Yes.

19 Q. Can an access point device mean
20 something else besides these two definitions
21 that you provided?

22 A. This is what I think an access
23 point would be. Perhaps there could be a
24 wired access point, but I recall that wire
25 network switch, I don't know if that's the

1 J. Paradiso

2 word one would use.

3 Q. Could there be other definitions
4 that would also capture the meaning of access
5 point device, to your understanding?

6 A. Very well possible, but these
7 definitions are what made sense to me.

8 Q. You mentioned that another example
9 could be that -- make sure I get it right
10 here, that you have a network switch or a
11 wired access point device; is that correct?

12 A. I don't know if I'd call that an
13 access point, I'd have to really review the
14 nomenclature. Generally you think of an
15 access point, you think of wireless access
16 point like this or, you know, could be a
17 network switch, maybe at least the function
18 of it could be. But, you know, in this
19 patent I would tend to think of it as a
20 wireless access point like I describe here.

21 Q. And what's the function of a
22 wireless access point?

23 A. It says it very well, it connects
24 the wireless network basically into a wired
25 network so that you can route it using

1 J. Paradiso

2 internet protocol in this case or whatever
3 protocol you use, doesn't have to be internet
4 necessarily, but that's usually what it is.

5 Q. So access point could use different
6 types of protocols other than an internet
7 protocol, correct?

8 A. I don't know if I'd rule that out,
9 but kind of an access point that, you know,
10 we're seeing here is basically going from the
11 wireless protocol to a wired local area
12 network, that's usually internet these days.
13 People build other kinds of networks, we'd
14 call it a bridge probably in that case. But,
15 you know, maybe some people would call it an
16 access point.

17 Q. Can you give me an example of what
18 you call other kinds of networks?

19 A. Oh, I don't know going from
20 Bluetooth to USB.

21 Q. Any other examples that you can
22 think of off the top of your head?

23 A. There could be many, Zigbee to
24 serial port, we've built many of those in the
25 old days. They're different -- and these we

1 J. Paradiso

2 would think of as probably more bridges.

3 Q. Is there a distinction between an
4 access point and a bridge?

5 A. I'd have to think so. It depends
6 on the shade of the application. But these
7 days if I go to buy a wireless access point
8 to my computer store, they're gonna give me
9 basically a wireless LAN interface. So, you
10 know, we all have them and you tend to see it
11 as Wi-Fi to -- to the internet. But, you
12 know, it could be other things.

13 Q. Could wireless access point connect
14 to devices wirelessly?

15 A. Can a wireless access point connect
16 to -- well --

17 (Cross-talk.)

18 Q. Let me ask that a little bit
19 clearly.

20 Could a wireless access point
21 connect to networks wirelessly?

22 A. What do you mean by "to networks?"

23 Q. In your examples you've given, for
24 example, you said it connects a Wi-Fi network
25 to the internet and then those examples

1 J. Paradiso

2 you've specifically called out that there's a
3 wired connection to the internet; is that
4 correct?

5 A. If I were to go to Micro Center and
6 buy an access point, I would buy basically a
7 device that would do that, yes. In the
8 things that we have built, yeah, you may have
9 a system with Zigbee allure or something else
10 that may connect to the internet, may connect
11 to a computer itself, so it depends. I mean
12 it's base station or bridge versus this.
13 There's a whole gray zone in between.

14 Q. So could instead of there being a
15 wired connection, could there be a wireless
16 connection to, for example, the internet?

17 A. I mean, that's what they do. What
18 do you mean by a -- sorry, can you repeat
19 your question?

20 Q. Sure.

21 So let's take a look at one of the
22 definitions you provided in paragraph 52 of
23 your declaration. We'll take a -- let's take
24 a look at the first one. It says:

25 In a wireless LAN, local area

1 J. Paradiso

2 network, a transceiver -- it's defining the
3 access point, a receiver that connects the
4 LAN to a wired network.

5 A. Yeah.

6 Q. So in this example definition, it
7 specifically calls out that it connects the
8 LAN to a wired network.

9 Do you see that?

10 A. Yes, it does.

11 Q. Is there examples of an access
12 point device where an access point device can
13 connect a LAN to a wireless network instead
14 of a wired network?

15 A. You mean going from one wireless
16 network to another?

17 Q. Yes.

18 A. That -- I mean, I don't know if I
19 call that -- I don't know what that would be,
20 it's not the usual access point. That's --
21 and people do that, certainly, but they --
22 they would do it with -- you would think
23 maybe two access points or one access point
24 that can speak multiple protocols. I don't
25 know if it's relevant to this patent.

1 J. Paradiso

2 Q. Okay. I'm just trying to
3 understand sort of the bounds of your
4 understanding of what an access point device
5 is, that's why I ask.

6 A. I mean, the claim itself, you have
7 later claims that actually explicitly call
8 out wireless connections. This one doesn't.
9 So this one may be open to wired connections
10 too.

11 Q. So it could be open to either wired
12 or wireless, it's not -- neither is required
13 by the claim is what you're saying?

14 A. It doesn't seem to be because you
15 do talk about wireless later, so this one is
16 probably broader.

17 Q. Okay. And just to make sure I'm
18 understanding your construction here of the
19 term, you're saying it is plain and ordinary
20 meaning, correct?

21 A. To me it's -- this definition maps
22 what I would think it would be, yes.

23 Q. Would be the plain and ordinary
24 meaning, correct?

25 A. It's close, yeah. If not it,

1 J. Paradiso

2 yeah. And it says it at the end, this is the
3 plain --

4 (Court Reporter clarification.)

5 A. This is the plain meaning to a
6 POSITA in view of the specification of the
7 '088 patent.

8 Q. And is the '088 patent
9 specification providing any special
10 definition of the term access point?

11 A. I don't believe it does.

12 Q. So when you say this is the plain
13 meaning to a POSITA in view of the
14 specification of the '088 patent, you mean
15 that it's the plain and ordinary meaning of
16 the term "access point device," correct?

17 A. Yeah. Looking also -- look, these
18 definitions of access point do map what I
19 assume it would be and reading through the
20 '088 patent and the descriptions that it has
21 of this system, especially the wireless
22 implementation, this would be what I assume
23 it would be as well.

24 Q. Okay. Fair enough.

25 Let's go back to the '088 patent

1 J. Paradiso

2 and look again at Claim 1.

3 A. Sure.

4 Q. So we're back at the bottom of
5 Column 27, let me know when you get there.

6 A. 27, yes, I'm there.

7 Q. So starting at line I believe it's
8 57 of Column 27, it begins with a first
9 communication terminal.

10 You see that?

11 A. I see it.

12 Q. I'll give you a second to just read
13 through this sort of beefy claim element for
14 a moment, but then what -- I'd like to ask
15 you just to give me your general
16 understanding of what this claim element
17 means to you.

18 A. Okay.

19 (Document review.)

20 And let me go back to my
21 declaration as well where I introduce the
22 patent.

23 Q. Sure.

24 A. (Document review.)

25 Okay. Can you repeat your

1 J. Paradiso

2 question?

3 Q. Sure.

4 We're discussing Claim 1 and I
5 believe it's -- it will be in your
6 declaration you refer to it as Element 1C,
7 which is the claim element that starts with a
8 first communication terminal.

9 A. Yes.

10 Q. My question is: What is your
11 understanding of this claim element that's
12 Claim Element 1C?

13 A. That is the terminal that you could
14 think of as the controller terminal and the
15 first communications terminal. That's the
16 device that is internal to the company, for
17 example. And it connects to the
18 communication device, which in this case is
19 the radio of the display. Well, it connects
20 by the access point device here in this
21 claim. And it transmits a command to
22 remotely control the display operation on the
23 communications device connected with the
24 first terminal that I discuss. So you can
25 control a display operation with this -- this

1 J. Paradiso

2 first communication device or this first
3 terminal.

4 Q. If you quickly turn to Figure 7 of
5 the '088 patent, that's on page 9 of the PDF.

6 A. Sure, yep.

7 Q. Figure 7, this is one of the
8 examples provided in the '088 patent. And to
9 your understanding of the Claim Element 1C
10 and Figure 7 here, would you say that
11 terminal 1, which is then labeled under
12 user A, intercompany A, that would be the
13 first communication terminal you were just
14 discussing in Claimant Element 1C?

15 A. Yes, it is.

16 Q. So if I'm understanding Figure 7
17 correctly, terminal 1 communicates with the
18 access point device, which then communicates
19 with the projector device and terminal 1 is
20 able to provide a command to remotely control
21 the presentation of content through -- just
22 control the display by the projector device;
23 is that right?

24 A. It controls something of the
25 display, yes.

1 J. Paradiso

2 Q. And that's what Claim Element 1C is
3 discussing; is that right?

4 A. Yes, it is.

5 Q. So let's jump back to Claim 1.
6 I apologize for bouncing back and forth.

7 A. That's okay.

8 Q. So again we're in Column 27 now.
9 Let me know when you get there.

10 A. I'm there.

11 Q. So around, let's see, at line 62 of
12 Column 27, you have the next claim element
13 which will be 1D is the way you refer to it
14 in your declaration, which is a second
15 communication terminal; is that right?

16 A. Yes.

17 Q. So take your time to quickly
18 refresh your memory on this claim element and
19 then my question will be similar to the last
20 element which is, what is your understanding
21 of the meaning of this Claim Element 1D?

22 A. This discusses the guest terminal,
23 the second terminal, and if the first
24 communications terminal authorizes it or
25 instructs it to establish connection with

1 J. Paradiso

2 communication device, which is in this case
3 the display, it uses the display. So it
4 establishes a connection to use essentially
5 the display.

6 Q. So if you remember from our looking
7 at Figure 7 a moment ago, this could be an --
8 an example of this could be the User B
9 terminal from Figure 7; is that right?

10 A. Yes.

11 Q. Okay. And so Claim Element 1D is
12 saying that if the second communication
13 terminal has permission from the first
14 communication terminal, then the second
15 communication terminal will establish a
16 connection with the communication device to
17 be able to use the communication device,
18 right?

19 A. The first communication terminal is
20 allowing the connection device, so that's
21 what it says.

22 Q. The first communication terminal
23 gives permission to --

24 (Cross-talk.)

25 THE COURT REPORTER: You have to

1 J. Paradiso

2 let him finish.

3 A. The way I would read it is the
4 first communication terminal lets the second
5 communication terminal connect with a
6 communication device.

7 Q. And when you say "lets," do you
8 mean that the first communication terminal
9 gives permission to the second communication
10 terminal to use the communication device?

11 A. Yeah, that would be consistent part
12 of it. It's allowing it to use it or lets it
13 use it, yes.

14 Q. Okay. Let's then look at the next
15 element in Claim 1, which starts on Line 66
16 of Column 27, that's the first wherein
17 clause.

18 A. Yep.

19 Q. If you just take a moment to read
20 through that clause which I believe we're now
21 on Claim Element 1E.

22 A. Sure.

23 Q. And let me know when you're ready
24 and I'll ask you a couple of questions about
25 it?

1 J. Paradiso

2 A. (Document review.)

3 Go ahead.

4 Q. What is your understanding of Claim
5 Element 1E?

6 A. This is describing essentially the
7 second communication device, the guest
8 device, I guess, to obligate it outputs data
9 into the display output after it establishes
10 the connection and the -- so it's talking to
11 the display, the communication device it
12 makes a connection to it and it's sending
13 data evidently and the first communications
14 terminal, the control user is basically --
15 let me read this claim a little more here.

16 (Document review.)

17 It's controlling how to display the
18 data that is coming from the second
19 communications terminal on the display.

20 Q. So the first communication terminal
21 sends a command to the communication device,
22 so, for example, the projector to control how
23 the data from the second communication
24 terminal is displayed, correct?

