

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NOKIA OF AMERICA CORPORATION and
AT&T SERVICES, INC.,
Petitioners,

v.

IARNACH TECHNOLOGIES LIMITED,
Patent Owner.

Case IPR2024-00899
Patent 9,806,892 B2

Record of Oral Hearing
Held: September 18, 2025

Before KEVIN C. TROCK, KARA L. SZPONDOWSKI, and
CHRISTOPHER L. OGDEN, *Administrative Patent Judges*.

APPEARANCES:

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The above-entitled matter came on for hearing Thursday, September 18, 2025, commencing at 10:00 a.m., at the U.S. Patent & Trademark Office, Western Regional Outreach Office, 26 S. 4th Street, San Jose, California.

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

(10:01 a.m.)

JUDGE OGDEN: Good afternoon. We're convened for oral arguments in IPR2024-00899, which relates to patentability challenges of claims in U.S. Patent No. 9,806,892 B2. I'm Judge Ogden, and I'm joined by Judge Trock in