25 A. Yes, it does.

1 J. Paradiso

2 Q. And it does this while maintaining
3 the connection with the second communication
4 terminal; is that right?

5 A. Yes.

6 Q. And that's what the very last two
7 lines of Element 1E says, right?

8 A. It does say that. One second here.
9 Yes. The communication device is maintaining
10 communication with the second communication
11 terminal.

12 Q. Okay. And finally, the last
13 element of Claim 1, which is a "wherein"
14 clause again that starts:

15 Wherein, the communication device
16 receives communication to terminate.

17 Just give you a moment if you
18 wouldn't mind just refreshing yourself on
19 this element and then again I'll have a
20 couple of questions for you.

21 A. Sure.

22 (Document review.)

23 Yes, go ahead.

24 Q. What is your understanding of this
25 claim element which I believe we are now

1 J. Paradiso

2 referring to as Claim Element 1F?

3 A. Essentially communication device is
4 receiving information to terminate the
5 permission of the first communication.
6 Terminal sends a command to terminate and the
7 communication device setup to terminate the
8 connection with the second communication
9 terminal because terminal in accordance
10 with -- well, there's -- it just terminates
11 the connection from the first -- the first
12 communication terminal basically tells it to
13 terminate the connection.

14 All these steps, by the way, I
15 think match beautifully to an omni, but we'll
16 talk about that later I'm sure.

17 Q. I think we might, yeah.

18 So let's just quickly break that
19 down just to make sure we follow along with
20 you here.

21 A. Okay.

22 Q. So starting at the beginning of
23 Claim Element 1F, the communication device
24 receives information to terminate the
25 permission from the first communication

1 J. Paradiso

2 terminal, correct?

3 A. Yes.

4 Q. So in other words, the first
5 communication terminal is telling the
6 communication device to terminate basically
7 its permission that the second communication
8 device can connect to it?

9 A. It could be just terminating the
10 connection as well, and that would be fine.

11 Q. This part of the claim is just
12 saying that the communication device is
13 receiving information to terminate the
14 permission that was granted to the second
15 communication terminal and it's receiving
16 that from the first communication terminal?

17 A. That's true.

18 MR. SUNG: Objection to form.

19 A. If it terminates the connection,
20 it's also terminating the permission, so I
21 think it's just intrinsic.

22 Q. So are you saying that terminating
23 or receiving -- strike that. Let me start
24 over.

25 Are you saying that receiving

1 J. Paradiso

2 information to terminate permission is the
3 same as terminating a connection?

4 MR. SUNG: Objection to form.

5 A. If you terminate the connection,
6 you basically are revoking the permission at
7 the same time. I mean, it's intrinsic.
8 That's what a POSITA would assume.

9 Q. So we'll take the example of the
10 '088 patent where the communication device
11 say "projector" and then the -- let's just
12 say for example the two communication
13 terminals, the first and second, are two
14 laptops, okay?

15 A. Yes.

16 Q. Okay. So in the context of Claim
17 Element 1F, we're in the situation where both
18 laptops are connected to the projector,
19 right?

20 A. Yes, sure.

21 Q. If the -- what would be a good way
22 to phrase it? The laptop that's associated
23 with the external user is if that connection
24 to the projector is terminated by the
25 projector, you would say that that would be

1 J. Paradiso

2 the same as if the permission for that laptop
3 to connect to the projector was terminated?

4 MR. SUNG: Objection to form.

5 A. I believe if you terminate the
6 connection, you're also revoking permission,
7 so it's following the operation. And of
8 course if you terminate permission to
9 connect, you're going to disconnect, so
10 they're strongly linked.

11 Q. Could there be a situation where
12 the connection is terminated but the device
13 is still allowed to reconnect?

14 A. That doesn't say anything about --
15 the claim doesn't say anything about that.

16 Q. But -- okay. Could there be a
17 situation where the second communication
18 terminal has permission to connect the
19 communication device, but its connection is
20 terminated while its permission to connect
21 remains intact?

22 A. That's covered in later claims, not
23 this one.

24 Q. But it is a possibility then?

25 A. I don't see anything in this claim

1 J. Paradiso

2 that would distinguish that. Yeah, I think
3 if it's -- you know, if you terminate the
4 permission, you disconnect it. If you
5 disconnect it, you terminate the permission.
6 Later claims deal with lists where you can
7 blacklist somebody or white list somebody,
8 whatever they call it. It's not here. So
9 this claim doesn't -- doesn't go that deep.

10 Q. Okay. Is it your understanding
11 that an independent claim is broader than a
12 dependent claim that depends from that
13 independent claim?

14 A. That's true.

15 MR. SUNG: Objection. Form.

16 Q. So based on your explanation just
17 now, if a dependent claim were to allow for
18 continued permission to reconnect, wouldn't
19 the independent claim also allow for that
20 option?

21 A. I don't know if that's a dependent
22 claim. The claim that talks about lists may
23 be in a different chain, I'm not sure.

24 Q. Let's take a step back and look
25 still generally at Claim 1.

1 J. Paradiso

2 Does Claim 1 prohibit the scenario
3 where the second communication terminal still
4 has permission to connect to the
5 communication device, but its connection has
6 been terminated?

7 A. I don't know if it would prohibit
8 it, but there's nothing in here that would
9 suggest the converse. Whereas, if I
10 terminate, it also goes with terminating
11 permission.

12 Q. But again there's nothing in the
13 claim that would prohibit that situation
14 where the second communication terminal still
15 has permission to connect to the
16 communication device even though its
17 connection to the communication device has
18 been terminated?

19 A. Well, if it has permission you have
20 to still authorize it from terminal 1. So in
21 the context of this claim, I don't know if it
22 makes a whole lot of sense, to tell you the
23 truth, because you're talking about one
24 device authorizing the other and then that
25 device kicks that device off. There's no

1 J. Paradiso

2 place in this patent where the second
3 terminal can really do anything, so I think
4 the first communication device has to
5 re-authorize it, it has to start again from
6 scratch. So in this case, I don't think it
7 makes a lot of sense.

8 Q. So in your understanding of
9 Claim 1, once the second communication device
10 is disconnected from the -- excuse me.
11 I misspoke the name of the term there, so let
12 me start over.

13 In your understanding of Claim 1,
14 once the second communication terminal is
15 disconnected from the communication device,
16 it cannot reconnect to the communication
17 device without receiving permission again
18 from the first communication terminal?

19 MR. SUNG: Objection to form.

20 A. To me it looks like you have to,
21 you know -- the -- there's nothing that would
22 suggest that the second terminal can do
23 anything to get back on, except get
24 authorization from the first terminal again.

25 Q. Even if the second communication

1 J. Paradiso

2 terminal doesn't attempt to reconnect, is it
3 possible that the second communication
4 terminal could still have permission to
5 reconnect?

6 MR. SUNG: Objection form.

7 A. I don't know what that would mean.

8 Q. Okay. Let's take a look at
9 Claim 1.

10 So based on what we've talked about
11 so far about Claim 1, the first communication
12 terminal grants permission to the second
13 communication terminal for the second
14 communication terminal to be able to connect
15 to the communication device, correct?

16 A. It lets that terminal connect to
17 the communication device, it authorizes it.

18 Q. Then, if the connection between the
19 second communication terminal and the
20 communication device is severed for any
21 reason, is it your opinion that the
22 permission for the second communication
23 terminal to be connected to the communication
24 device is automatically revoked?

25 A. This --

1 J. Paradiso

2 THE WITNESS: Sorry. Attorney, go
3 ahead.

4 MR. SUNG: Objection. Form.

5 A. This claim doesn't really say
6 anything about that. It says that the first
7 communication terminal is essentially
8 terminating the permission. So in that case,
9 I would tend to think that you would have to
10 repeat the process, at least looking at what
11 this claim is saying.

12 Q. Okay. So the first communication
13 terminal terminates the permission that's
14 granted to the second communication terminal,
15 right?

16 A. Well, this one is saying that,
17 yeah, it's terminating it and as a result it
18 would be kicked off and you have to go
19 through this process again.

20 Q. And so let's continue walking
21 through this Claim Element 1F. So is it
22 correct to say that what Claim Element 1A is
23 saying, the first communication terminal --
24 the communication device is receiving
25 information from the first communication

1 J. Paradiso

2 terminal to terminate the permission between
3 the -- for the second communication terminal
4 to access the communication device. And then
5 the communication device is terminating the
6 connection with the second communication
7 terminal?

8 A. That's what the claim is saying and
9 I believe the devices that would just
10 terminate the connection would also terminate
11 permission too, in context of this claim.

12 Q. But Claim Element 1F starts with
13 the communication device receiving
14 information to terminate the permission from
15 the first communication terminal, right?

16 A. It does say that, yes.

17 Q. Okay. All right. Let's then very
18 briefly turn to Claim 6 --

19 A. Yes.

20 Q. -- where I believe you also
21 proposed a claim construction of what you
22 referred to as Claim Element 6B.

23 Do you recall that?

24 A. Yes, I do.

25 Q. And do I understand your opinion

1 J. Paradiso

2 correctly when you say "6B," you're referring
3 to the "wherein" clause that starts at the
4 top of Column 29 of the '088 patent?

5 A. Yes.

6 Q. Okay. So let's turn to your
7 declaration at paragraph 53 and let's take a
8 look for a moment at the construction of
9 Element 6B?

10 A. Sure.

11 Q. Let me know when you get there.

12 A. Yeah, I'm there.

13 Q. What is your understanding of claim
14 Element 6B?

15 A. Give me a minute here, please.

16 Q. Sure.

17 A. (Document review.)

18 Can you repeat your question?

19 Q. Sure.

20 What is your understanding of Claim
21 Element 6B?

22 A. I think the last sentence in my
23 paragraph 53 describes it:

24 6B is satisfied if the
25 communication device terminates a connection

1 J. Paradiso
2 with the second communication terminal during
3 a time period of when the communication
4 device is unable to receive any kind of
5 information from the first communication
6 terminal regardless of the type of
7 information that cannot be received.

8 Q. Why do you feel that Claim Element
9 6B needs a construction?

10 A. It doesn't include a requirement
11 for the communication device to terminate the
12 connection with the second communication
13 terminal in response to the communication
14 device being unable to receive information
15 from the first terminal, so I'm just saying
16 that any kind of information qualifies.

17 Q. And why do you believe you needed
18 to provide a construction or an explanation
19 of this term in your declaration?

20 A. I just want to be clear. Let me
21 reread the Claim 1 more time here.

22 Q. Sure. Take your time.

23 A. (Document review.)

24 6B is saying that the communication
25 device is unable to receive information, and

1 J. Paradiso

2 I'm looking at that more broadly where I
3 would assume if it's not able to receive
4 anything or, you know, have any kind of
5 any -- kind of information or any kind of
6 data, then you would terminate the
7 connection. So not just information, it's
8 really looking at the physical connection as
9 well.

10 Q. Let me make sure I understand that.
11 So looking at Element 6B, the language of the
12 claim states:

13 Wherein in a case that the
14 communication device is unable to receive
15 information from the first communication
16 terminal, the second -- the communication
17 device terminates the connection with the
18 second communication terminal, right?

19 A. Yes. And I'm just qualifying to
20 say any kind of information, it's open.

21 Q. You're referring to when the claim
22 says the communication device is unable to
23 receive information from the first
24 communication terminal?

25 A. Yes, it could be a heartbeat,

1 J. Paradiso

2 that's how a POSITA would do it. It's not
3 necessarily in response to something in the
4 protocol that we've been talking about.
5 Generally wireless devices you have a
6 watchdog timer, if you don't hear anything,
7 you can send a keep alive. So this would
8 qualify, I believe, for this claim.

9 Q. Can you explain a little bit about
10 what you mean by it could be a heartbeat? Is
11 that how a POSITA could understand it? I
12 believe that's the term you just used.

13 A. Very common term.

14 Q. Can you explain that to me?

15 A. It's a keep alive pulse. Many of
16 the things I built use them at all levels
17 where you have a periodic message that is
18 sent and the message is basically saying that
19 I'm still here, essentially, right. It's
20 commonly used in wireless systems as well.
21 And if you don't get it, then you can assume
22 that the device is not responsive or not
23 present, so then you would terminate the
24 connection. That's one example.

25 Q. In that example, to make sure I

1 J. Paradiso

2 understand it, in that example, the -- the --
3 a device is pinging or sending some sort of
4 message back to like a base station or
5 something like that and saying, hey, I'm
6 still here, I'm still connected to you.

7 Is that what I'm understanding?

8 A. Yes.

9 Q. And is the reverse true where the
10 base station could ping the connected device
11 to say, hey, are you still there?

12 A. Yes, it works both ways.

13 Q. And this would be routinely sent
14 back and forth at some sort of predetermined
15 interval; would that be correct?

16 A. Yes, that's typically what you see.

17 Q. What kind of interval could that
18 be?

19 A. Oh, it depends on the application.
20 It could be every, you know, ten seconds, it
21 could be every minute, could be every five
22 minutes. It depends on how concerned you are
23 with securing that network.

24 Q. And if -- looking at it from the
25 perspective of -- is it correct to say -- can

1 J. Paradiso

2 we say the base station is the network?

3 A. That's -- yeah, you can say that,
4 sure. The word is even used in some of the
5 art.

6 Q. And that there's when the -- I
7 believe you said it's the keep alive -- what
8 was the term you used, "keep alive pulse"?

9 A. Yes, that's --
10 (Cross-talk.)

11 THE WITNESS: Sorry. Attorney?

12 Q. Yeah. So when the keep alive pulse
13 is sent to the connected device, the
14 connected device responds and says, I'm still
15 here, correct?

16 A. That's one way to do it where you
17 can ping, are you still there, or the device
18 itself can just send a spontaneous message
19 every so often saying, you know, I'm still
20 here.

21 Q. So in your understanding of this
22 Claim Element 6B, would both of those
23 scenarios fall within the scope of element --
24 Claim Element 6B?

25 A. They would, but the discriminating

1 J. Paradiso
2 factor is that the communication device,
3 which in this case is the display unit, is
4 unable to receive it back. So yes, if the
5 display unit does not receive a keep alive
6 from one of the terminals, then it can
7 terminate the connection and that's
8 essentially -- I think that would suffice.

9 Q. Okay. Okay. Thank you. Actually,
10 we're a couple minutes early for a break this
11 time, but do you mind if we take a few
12 minutes early this time?

13 A. I'm okay.

14 THE COURT REPORTER: We were off
15 the record.

16 (Off the record.)

17 THE COURT REPORTER: We're back on
18 the record.

19 BY MR. STANFORD:

20 Q. Okay, Dr. Paradiso, let's move on
21 to the cited reference that you relied on in
22 your declaration.

23 A. Sure.

24 Q. So turn to paragraph 2 of your
25 declaration and let me know once you're

1 J. Paradiso

2 there.

3 A. I'm there.

4 Q. Paragraph 2 includes a chart or
5 table that lists out the five grounds that
6 petitioner is asserting against the
7 challenged claims, correct?

8 A. Yes.

9 Q. In ground one, which is asserted
10 Claims 1, 5 and 13 through 15, this is based
11 on a combination, an obviousness combination
12 of Iwami and Kim; is that correct?

13 A. Yes, although Iwami covers
14 essentially everything Kim talks about,
15 protocols that you can actually use to
16 implement some of these commands. So that's
17 why I rely on Kim, but it is a combination,
18 yes.

19 Q. Okay. So both references are
20 required in your opinion in the -- for ground
21 one?

22 A. In my analysis I do use both, yes.

23 Q. And it's your understanding that of
24 the challenged claims -- the independent
25 claims are 1, 14 and 15, right?

1 J. Paradiso

2 A. Yes.

3 Q. So ground one covers all of the
4 independent claims; is that correct?

5 A. Yes, it does.

6 Q. And grounds 2 through 5 do not
7 cover the independent claims, they cover
8 dependent -- certain dependent claims,
9 correct?

10 A. Yes.

11 Q. So with respect to the independent
12 claims which again are Claims 1, 14 and 15,
13 you're not offering any opinions related to
14 applying -- excuse me if I butcher the name,
15 Liansky, Weiser, Kato or Dowling, correct?

16 A. That's correct.

17 Q. And Kate -- Liansky, Kato, Weiser,
18 Dowling, those are different references that
19 you're relying on for grounds 2 through 5,
20 correct?

21 A. That's correct.

22 (Exhibit 1004 was introduced.)

23 Q. I'm dropping another document into
24 the chat. I'll give you a moment to open it
25 and let me know when you've got it open.

1 J. Paradiso

2 A. Yep, I have it.

3 Q. Do you recognize this document?

4 A. Yes, that's the Iwami patent, the
5 application.

6 Q. And for the record this is
7 Exhibit 1004 and that is U.S. patent
8 application publication number 20190053149.

9 And, Dr. Paradiso, if I refer to
10 Exhibit 1 '004 as Iwami throughout our
11 discussion today, will you know what I mean?

12 A. Yes, I do.

13 Q. Okay, excellent.

14 What is your overall understanding
15 of what Iwami is describing?

16 A. It describes analogous system. Let
17 me get up to my -- I'll go to my declaration
18 first where I do summarize it well. Okay.
19 Here we go.

20 (Document review.)

21 Okay. Can you repeat your
22 question?

23 Q. What is your overall understanding
24 of what Iwami is describing?

25 A. Iwami describes a system where you

1 J. Paradiso

2 have a shared display with a communications
3 device. You've got terminal that's ---

4 (Court Reporter clarification.)

5 A. Device analogous to terminal 1, a
6 controller, essentially what we would call
7 the internal device that would be for a
8 teacher. He has many scenarios he describes,
9 some of them are presentation scenarios, the
10 main scenario is a classroom scenario, so the
11 teacher has got the control device. And then
12 you have students that have the guest
13 terminals, essentially the terminal 2s and
14 they're controlled with a hierarchy of
15 different wireless. Basically the teacher
16 can invite a student to connect or select a
17 student to connect to the display device and
18 then he can also issue a command to the
19 display device to change how the information
20 is displayed and he can also remove them from
21 that network and onto standby.

22 So it's essentially controlling
23 access in a network very much like this
24 patent and also it's controlling a scenario
25 where there's a display as well.

1 J. Paradiso

2 Q. Is Figure 17 of Iwami consistent
3 with what you were just describing?

4 A. Let me take a look. Yes.

5 Q. I believe Figure 17 you cite to in
6 your declaration as well, right?

7 A. I do.

8 Q. So looking at Fig 17, could you
9 just walk me through again what your
10 understanding of what Iwami is describing?

11 A. Yeah, Iwami describes again many
12 things I analyze in detail in my disclosure,
13 but there are units that are basically guest
14 units or units from the students in this case
15 that would be the information processing
16 devices, 710, 720, 703, and 704. And then
17 you've got the information processing device
18 in the display unit. This is essentially
19 communications device and the display device
20 of '088. They can connect directly to the
21 different devices, the devices can also
22 connect via access point. If they're
23 displaying something on the screen, they
24 connect directly and -- and they can display
25 their graphic, but that's all under the

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2 command of the control device. The control
3 device basically essentially allows the
4 different devices, you know, you can select a
5 student, allow that student to connect to the
6 display. And also, he basically can go
7 through an operation that promotes their
8 visuals that they're projecting into the
9 center screen, so he actually controls the
10 display as well.

11 And then he can terminate the
12 connection with the standby, but he drags,
13 you know, whoever is connected that he wants
14 to kick off to the standby and then they're
15 terminated. They're not talking anymore to
16 the communications devices or the information
17 processing and device and the display unit.

18 Q. And looking at the disclosure of
19 Iwami, let's look to -- starts at paragraph 5
20 page 43 of the PDF if that helps?

21 A. Sure, one second. Okay, down here.

22 Q. Let me know when you get there.

23 A. Okay, I'm there.

24 Q. Okay. So paragraph 5, 6, 7 appear
25 to be discussing the -- what it calls the

1 J. Paradiso

2 technical problem with presumably the
3 conventional technology prior to locking; is
4 that right? Is that your understanding?

5 THE COURT REPORTER: I didn't get
6 the end of that, can you repeat?

7 Q. Is that your understanding?

8 A. Looking -- I believe so. Let me
9 read them quickly. So it's just 5, 6, 7, 8,
10 basically that paragraph?

11 Q. Correct.

12 A. Let me read that quickly.

13 (Document review.)

14 Okay. Can you repeat your
15 question?

16 Q. I'll ask a new question that would
17 be easier.

18 So based on your review of
19 paragraphs 5, 6, 7, and 8 of Iwami, is it
20 correct to say that the technical problem
21 being addressed by Iwami is when there are --
22 when there is indirect communication between
23 multiple information processing devices?

24 A. Well, it's much more than that.
25 Iwami lets you connect individual devices to

1 J. Paradiso

2 a direct -- to a connection to this display
3 device where they can exchange video and
4 other things. There can even be security
5 aspects of it, which he talks about later.
6 But, yeah, it's not about indirect
7 communication really. It's about a switch to
8 a direct communication mode with this display
9 device and under authorization from at least
10 in what we cite from Iwami, the controller.

11 Q. I'm sorry, I think maybe you
12 misunderstood my question.

13 I was talking about what's the
14 problem that Iwami is describing that it's
15 aiming to solve and I believe that problem is
16 what's described in paragraphs 5, 6, 7, and
17 8, correct?

18 A. Yeah, he is trying to give access
19 to other users to a communications path that
20 let them talk to another device, in his case,
21 with higher frequencies, he mentions
22 explicitly so they can send video. But he
23 will allow them to be authorized to send data
24 to that terminal.

25 Q. And where is that described in

1 J. Paradiso

2 paragraphs 5, 6, 7, or 8?

3 A. Oh, it is described in -- he talks
4 about the transition in paragraph 7.

5 Q. Paragraph 7 starts with:

6 For example, when communication is
7 performed directly between two information
8 processing devices, transition is assumed to
9 be performed so that communication is
10 performed indirectly between the two
11 information processing devices.

12 Correct?

13 A. But then it talks about how it can
14 be made direct too in the next sentence.

15 Q. Right, I was just trying to
16 confirm --

17 A. Yeah.

18 (Cross-talk.)

19 Q. -- the first sentence.

20 A. Yeah, but then he talks about
21 switching to direct. So switching
22 communications is -- and controlling it,
23 which he says also at the end of that
24 paragraph, is really what Iwami is looking
25 at.

1 J. Paradiso

2 Q. You're referring to the last
3 sentence that says:

4 When switching of communication is
5 performed, it is important to perform
6 appropriate control.

7 Right?

8 A. Yes, yes.

9 Q. And then in paragraph 8, Iwami
10 states that in the second line of -- starting
11 in the second line of paragraph 8:

12 It is an object of the present
13 technology to perform appropriate control
14 when communication is performed between a
15 plurality of information processing devices.

16 A. That's true.

17 Q. And I presume this is -- or is it
18 correct -- is it your understanding that this
19 paragraph is referring to the switching of
20 communication between direct and indirect
21 what was being discussed in paragraph 7
22 above, right?

23 A. Yes. He wants to control who
24 connects and how essentially, so that's what
25 he's saying.

1 J. Paradiso

2 Q. Okay. Okay. Well, I'm -- I've got
3 some more questions obviously about Iwami,
4 but I think this is maybe a good time to take
5 a quick break, not a quick break, a lunch
6 break.

7 A. I think that works for us.

8 MR. STANFORD: You want to go off
9 the record?

10 THE COURT REPORTER: We're off the
11 record.

12 (Off the record.)

13 THE COURT REPORTER: We're back on
14 the record.

15 BY MR. STANFORD:

16 Q. Welcome back, Dr. Paradiso.

17 Before the break, we were talking
18 about Iwami and the technical problem that it
19 was discussing in paragraphs 5 through 8.

20 Do you recall that?

21 A. Yes, I do.

22 Q. So let's move on to the next
23 section of Iwami which starts at paragraph 9
24 and it's under the heading Solution to
25 Problem.

1 J. Paradiso

2 Do you see that?

3 A. I see it.

4 Q. So take a quick moment and just
5 read through paragraph 9 for me and then I'll
6 have some questions.

7 A. Sure.

8 (Document review.)

9 Okay.

10 Q. Looking at paragraph 9 it starts
11 with:

12 The present technology was made to
13 solve the problem.

14 A. Yes.

15 Q. Is it your understanding that when
16 it says "to solve the problem," it's
17 referring to the previous paragraphs?

18 A. Yes.

19 Q. Okay. Then continues it says:

20 And the first aspect thereof is an
21 information processing device, an information
22 processing method thereof and a program for
23 causing a computer to execute the information
24 processing method.

25 Do you see that?

1 J. Paradiso

2 A. I see that.

3 Q. Okay. Then it continues,
4 paragraph 9 continues, it says:

5 The information processing device
6 performing realtime image transmission with
7 another information processing device
8 according to a wireless fidelity (Wi-Fi)
9 served Miracast specification (technical
10 specification Wi-Fi display.)

11 Do you see that?

12 A. I do see that.

13 Q. So paragraph 9 is talking about
14 performing -- talking about the image
15 processing device performing realtime image
16 transmission between multiple information
17 processing devices according to a Wi-Fi
18 certified Miracast specification, right?

19 A. It's talking about, yes, the image
20 transmission and, of course, the program and
21 what you do with it and it mentions Miracast.
22 It mentions the other examples in here too,
23 but it uses Miracast as its example it cites
24 out here, yes.

25 Q. What is Miracast?

1 J. Paradiso

2 A. Miracast is an old protocol for
3 sending images over HDMI and I believe
4 commands too. Not too unlike UPnP.

5 Q. Can you explain how Miracast works?

6 A. Miracast is thought of like a
7 wireless HDMI where you make a connection
8 between devices and then you can send images
9 and commands to start and stop, manipulate,
10 things like that I believe.

11 Q. And that's the number of Wi-Fi?

12 A. Yes. At least in this case, yes.

13 Q. Are there other ways besides Wi-Fi
14 to perform Miracast?

15 A. I don't know of any, but I'm not
16 gonna rule it out.

17 Q. Okay, fair enough.

18 And another term that's been used I
19 think in your declaration and possibly in
20 Iwami as well is the term "Multicast."

21 Are you familiar with that term?

22 A. Yes, I am.

23 Q. What's Multicast?

24 A. Can you point me to my declaration
25 where I use it, for example?

1 J. Paradiso

2 Q. If you give me a moment.

3 A. Sure.

4 Q. You're talking generally in your
5 background section paragraph 14 where you
6 said the --

7 (Cross-talk.)

8 Q. Talking about your experience and
9 then -- so if you'd like to navigate there
10 you can. There were a few other places you
11 mention it as well.

12 A. Yeah, let me take a look.

13 (Document review.)

14 Okay. Can you repeat your
15 question?

16 Q. Sure.

17 What is Multicast?

18 A. Multicast, I believe is essentially
19 the exchange of media over a network. You
20 basically have server and you have clients,
21 you may have multiple servers. Multicast
22 basically governs how that's connected.

23 Q. So is it -- would Multicast be one
24 source casting to multiple destinations?

25 A. It would be, but then you can also

1 J. Paradiso

2 switch the sources so Multicast formats have
3 commands to make sources leave and other
4 sources connect as well.

5 Q. So Multicast -- so in a Multicast,
6 can we call it a network?

7 A. It runs in a network.

8 Q. Is it a protocol?

9 A. Is there a protocol to do
10 Multicast? Yeah, and I describe a few.

11 Q. So in a Multicast protocol, is it
12 correct that one source sends out the same
13 content to multiple destinations?

14 A. I believe that could be true, but
15 you can also switch the source in Multicast
16 too to broadcast as well.

17 Q. If you switch to a different
18 source, that source would then perform
19 Multicast by sending its content to multiple
20 destinations, right?

21 A. Yes, more than one, yeah.

22 Q. Well, could it be just one?

23 A. In principle, but it allows for
24 multiple.

25 Q. Okay. Does Iwami talk about

1 J. Paradiso

2 multicasting?

3 A. I don't know if he does. Let me go
4 back.

5 Iwami doesn't seem to mention
6 Multicast.

7 Q. Well, let's look at what Iwami does
8 talk about, so let's navigate to paragraph 79
9 of Iwami. I believe that's on page 47 of the
10 PDF.

11 A. I'm there.

12 Q. If you wouldn't mind, take a moment
13 and read paragraphs 79, 80, and 81.

14 A. Okay.

15 Q. And let me know when you're done.

16 A. (Document review.)

17 Okay.

18 Q. There's obviously quite a bit in
19 those paragraphs we won't go through all of
20 it, but if you look at paragraph 81, it
21 states that:

22 In this way, in the first
23 embodiment of the present technology, an
24 example in which the information processing
25 devices, 200 and 400, serve as source side

1 J. Paradiso

2 information processing devices (source
3 devices), and the information processing
4 device 300 serves as a sink side information
5 processing device (sink device).

6 You see that?

7 A. Yes, I do.

8 Q. What's your understanding of a sink
9 device?

10 A. The sink device in the case of
11 Iwami is the device that basically accepts
12 the content coming from the source devices.

13 Q. So that could be, for example, some
14 sort of device with a display?

15 A. I think that's the example that he
16 gives and very analogous to the '088 patent
17 as well.

18 Q. And the source devices which it
19 lists examples of information processing
20 devices, 200, 400, those would be providing
21 the content to the sink device; is that
22 correct?

23 A. Yes. So let me get back to that
24 paragraph I was looking at the figure for a
25 moment. Can you give me the paragraph again

1 J. Paradiso

2 you were looking at?

3 Q. It's 81.

4 A. 81, okay.

5 (Document review.)

6 Can you repeat your question or
7 comment or what it was? I'm there.

8 Q. Sure. Just an understanding of
9 what paragraph 81 of Iwami is talking about.
10 The information processing devices, 200, 400,
11 those are source devices, correct?

12 A. Yes.

13 Q. And so by "source devices," Iwami
14 means that these devices provide, for
15 example, content to the sink device, correct?

16 A. Yes.

17 Q. And then the sink device would be
18 able to display that content as one example
19 that Iwami gives?

20 A. Sorry, attorney?

21 Q. Would you like me to repeat the
22 question?

23 A. No, I thought that was Attorney
24 Sung saying something. Just an artifact on
25 Zoom.

1 J. Paradiso

2 Yeah, repeat the question, please.

3 Q. Sure.

4 After receiving content from one or
5 both of the source devices, the sink device
6 could then display that information, correct?

7 A. That's what it says just above that
8 paragraph, yeah, above 81.

9 Q. You're referring to the last two
10 lines of paragraph 80, right, where it says:

11 Based on this content is displayed
12 on the display unit 351 of the information
13 processing device 300.

14 Is that what you were referring to,
15 Dr. Paradiso?

16 A. Yes, it was.

17 Q. If we scroll to the previous page
18 of Iwami, you'll find paragraphs 66 through
19 71 under the heading Description of
20 Embodiments.

21 Do you see that?

22 A. I see it.

23 Q. This is essentially like a table of
24 contents of the various embodiments that are
25 going to be described in Iwami, would that be

1 J. Paradiso

2 fair to say?

3 A. Yes, at a high level that's what it
4 is.

5 Q. In this section here, paragraph 66
6 to 71, does Iwami describe how -- does Iwami
7 say that these embodiments can be combined
8 with each other?

9 A. I believe he does say that they
10 depend on each other and that they use
11 especially embodiments 2 and 3, which are
12 most of the argument that I have in my
13 declaration is based on embodiment 2, the
14 vast majority. I point to a few things in
15 embodiment 3 dealing with permissions.
16 Embodiment 3 gives more detail in that. But
17 the diagram for the second embodiment is the
18 same as the third, it's the same system, the
19 same setup, just that it adds another couple
20 of features.

21 Q. Does Iwami state that you can
22 combine embodiment 2 of the second embodiment
23 with the third embodiment?

24 A. I don't believe Iwami saying
25 explicitly you can combine them, but he does

1 J. Paradiso

2 say that they're related and that they're
3 very similar systems.

4 So a POSITA looking at this would
5 naturally be inclined to just pick up,
6 especially the second and third, pick up
7 elements that are in common there or that
8 talks about -- that are distinguished.

9 Q. Could you point me to where in
10 Iwami it says that the second embodiment and
11 the third embodiment are related?

12 A. Well, I think they both use the
13 same figure, so it's -- it's the system
14 itself is --

15 Q. Could you point me to that figure?

16 A. Where is that here? Yeah.
17 Figure 18. I think that's common or largely
18 in common. It has the RFID, sorry, the
19 near-field reader, it has the devices it has,
20 the network, the control device, the display
21 device. I believe that is the system,
22 essentially in both. And it may say
23 somewhere, I'd have to read, but I believe it
24 says somewhere that they're related or they
25 follow on from each other or something.

1 J. Paradiso

2 I would have to find it.

3 Q. Yes, it would be helpful if you
4 could find that if you're able.

5 A. It will take some time.

6 Q. If it's too difficult to find right
7 now, I admit Iwami is a lengthy document.

8 A. It is, but give me a moment.

9 (Document review.)

10 I found one example that points to
11 this. I think there are others, but it's in
12 paragraph 443 where he talks about
13 Figure 3.1, which is the flowchart that talks
14 about the third embodiment, he says --

15 Q. I'm sorry, I don't mean to cut you
16 off. Did you say 443?

17 A. Yes, I did.

18 Q. Give me a minute just as I get
19 there.

20 A. Sure.

21 Q. Okay, I'm with you.

22 A. There he basically is looking at
23 the flowchart of the process and calls it a
24 modified example of Figure 27 which is the
25 second embodiment. So clearly he's

1 J. Paradiso

2 incorporating it and, you know, there's a
3 continuation into the third embodiment from
4 the second. So they're related. And as a
5 POSITA, you would naturally read across that
6 boundary and take lessons from either.

7 Q. So looking at the paragraph you
8 cite to here, paragraph 443, I believe you're
9 referring to the -- I believe it's the last
10 sentence of 443 which states:

11 The example illustrated in
12 Figure 31 is a modified example of Figure 27
13 and a description of parts that are common is
14 partially omitted.

15 Is that right?

16 A. Yes.

17 (Cross-talk.)

18 A. He's basing it on the second
19 embodiment.

20 Q. So the words used here in Iwami are
21 the examples illustrated in 31 is a modified
22 example of Figure 27, correct?

23 A. Yes.

24 Q. It states that it's a modifying --

25 A. Yes.

1 J. Paradiso

2 (Cross-talk.)

3 Q. -- the second embodiment, correct?

4 A. It's modified, but it's based on
5 the second embodiment, yeah, that's what he's
6 telling me.

7 Q. And we're referring now to the
8 third embodiment, correct?

9 A. Yes.

10 Q. But this doesn't state that the
11 second embodiment and the third embodiment
12 are combinable does it?

13 A. It says he's combining them, so
14 he's doing that.

15 Q. Where is the word "combined" in
16 that sentence?

17 A. He's basically using things that
18 were in the second embodiment, 'cause it's a
19 modified example of Figure 27, which is
20 second embodiment. So he's combining it
21 himself.

22 Q. So you're reading modified as
23 equivalent to combining?

24 A. Yes. Well, he's -- you're adding
25 stuff to what was in the second embodiment,

1 J. Paradiso

2 so he's respectfully, I guess, combined would
3 be a word I could use.

4 Q. In place of modified?

5 A. Yeah, I think -- I don't know if I
6 would legally want to play with those words
7 without now thinking more about it.

8 But in my opinion, the third
9 embodiment is a continuation of the second.
10 It's -- he's using the same diagram of the
11 system. The flowchart is the same, he's
12 modified it to add the additional features.
13 So yeah, seems to be a natural inheritance.

14 Q. So regardless of what the
15 modifications are in the third embodiment,
16 you would still, as an ordinary skill in the
17 art, find it obvious to combine those with
18 the second embodiment?

19 A. Absolutely.

20 MR. SUNG: Objection. Form.

21 Q. And is there anywhere besides
22 paragraph 443 that it states that they can
23 be -- excuse me, that the second embodiment
24 and third embodiment can be combined, other
25 than the modifications that you're referring

1 J. Paradiso

2 to with respect to the third embodiment?

3 A. I believe there are other places
4 that talk about what -- what's inherited or
5 what's in common, but I would have to spend
6 potentially a lot of time looking.

7 Q. That's okay. Let's go back to
8 paragraph 68.

9 A. Sure.

10 Q. Let me know when you get there.

11 A. Yeah, one second. Yep.

12 Q. Okay. Paragraph 68 states:

13 Number 2, second embodiment, in
14 parenthesis, example of switching connection
15 between source device and sink device via
16 access point and direct connection between
17 source device and sink device.

18 Do you see that?

19 A. I see that.

20 Q. And then in the next paragraph,
21 paragraph 69, Iwami states:

22 Number 3, third embodiment, and
23 then in parentheses, example of starting
24 group authentication between source device
25 and sink device using near field

1 J. Paradiso

2 communication.

3 Do you see that?

4 A. I do.

5 Q. Is there anywhere in these
6 paragraphs where it's discussing combining
7 the ability to combine the second embodiment
8 and the third embodiment?

9 A. It's not explicitly said there,
10 that's just an introduction. But if you read
11 into the embodiments, the second embodiment
12 already at the end mentions the near field
13 device and it's in the diagram.

14 And if you read into the third
15 embodiment, the near field device is used
16 essentially just to provide people convenient
17 access to the network in a secure way. But
18 then from there on, the control device
19 switches them to the access points, switches
20 them back, it's in the flowchart.

21 So it's essentially -- I read it as
22 a second embodiment with the addition that
23 you have a more secure way of registering
24 your device.

25 Q. You mentioned a few minutes ago

1 J. Paradiso

2 that Figure 18, I believe it was, was in your
3 opinion showing how the second embodiment and
4 third embodiment are related; is that
5 correct?

6 MR. SUNG: Objection. Form.

7 A. Let me go back. I believe
8 Figure 18 basically shows a common
9 architecture or a common set up that's used
10 in the second and third embodiment. So I
11 think at that level they may both refer to
12 Figure 18, I would have to look, I seem to
13 remember seeing that.

14 Q. Would you take a look at
15 paragraph 42 of Iwami?

16 A. Sure.

17 Q. Let me know when you get there.

18 A. I'm there.

19 Q. Paragraph 42 is under the section
20 heading Brief Description of the Drawings?

21 A. Yes.

22 Q. Do you see that?

23 A. I do see that.

24 Q. And paragraph 42 is therefore
25 describing Figure 18, correct?

1 J. Paradiso

2 A. It is.

3 Q. So paragraph 42 states:

4 Fig 18 is a diagram illustrating an
5 installation example of a communication
6 system 700 according to the second embodiment
7 of the present technology.

8 Do you see that?

9 A. I do see it.

10 Q. Does it mention the third
11 embodiment in paragraph 42?

12 A. It doesn't there, but is there
13 another figure that shows the physical
14 layouts explicitly for the third embodiment?
15 I don't think I saw it. Maybe it is there.

16 Q. If you're looking for figures
17 related to the third embodiment that would be
18 in paragraphs 55 -- paragraph 55 would give
19 an example, that was Figure 31.

20 A. Yes, they're flowcharts and timing
21 diagrams I think and tables.

22 Q. And does it state in paragraph 55
23 that the second embodiment is combinable with
24 the third embodiment?

25 A. As I mentioned, that paragraph

1 J. Paradiso

2 doesn't say anything about this, but if you
3 look at the paragraph I pointed you to that
4 describes Figure 31, it's clearly inherited
5 from the second embodiment, clearly.

6 Q. Let's move to paragraph 312 of
7 Iwami.

8 A. Okay.

9 Q. This is on page 66 of the PDF.

10 A. 312, right.

11 Q. Correct.

12 A. Okay.

13 Q. So paragraph 312 starts:

14 When the switching is performed as
15 described above.

16 The switching that it's referring
17 to is the switching between direct and
18 indirect communication; is that your
19 understanding?

20 A. Let me look above.

21 Q. Sure.

22 A. (Document review.)

23 Q. It may be helpful to look at
24 paragraphs 310 and 311.

25 A. Yeah, I'm looking at those now.

1 J. Paradiso

2 (Document review.)

3 Okay. Can you repeat your
4 question?

5 Q. Sure.

6 Based on what you just read in
7 paragraphs 310 and 311, is your understanding
8 that in the first line of paragraph 312 where
9 it states "when the switching is performed as
10 described above," it's referring to the
11 switching between indirect and direct
12 communications?

13 A. It seems to be.

14 Q. So paragraph 312 then continues,
15 and I'm gonna stipulate the parentheticals
16 here just to make it this little more simpler
17 for us, but please feel free to read-along so
18 you have context. Paragraphs 312 continues
19 and states:

20 It is necessary to perform Wi-Fi
21 Direct control, four-way handshake for
22 performing security authentication for the
23 wireless LAN.

24 Do you see that?

25 A. Yes, I do.

1 J. Paradiso

2 Q. Iwami is putting its description in
3 the context of the classroom setting, which I
4 believe we discussed earlier, correct?

5 A. That's correct.

6 Q. So applying that example here is,
7 in the classroom setting, security
8 authentication, as it's mentioned in
9 paragraph 312, could that be permission for a
10 student's Miracast device to connect to, for
11 example, a display within a classroom?

12 A. No.

13 Q. And what could security
14 authentication be within the classroom
15 example?

16 A. Well, it is -- one second. Let me
17 read this paragraph again.

18 Q. Sure. Go ahead.

19 A. (Document review.)

20 Can you repeat your question?

21 Q. My question was: What is your
22 understanding of security authentication
23 within the classroom example that Iwami uses?

24 A. Basically he talks about what you
25 need to essentially join the network.

1 J. Paradiso

2 Q. So what does -- let me start over.

3 Does security authentication relate
4 to a student's device connecting to the
5 display device within the network?

6 A. The student has to be in the same
7 group authentication, so that's important.
8 And Iwami talks a lot about group
9 authentication, which the control terminal
10 actually does manage. But the actual point
11 in which you're allowed to talk to the
12 display is set explicitly by the control
13 device. That essentially is really the final
14 word in that process.

15 Q. So in your opinion, security
16 authentication does not affect the Miracast
17 devices ability to communicate with a
18 display?

19 A. If you don't have the security
20 authorization, you can't participate in the
21 system.

22 Q. Is security authentication in Iwami
23 used to permit a Miracast device to
24 communicate with the display then?

25 A. It's used to permit you to be part

1 J. Paradiso

2 of the -- there's a lot I cite to in my
3 report about this where he talks about this.
4 So he does talk about permission in terms of,
5 you know, you being allowed to be part of the
6 system and the steps. This is part of it
7 here.

8 In the end, the final word is by
9 the control device. That's what gives you
10 the final authentication, the final
11 permission to do it. And the control device
12 is involved in sending this all up too.
13 Iwami talks about that.

14 Q. Let's break down your answer there
15 a little bit.

16 So you started first by talking
17 about the group authentication, correct?

18 A. Yes.

19 Q. What is your understanding of group
20 authentication as described in Iwami?

21 A. I believe it's your part of the
22 class in this period of time when the class
23 meets, so on and so forth, so that you can be
24 registered into the system.

25 Q. For example --

1 J. Paradiso

2 A. Embodiment 2 I think that's --
3 that's a list in the control terminal somehow
4 or other can approve it or set it up or
5 change it.

6 Q. So for example, group
7 authentication would provide the various
8 students in a classroom or provide their
9 devices with authority to be part of the
10 group, to join the group, whatever it might
11 be, within the classroom; is that correct?

12 A. I believe that's -- that's fair.

13 Q. Okay. And within this group is the
14 display device also a part of the group?

15 A. Yeah, I believe it is, it's -- it
16 says that somewhere here.

17 Q. And is the remote display control
18 device also a part of the group?

19 A. What is the remote display control
20 device?

21 Q. That is the -- oh, maybe it's
22 the -- give me one moment. The control
23 device, excuse me, not --

24 A. The control device.

25 Q. The control device, yeah.

1 J. Paradiso

2 A. It says access point device, source
3 device, the same authentication -- then sink
4 device is in the same group. I don't know if
5 it says the control device is part of the
6 group, but I think, by default, it manages
7 the group, so it would have a MIM privilege
8 in that group.

9 Q. Does Iwami state that?

10 A. He says, it controls the group,
11 yeah, he gives examples of it.

12 Q. In paragraphs 312 and 313 where
13 Iwami is discussing the group authentication,
14 it mentions the access point, it mentions the
15 source device and it mentions the sink
16 device, correct?

17 A. Yes.

18 Q. But it does not mention the control
19 device, correct?

20 A. I don't see it mentioned there,
21 but, you know, you would assume it would be
22 the administrator of the group.

23 Q. And in paragraph 313, it starts
24 with:

25 Here the access point, 611, and the

1 J. Paradiso

2 source device, 610, are assumed to be in the
3 same group authentication and the source
4 device, 610, and the sink device, 612, are
5 assumed to be in the same group
6 authentication.

7 Do you see that?

8 A. I do see it.

9 Q. What is your understanding of that
10 sentence?

11 A. That means they have access to the
12 same resources basically. They -- they're in
13 the same group so they can connect to each
14 other and exchange data as they're authorized
15 by the control device.

16 Q. Okay. So in other words, because
17 they're part of the group, they are
18 authenticated or permitted to exchange
19 information with each other.

20 Would that be a fair
21 characterization?

22 A. They're permitted to send and
23 receive on this network, yes.

24 Q. Okay. By virtue of being part of
25 the same group --

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2 A. Yes.

3 Q. -- correct?

4 A. Appears to be what they say. But,
5 again, you don't send any media data to the
6 sink device until you're authorized by the
7 control device. You can't access, you can't
8 even connect to it. You gotta have an action
9 from the control device before you even
10 connect to it.

11 Q. I'm sorry, would you mind
12 explaining that again? I didn't entirely
13 follow.

14 A. You connect to the control
15 device -- sorry, you connect to the sink
16 device directly.

17 Q. Who is "you" in this example?

18 A. "You" would be a student.

19 Q. Okay.

20 A. As authorized by the control
21 device. The control device executes an
22 operation that causes you to connect directly
23 to the sink device which is what reads on
24 '088 in my opinion.

25 Q. Your understanding of Iwami is that

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2 the control device authorizes each source
3 device to connect with the sink device.

4 Am I understanding you correctly?

5 A. Yes.

6 Q. And that's the -- what you have
7 expressed in your declaration, correct?

8 A. Yes.

9 Q. Then in paragraph 314 continuing on
10 down page 24 of Iwami it says:

11 In this regard in the second
12 embodiment of the present technology, an
13 example of which the security authentication
14 between the source device and the sink device
15 is omitted and more seamless connection
16 switching is performed is described.

17 What's your understanding of that
18 sentence?

19 A. One minute.

20 Q. Sure.

21 A. (Document review.)

22 I believe the paragraphs above he's
23 probably talking more about the first
24 embodiment. Here he's talking about the
25 improvements the second embodiment would make

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2 and here he's talking about essentially what
3 I discussed where you have a more seamless
4 connection because in this case you don't
5 have to go through all this other protocol
6 that was discussed every time you join
7 because the control device can manage the
8 switching to direct communication with the
9 display device of the students.

10 Q. So let's look back at the previous
11 paragraph then. So paragraph 313, it
12 discusses, as we already read, about
13 assuming -- I'll walk back through 313.

14 Paragraph 313 states that the
15 access point and the source device are
16 assumed to be within the same group and the
17 source device and the sink device are assumed
18 to be in the same group authentication,
19 right?

20 A. Yes.

21 Q. And then paragraph 313 continues
22 and says:

23 For this reason, there's assumed to
24 be no problem even if a set value between the
25 access point and the source device is used

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2 for the connection between the source device
3 and sink device.

4 Right?

5 A. It says that. I would have to
6 unpack it.

7 Q. And then paragraph 314 referring to
8 that by saying:

9 In this regard, in the second
10 embodiment of the present technology, an
11 example in which the security authentication
12 between the source device and the sink device
13 is omitted and a more seamless connection
14 switching is performed.

15 Do you see that as well?

16 A. I do.

17 Q. So would you interpret the
18 combination of these two paragraphs, 313 and
19 314, to be saying that the second embodiment
20 was omitting security authentication between
21 the source device and the sink device based
22 on an assumption that because they are in the
23 same group, no authentication of the security
24 authentication needs to be performed?

25 A. I believe he's saying it is omitted

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2 and probably because they're in the same
3 group. So in order to play in this at all
4 you have to be, you know, given permission to
5 be in the class, you have to be able to be
6 registered and he talks a lot about that
7 which I cite to in my report as well. But
8 then when you connect to the display device
9 in the second embodiment, it is an operation
10 that is done directly by the control terminal
11 which is also what I discuss and what he
12 talks about here.

13 Q. Well, he doesn't talk about the
14 control terminal here, does he? Can you
15 point to me to where in these paragraphs
16 we're discussing the control device?

17 A. Let me look.

18 He's just talking about how the
19 connection can be switched. But if you read
20 the second embodiment, that is directed by
21 the control terminal.

22 Q. And in paragraphs -- in
23 paragraph 314, the second embodiment omits
24 the security authentication between the
25 source and sink device, correct?

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2 A. He says that, yes.

3 Q. Okay. So let's continue on to
4 paragraph -- let me just ask you generally.

5 So because of this group
6 authentication information, in Iwami, did
7 each of the students' devices need to
8 authenticate themselves or receive some sort
9 of authentication between themselves and the
10 sink device?

11 A. The student devices I believe they
12 don't authenticate within each other.
13 I mean, they're -- they're leaf nodes by
14 comparison. Which embodiment are you talking
15 about? Are you just talking about Iwami in
16 general? Because he mentions many scenarios
17 here. Are you talking about the second
18 embodiment?

19 Q. Sure, we can use the second
20 embodiment as an example.

21 A. In the first embodiment, it seems
22 like there is authentication that he
23 describes in 312, then he omits much of this
24 in the second embodiment. But there's still
25 a registration process that the students have

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2 to go through to be able to participate in
3 this in this interactive classroom.

4 Q. And in your report you refer to the
5 group authentication as part of describing
6 how the source devices receive permission to,
7 you know, display information, right, or
8 provide information that needs to be
9 displayed; is that correct?

10 A. Look at the way I talk about it in
11 the report. I can go back to that. I use
12 that permission as an example of how
13 permission is really -- the word "permission"
14 is threaded throughout Iwami, so it is there,
15 none of us would disagree with that. And
16 it's used in different ways, different times.
17 But I'm saying that a POSITA, if need be, if
18 you need some sort of explicit permission
19 mechanism in a control device allowing one of
20 the classroom devices to transmit, you could
21 use that -- you could -- your information
22 right use -- and he talks about it in the
23 disclosure you just told me.

24 On the other hand, I don't think
25 you really need it because when the control

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2 device promotes somebody to video or invites
3 them to join on the display device, they are
4 making a direct connection, they are changing
5 the video display. So that's sufficing the
6 claim in my opinion right there.

7 I think basically the control
8 device telling one of the units that they go
9 live is giving permission as well. But
10 anyway, I can go back to my report if you
11 want me to discuss any of these things.

12 Q. It actually might be helpful.
13 Let's go to paragraph 357 of Iwami.

14 A. Of Iwami, okay. Yep.

15 Q. Paragraph 357, it starts out by
16 mentioning that upon receiving the connection
17 request from information processing device
18 710.

19 Do you see that?

20 A. I do see it.

21 Q. It continues on and says:

22 The control unit corresponding to
23 control unit 370 of information processing
24 device 730 performs a group authentication
25 process 636.

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2 Do you see that?

3 A. Yes, I do see it.

4 Q. Then it states: In the group
5 authentication process, it is determined
6 whether or not the information processing
7 device 710.

8 That's the device that's requesting
9 connection, correct?

10 A. Yes, one of them, yeah.

11 Q. The information processing device
12 730 determines whether or not the information
13 processing device 710 participates in the
14 group operated by the application activated.

15 You see that?

16 A. By the information processing
17 device 710, that one?

18 Q. Yes.

19 A. Yeah, I see it.

20 Q. And then it continues on:

21 In other words, the control unit of
22 information processing device 730 performs
23 group -- performs the group authentication
24 process for determining whether or not a
25 connection for operating the application

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2 activated by information processing device

3 710 is permitted.

4 You see that?

5 A. Yep, I do see it.

6 Q. So paragraph 357 of Iwami is

7 describing a way of implementing this group

8 authentication, correct?

9 A. Yes, it appears to be.

10 Q. And in this group authentication

11 process, the information processing device

12 730 is checking whether or not device 710 is

13 part of the -- or participates in the group;

14 is that right?

15 A. One moment, let me read that part.

16 Q. Sure.

17 A. (Document review.)

18 Can you repeat your question?

19 Q. In the group authentication process

20 that's described in paragraph 357, the

21 information processing device 730 checks

22 whether or not information processing device

23 710 is part of the participants in the -- in

24 a group, in the group, correct?

25 A. Yes, it's saying that. It also

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2 says that the control unit sets that up on
3 the top sentence. But yeah, 730 will do a
4 check as well.

5 Q. And when you mention the top
6 sentence you're referring to the top -- the
7 first sentence of paragraph 357?

8 A. Yes.

9 Q. Where it says that the control unit
10 370 of information processing device 730
11 performs the group authentication?

12 A. Yes.

13 Q. Okay. Next let's take a look at
14 paragraph 399 of Iwami.

15 A. Okay. Yep.

16 Q. Right before paragraph 399 starts,
17 there's a subheading in brackets that states:

18 Example in which connection with
19 public line other than initially connected
20 access point can be established.

21 Do you see that?

22 A. I do see it.

23 Q. So is it fair to say that
24 paragraph 399 is describing the example
25 that's just been stated in the subheading?

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2 A. I would think so.

3 Q. So I'll give you just a second,
4 would you go ahead and read paragraph 399 for
5 me?

6 A. Sure.

7 Q. Let me know when you're done.

8 A. (Document review.)

9 Okay.

10 Q. Okay. So paragraph 399 is
11 describing this situation where the user
12 using a source device might move to a place
13 where, as it explains, it is difficult to
14 establish connection with the access point,
15 correct?

16 A. Yes.

17 Q. And then paragraph 399 states:

18 In this case, the user may desire
19 to continuously perform the connection with
20 the sink device.

21 Correct?

22 A. Yes.

23 Q. So is it your understanding from
24 this paragraph that Iwami is describing a
25 situation where when the user's source device

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2 is initially connected to the access point
3 through one type of connection, but then it
4 moves out of, for example, say the range of
5 the -- that connection to the access point,
6 then Iwami is providing a way for another
7 connection to be able to provide continuous,
8 as it says, continuous connection, so that
9 same access point?

10 A. That's what he's saying. But
11 again, the devices within the classroom just
12 by themselves read on the claims of the
13 patent '088 beautifully I think. But he is
14 saying that for these devices, yes.

15 Q. So continuing on through Iwami,
16 let's move on to paragraph 407.

17 A. Okay.

18 Q. Let me know when you get there.

19 A. I'm there.

20 Q. Okay. Iwami uses the term "outdoor
21 use information."

22 Are you familiar with that?

23 A. Yes, I am.

24 Q. Okay. What's your understanding of
25 what Iwami means by outdoor use information?

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2 A. I believe -- let me read through,
3 but I believe it's a connection again from a
4 remote network over the internet, but let me
5 read what he says in 47 again.

6 Q. Okay, I'll give you a moment.

7 A. (Document review.)

8 Okay, can you repeat your question?

9 Q. What is your understanding of
10 outdoor use information as it is used in
11 Iwami?

12 A. I believe outdoor use information
13 is using a terminal outside of the designated
14 access point in the system, could be over the
15 internet, but it's still managed by the
16 control device which is assigning all the
17 permissions, global permission as to whether
18 they can be part of the class.

19 Q. So if you look at -- in
20 paragraph 407 if you look at, I believe it's
21 the seventh line down on the left-hand side
22 of the paragraph starts with S1054.

23 You see that line?

24 A. I do.

25 Q. So just reading off the sentence

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2 that starts in that line, it says:

3 The outdoor use information is
4 permission information indicating whether or
5 not the connection with the information
6 processing device 730 via the access point
7 other than the access point 701 or the base
8 station is permitted.

9 Do you see that?

10 A. Yes. That's consistent with what I
11 said.

12 Q. So is it your understanding that
13 the outdoor use information is permission
14 information for an information processing
15 device to connect to the sink device 730 via
16 another access point than the one that was
17 initially, for example, connected to?

18 A. Yes. Again, as I mentioned,
19 I think the units in the class already read
20 on this, but if you look at this, the outdoor
21 use --

22 (Court Reporter clarification.)

23 A. If you look at this paragraph, the
24 outdoor use permissions, you know, he uses
25 the word permission here, are permissions for

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2 people to be part of the class. Now, if they
3 want to send something to the display, I
4 think that's still managed by the control
5 device, although I don't know if he says it
6 here. But to be consistent with what he has
7 you would have to have the control device
8 basically permit you to use that display no
9 matter where you are.

10 Q. Is it your understanding then that
11 the outdoor use information is giving -- is
12 permission based on the access point that the
13 information processing device wants to
14 connect to?

15 A. What do you mean based on the
16 access point? The only thing I see here is
17 via the access point other than the access
18 point 701.

19 Q. Correct. So if we look at the
20 sentence I read off again, it states in
21 paragraph 407:

22 The outdoor use information is
23 permission information indicating whether or
24 not the connection with the information
25 processing device 730 via the access point

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2 other than the access point 701 is permitted.

3 A. Yes.

4 Q. So, is it your understanding from
5 that sentence there that outdoor use
6 information is permission information for
7 whether or not connection to a different
8 access point is allowed?

9 A. Yes. Outdoor use information is
10 basically whether a device is permitted or
11 not to connect to the system in general. But
12 I believe the control terminal, certainly
13 it's managed -- the control terminal
14 determines these permissions, it says that.
15 I believe it also would promote them to show
16 the video.

17 But again, this in a way -- for
18 this patent is neither here nor there, the
19 devices in the classroom are what I use in
20 analysis in my report and I believe those
21 read beautifully on the claims, regardless of
22 what this says.

23 MR. STANFORD: I think we've been
24 going for a little over an hour now,
25 so why don't we go off the record.

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2 THE COURT REPORTER: We're off the
3 record.

4 (Off the record.)

5 THE COURT REPORTER: We're back on
6 the record.

7 BY MR. STANFORD:

8 Q. Welcome back, Dr. Paradiso.

9 So we've looked at quite a few
10 paragraphs of Iwami today and in those
11 paragraphs and anywhere else in Iwami that
12 you've reviewed, has Iwami described the use
13 of temporary connections to the network in
14 order to ensure the security of the network?

15 A. He describes security all over his
16 patent at different levels. He describes
17 ways of, you know -- we just went over some
18 that talk about authenticating people, ways
19 of kicking them off. But in the core of it
20 that I describe in my report, it's by
21 definition a temporary connection because
22 you're -- just as in the patent, you're
23 allowing this person to access a network
24 connection into your media display device,
25 display the content, controls the content

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2 from the control terminal as well.

3 And then you force them to standby,
4 you force them to leave. So I'd say by
5 default that is temporary just as in the
6 patent it's temporary. Does he use the word
7 "temporary?" I'm not sure, but I think it's
8 implicit in an application like that.

9 Q. And in your interpretation of Iwami
10 and how you apply it to the '088 patent, what
11 is the first communication terminal that's
12 recited in the '088 patent?

13 A. The first communication terminal
14 '088 patent I believe is the terminal that
15 grants access to the network to the second,
16 that would be the control terminal?

17 Q. In Iwami?

18 A. In Iwami. I don't know if he calls
19 it a control terminal, he calls it the
20 control device I believe or something.
21 I always remember the number more than the
22 name.

23 Q. Is that control device 740, for
24 example?

25 A. Yes, that's it.

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2 Q. And the '088 patent, Claim 1 of the
3 '088 patent says he also uses the second
4 communication terminal. What is the
5 corresponding -- in your opinion, what is the
6 corresponding feature in Iwami to the
7 '088 patent's second communication terminal?

8 A. That would be one of the student
9 terminals and they have queue numbers 'cause
10 he has different examples of what they could
11 be. Is it 7 -- 710 is one and then there are
12 others I believe.

13 Q. So I think you relied on Figure 17
14 a fair amount in your report?

15 A. Yes, Figure 17 shows at least the
16 physical architecture pretty well.

17 Q. And what examples from -- if you
18 need to pull up Figure 17, feel free. What
19 examples of the second communication terminal
20 in your opinion be information processing
21 device 710, information processing device
22 720, would those be examples of the second
23 communication terminal?

24 A. I believe so, but let me get to the
25 figure.

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2 Q. Sure, sure.

3 A. I'm almost there.

4 Q. It's on page 18 of the PDF.

5 A. Yes, I have it. Yes. 710, 720,
6 703 and 704 are examples.

7 Q. And the -- I went a bit out of
8 order in the claim, but the access point
9 device that's recited in the Claim 1 of the
10 '088 patent, what is the corresponding
11 structure in your opinion in Iwami?

12 A. I believe it's 701.

13 Q. Access point 701?

14 A. Yes.

15 Q. And finally, the communication
16 device that's recited in Claim 1 of the
17 '088 patent, what's the corresponding feature
18 in Iwami in your opinion?

19 A. It's embedded in 730.

20 Q. Thank you.

21 I'm now adding another document to
22 the chat. Let me know once you get it. Then
23 please go ahead and download it once I've
24 uploaded it for you.

25 A. Sure. Okay. I have it, it's Kim.

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2 (Exhibit 1006 was introduced.)

3 Q. For the record, this is
4 Exhibit 1006 and it is U.S. patent
5 application publication number 2007005788.

6 And Dr. Paradiso, is it okay if we
7 refer to this document as Kim in our
8 discussion?

9 A. It's fine.

10 Q. And you'll know what I mean?

11 A. I will.

12 Q. Okay, excellent.

13 What is your overall understanding
14 of what Kim is describing?

15 A. Let me go back to my declaration
16 just to refresh on that.

17 Q. Take your time.

18 A. Okay. Kim essentially describes a
19 polystream run on top of Universal Plug and
20 Play, UPnP, that can manage media streams.
21 He introduces a bunch of commands, for
22 instance, the Leave command is one I cite to
23 quite a bit where you can basically force one
24 of the devices to leave. It works, by the
25 way, both from media sources and for media

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2 appliance in UPnP.

3 Q. What is Universal Plug and Play?

4 A. Universal Plug and Play is really
5 one of the old home -- old protocols through
6 managed devices in traditionally home
7 networks. I referenced it quite a bit in the
8 early days because it's kind of an example of
9 an intranet of thing protocol. This started
10 to evolve out of consumer electronics. We
11 were making our own protocols for sensors,
12 they didn't really exist. But UPnP was
13 there, DLNA came out of UPnP, that was
14 around. So these were, you know, early
15 protocols for devices talking to each other
16 and communicating typically in a consumer
17 environment.

18 Q. So is that the -- on a basic level,
19 is that the function of UPnP for devices --
20 for a protocol for devices to be able to talk
21 to each other?

22 A. Yes.

23 Q. Okay. Now if we look to
24 paragraph 17 of Kim, that's on page 6 of the
25 PDF. Let me know when you get there.

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2 A. I'm there.

3 Q. Paragraph 17 states:

4 However, in conventional UPnP AV
5 standards, only the circumstances of
6 establishing a connection between the media
7 server and the media renderer and
8 transmitting media data are taken into
9 consideration. Thus, in a case of sending
10 and receiving contents to and from a
11 Multicast group, this cannot be controlled
12 effectively.

13 A. Yes.

14 Q. And in the paragraph prior to that,
15 Kim appears to be saying that there is a need
16 for the ability of a UPnP AV device to be
17 able to send contents to a Multicast group
18 and to join and lead the Multicast group.

19 Is that your understanding of what
20 paragraph 16 is saying?

21 A. It does say that there.

22 Q. Okay. And is that your
23 understanding -- on a basic level, is that
24 your understanding of what Kim's invention is
25 directed to is providing this ability to send

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2 the contents to a Multicast group and to join
3 and lead the Multicast group?

4 A. Kim basically talks about a
5 networked array of devices as they change in
6 media, in this case it says a Multicast
7 group, it's one server and clients. But the
8 commands that Kim talks about are more
9 broadly useful in any kind of a media control
10 context over a network like the patent. So I
11 believe a POSITA would look at Kim in context
12 of '088 and Iwami and what we discussed and
13 see it as combinable. It does talk about,
14 you know, media renderers and media server,
15 but note that the Leave command can also be
16 used for servers. You can kick those off too
17 as Leave, it works under UPnP.

18 Q. So you mentioned some commands
19 there, you mentioned Leave. I believe those
20 are first mentioned in paragraph 18 of Kim.

21 A. Yes.

22 Q. You see that?

23 A. I do.

24 Q. So paragraph 18 states:

25 An object of the present invention

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2 is to provide a Multicast streaming service
3 method and system which are devised to enable
4 an efficient control of Multicast streaming
5 on an UPnP by defining actions such as
6 Multi-CastStart, Join and Leave in order to
7 enable Multicast service by UPnP AV
8 standards.

9 Do you see that?

10 A. That's there.

11 Q. So the comments that you were just
12 mentioning, those would be examples of those
13 that Kim describes are Multi-CastStart, Join
14 and Leave, those would be three of the
15 commands that Kim focuses on, correct?

16 A. Those I believe are the three that
17 Kim talks about there may be -- he gets into
18 the details of how they're implemented
19 further down. But, you know, a POSITA would
20 see these commands as applying also -- and
21 indeed they were applied to other geometries
22 of media sharing devices.

23 Q. When you say that they were
24 applied, are you talking about like based on
25 your knowledge of the technology that after

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2 Kim these types of commands were applied?

3 A. Yeah, I believe that the -- I don't
4 know if it was after Kim, well, these are
5 coming from Kim, it would be after, but Leave
6 is certainly used to kickoff servers as well,
7 I know that. And you can have multiple
8 servers also within UPnP, there are ways of
9 doing that and I believe people have done it.

10 Q. Okay. So this explanation you're
11 giving me now, this is not what Kim is
12 describing, but this is how Kim has been
13 implemented in later applications.

14 Is that what you're saying?

15 A. I don't know. Later is an
16 interesting question because I would have to
17 go down to specifics. These functions, by
18 the way. Were well known in all different
19 kinds of media geometries before Kim. Kim is
20 just talking about doing this under UPnP.
21 Kim gives an example of a distributed media
22 system and actual commands that could be sent
23 to keep people off the network or start a
24 broadcast or join.

25 So in the context of this

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2 combination, that's how we're using it for.

3 Its specific geometry doesn't matter much.

4 I think a POSITA would still be topped by it

5 in reference to Iwami.

6 Q. Is Figure 1 a good example or good

7 representation, excuse me, of Kim's -- I

8 believe you said distributed media system is

9 how you phrased it?

10 A. Yeah, that's what Kim basically

11 is -- has implemented from what I can see.

12 You got a control point. And there's

13 dialogue going back -- but it's interesting

14 to the media renderers are talking to the

15 media server here through the home network

16 maybe. Talking to the home network, the

17 arrow might want to go the other way, I'm not

18 sure, but that's interesting. That would

19 lead to a POSITA to think more two-way

20 communication here.

21 Q. So looking at Figure 1, we have the

22 media server communicating with the media

23 renderers?

24 A. No. Look at it carefully. The

25 media servers communicating to the home

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2 network, but the media renderers are --
3 they're people -- the arrow, they appear to
4 be sending data to the home network too,
5 which is interesting. If I were to look at
6 that with an open mind, I'd think maybe
7 they're providing data, although it says
8 media renderer. If you read Kim, it's a
9 little different. But this document is
10 written in a way that you could probably read
11 it different ways.

12 Q. So one way at least going off of
13 the arrows we're seeing here, let's start
14 with the media server 120.

15 You see that?

16 A. I do see that.

17 Q. And there's arrow S102 that goes up
18 to CP110.

19 You see that?

20 A. Yes.

21 Q. CP stands for control point,
22 I believe, correct?

23 A. It does, yes.

24 Q. So the media server is sending data
25 to the control point, the control point then

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2 has an arrow coming out of it, S104, then
3 continues around towards the right side of
4 the Figure 1 and goes to different media
5 renderers, correct?

6 A. That's true.

7 Q. So Kim is, at least looking
8 striking at Figure 1, Kim is describing the
9 media server providing potentially media
10 content to the media renderers, correct?

11 A. I believe Kim describes it --
12 I would tend to think it wouldn't go over
13 UPnP necessarily, it would go over the whole
14 network, that's why I was a little bit
15 confused by this.

16 Q. That's at least what's being shown
17 in Figure 1, correct?

18 A. In Figure 1, it's odd, 'cause it
19 shows the media renderers talking to the home
20 network, it's -- the CP, control point,
21 that's sending commands I believe. I don't
22 know if that is sending media. I'm not sure.
23 I seem to remember UPnP being a lower
24 bandwidth bus where you would send commands,
25 not media. Media would come to the home

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2 network, I would tend to think.

3 Q. So --

4 (Cross-talk.)

5 A. I'd have to drill down more.

6 Q. Okay. So what is your
7 understanding of the function of the control
8 point 110 then in Kim?

9 A. That basically manages what
10 happens, so that's sending commands to the
11 renderers, sending commands to the server so
12 it can launch a media stream, it can say you
13 subscribed to this media stream, you see it.
14 So yeah. And it could be multiple media
15 servers by the way in UPnP, and Kim doesn't
16 show it, but you can have others and you can
17 say you start, you stop. But that's showing
18 one branch of that.

19 Q. But the multiple servers, is
20 that -- that's separate from what Kim is
21 describing?

22 A. Kim doesn't show it, but UPnP can
23 handle that, can start that server, have the
24 renderer subscribe to this, subscribe to
25 that. You can switch it, that's what the

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2 control point does.

3 Q. So what might help here is --
4 excuse me, paragraphs 36 and 37 which talk
5 about the control point 110 and if you'd like
6 to take a moment to read through it.

7 A. (Document review.)

8 It's consistent with what I said.

9 Yes, I've read it.

10 Q. So looking at -- I see in
11 paragraph 36 about halfway through it states
12 the control point 110 informs multiple media
13 renderers 131 to 136 wanting to join a
14 Multicast group of the RTSPURL by using, in
15 quotes here, joint action?

16 A. Yep.

17 Q. And then in paragraph 37, Kim
18 states:

19 The aforementioned method comprises
20 the step in which the control point 110
21 invokes, quote, Leave action, of one of the
22 media renderers 131 to 136 having joined the
23 Multicast group in order to stop the data
24 reception of the corresponding media
25 renderer.

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2 Do you see that?

3 A. I do see it.

4 Q. So is it fair to say, and I believe
5 this is consistent with what you were telling
6 me earlier, that one of the roles of control
7 point 110 is these Join -- Joint, excuse me,
8 and Leave commands or actions; is that
9 correct?

10 A. Yes, those are examples of commands
11 that would send and under Kim he's calling
12 them out and those are causing the media
13 devices that are connected to join this
14 stream or to leave.

15 Q. And so in paragraph 37, if Kim says
16 the control point invokes Leave action of one
17 of the media renderers.

18 You see that?

19 A. Yes.

20 Q. What's your understanding of what's
21 the control point 110 and Kim is doing in
22 paragraph 37?

23 A. Analogous to terminating the
24 connection. You basically break the
25 connection to the media server, you're

1 J. Paradiso

2 telling it to leave. So you're basically
3 telling it to disconnect from the stream.

4 Q. And so the control point is telling
5 the media renderer to leave or the control
6 point is the one that's actually like
7 terminating the connection? Which is it in
8 Kim?

9 A. The control point cannot terminate
10 the connection in Kim directly, it's telling
11 the media renderer to leave, to stop. So you
12 can see it in the diagram, it's sending --
13 it's not pulling the plug, it's literally --
14 it's sending a command telling it to
15 disconnect from the stream to stop.

16 Q. So the --

17 (Cross-talk.)

18 A. It can go to a server as well, it's
19 the Leave command works both ways.

20 Q. So the control point tells the
21 media renderer disconnect yourself; that
22 right?

23 A. Yes, it is.

24 Q. Okay.

25 A. You can think of it as revoking

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2 permission at a certain level, permission
3 implied in connection, disconnection. That's
4 my prior conversation. But yeah, it's
5 telling it to leave, that we agree on I
6 think.

7 Q. Does the -- who initiates a Leave
8 or Join command, what entity I should say,
9 let me phrase that again.

10 What entity initiates the Leave or
11 Join command?

12 A. Again, I'm not using Kim to read
13 into the details of the patent. I'm just
14 talking about these operations could be
15 adopted by Iwami. But I can try to answer
16 that question if you let me read a little
17 bit.

18 Q. Sure.

19 A. (Document review.)

20 Okay. Can you repeat your
21 question?

22 Q. Sure.

23 What entity initiates a Leave or a
24 Join command?

25 A. I believe they can be used in

1 J. Paradiso

2 different ways. The way that Kim seems to
3 talk about it, the control point manages it
4 all, but it seems that the media renderers
5 want to join or want to leave in the examples
6 he gives. A POSITA can think of scenarios
7 where the control point, you know, for
8 various reasons would decide to make them
9 leave. For instance, if they don't have
10 access to the content, there could be
11 copyright issues, things like that. But
12 reading in Kim, the only example I see here,
13 maybe somewhere else, something else, the
14 renderers are sending requests to the control
15 point.

16 Q. Okay. Does -- let me start over.

17 The control point in Kim does not
18 control access to the Multicast group,
19 correct?

20 A. It kinda does because it basically
21 is sharing the address of the media server
22 with the renderers telling them, I guess it's
23 with the Join command, right, telling them
24 it's time, it's here, you have access, go.
25 Without that address you probably can't watch

1 J. Paradiso

2 it.

3 Q. But then you just said it's the
4 media renderer that decides whether or not to
5 join, correct?

6 A. The media renderer wants to join.
7 I think the control point got to extend the
8 command back to the renderer to allow it to
9 join. That's a decision that has to be made
10 in the control point basically. So without
11 that address, you can't start.

12 So the renderer may have a
13 catalogue, I don't know what, they may want
14 to join this broadcast or see this thing and
15 the control point has to send what it needs
16 back otherwise it can't join, even if it
17 starts it on the media server.

18 Q. So the media renderer then is the
19 one that decides whether or not to join or
20 leave based on -- well, I don't know what
21 it's based on, I'm sorry. The media renderer
22 is the one who makes the final decision on
23 whether or not to join or leave, correct?

24 A. I don't know if I would say final
25 decision. It's -- it's requesting to join or

1 J. Paradiso

2 leave and the control point is the one that
3 actually executes that with a media server,
4 I believe, or whatever. The control point is
5 implicit in issuing those commands. So they
6 get queued up from the media renderer at
7 least through Kim, but the control point is
8 the one that seems to have the final word in
9 that. That's why they call it the control
10 point.

11 Q. You said it seems or it's implicit,
12 so you're saying it's not explicitly
13 described in Kim one way or the other; is
14 that correct?

15 A. Kim gives some description, but
16 it's not -- the scenarios I'm talking about
17 aren't detailed out there. But Kim is
18 clearly showing that it has to -- the control
19 point has to give it the place where it can
20 get the stream from. And it's a separate
21 connection to each device, so it's giving
22 each device where to -- where to find the --
23 where to find the content it seems.

24 Q. And then the media renderer once it
25 has the information on where to find the

1 J. Paradiso

2 content, the media renderer decides whether
3 or not to join a particular media stream,
4 correct?

5 A. I think it's in a way authorized to
6 do so without the control point giving it the
7 info, because then it could do it. Then,
8 yeah, it makes the decision that it wants to
9 join, yes. I would assume. Although the
10 control point is sending a command.

11 Q. Does Kim talk about permission
12 information at all?

13 A. Doesn't use that word. He does
14 talk about Leave which, you know, can be
15 interpreted as a way to remove devices from a
16 media stream, yes.

17 Q. And does the Leave function grant
18 or deny permission for a particular media
19 renderer?

20 A. It basically kicks them off or it
21 tells them to leave.

22 Q. You said before the Leave command
23 is coming from the media renderer though,
24 correct?

25 A. No, it doesn't. The Leave command

1 J. Paradiso

2 comes from the control point. The control
3 point sends it. The media renderer may send
4 a request for a command, but the control
5 point actually sends the command and executes
6 the protocol it needs to be able to do a
7 leave. The Leave isn't described in a lot of
8 detail there, but it is described.

9 Q. But there's no permission
10 information that grants or denies access to
11 those media renderers in Kim, correct?

12 A. Beyond just the ability to send the
13 information to the renderers to join or to
14 leave, there's nothing that talks about
15 permission in Kim as such.

16 MR. STANFORD: Okay, thank you.

17 Well, I believe that's all I have.

18 I will pass the witness.

19 MR. SUNG: Great.

20 EXAMINATION BY

21 MR. SUNG:

22 Q. Dr. Paradiso, I have a few
23 questions related to the -- that came up
24 during today's deposition. And to refresh
25 your memory, simply yes or no for now.

1 J. Paradiso

2 Do you recall that you and counsel
3 for Maxell have discussed the issue of
4 Iwami's second and third embodiments?

5 A. Yes, we did.

6 Q. During your earlier question --
7 deposition, counsel for Maxell directed you
8 to a paragraph 42 of Iwami.

9 Do you recall that? You can take a
10 look at paragraph 42 if you want.

11 A. I want to look. I believe those
12 are probably the brief introductions, but let
13 me look. Paragraph 42, hold on. Yep, I'm
14 there.

15 Q. Please slowly read paragraph 42 for
16 the record.

17 A. Figure 18 is a diagram illustrating
18 an installation example of a communication
19 system 700 according to the second embodiment
20 of the present technology.

21 Q. And you were also asked about
22 paragraph 443 earlier today.

23 Do you recall that testimony?

24 A. Yes, I do. Let me go there. Yes.

25 Q. What did you understand the

1 J. Paradiso

2 language in paragraph 443 to indicate about
3 the relationship between the second and third
4 embodiments?

5 A. Let me quickly reread it.

6 (Document review.)

7 The way I read this, and this is
8 what I think we talked about at length, was
9 that this is showing me the flow diagram that
10 is introducing the third embodiment is
11 descended directly from the second
12 embodiment.

13 Q. Okay. Then I'd like you to now
14 turn to paragraph 441 of Iwami, which is just
15 two paragraphs before paragraph 443.

16 A. I do see it, yes.

17 Q. And I'll give you a second to read
18 before we go further.

19 A. (Document review.)

20 Yes, I've read it.

21 Q. What does paragraph 441 describe?

22 A. This describes I think the main
23 distinguishing characteristic of the third
24 embodiment is just the way the device is
25 registered with near field communication and

1 J. Paradiso

2 he's pointing to Figure 18 essentially
3 showing the layout that's used in this -- the
4 third embodiment, which is the same figure
5 that's used for the second embodiment,
6 essentially what I said in my testimony.

7 Q. So based on those two paragraphs,
8 which embodiment or embodiments does
9 Figure 18 relate to?

10 A. It relates to the second and the
11 third embodiment.

12 Q. And taken together what you
13 testified about paragraphs 42, 441, 443 and
14 Figure 18 of Iwami, what's your opinion about
15 whether a person of ordinary skill in the art
16 would understand the second and third
17 embodiments to be combinable?

18 A. Oh, absolutely, they're evolution
19 of the same system. So a POSITA would
20 fluently go across that boundary and combine
21 the ideas because they're, you know, as it
22 says in these sites itself it's the same
23 system.

24 MR. SUNG: Okay, no further
25 questions. I yield the witness.

1 J. Paradiso

2 MR. STANFORD: Nothing further.

3 THE COURT REPORTER: We're off the
4 record.

5 (Concluded at 3:17 p.m. Eastern Time)

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J. Paradiso

J U R A T

I, JOSEPH PARADISO, do hereby
certify under penalty of perjury that
I have read the foregoing transcript
of my deposition taken on the 27th of
March, 2026; that I have made such
corrections as appear noted herein in
ink, initialed by me; that my
testimony as contained herein, as
corrected, is true and correct.

JOSEPH PARADISO

Subscribed and sworn to before me

This _____ day of _____, 20__.

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1 J. Paradiso

2 -----I N D E X-----

3 WITNESS: JOSEPH PARADISO

4 EXAMINATION BY: PAGE

5 MR. STANFORD 4

6 MR. SUNG 164

7

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9 -----E X H I B I T S-----

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J. Paradiso

C E R T I F I C A T E

STATE OF NEW YORK)
 : SS.:
COUNTY OF RICHMOND)

I, CANDIDA BORRIELLO, a Stenographic
Court Reporter and Notary Public for and
within the State of New York, do hereby
certify:

That the witness, JOSEPH PARADISO,
whose examination is hereinbefore set forth
was duly sworn and that such examination is a
true record of the testimony given by that
witness.

I further certify that I am not
related to any of the parties to this action
by blood or by marriage and that I am in no
way interested in the outcome of this matter.

IN WITNESS WHEREOF, I have hereunto
set my hand this 27th day of March, 2026.

Candida Borriello
CANDIDA BORRIELLO

1 J. Paradiso

2 ERRATA SHEET FOR THE TRANSCRIPT OF:

3 Case Name: Samsung v. Maxell

4 Dep. Date: March 27, 2026

5 Deponent: Joseph Paradiso

6	Pg.	Ln.	Now Reads	Should Read	Reason
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JOSEPH PARADISO

21 SUBSCRIBED AND SWORN BEFORE ME,

22 This____ day of_____, 20____.

23 _____
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25 My Commission Expires:_____

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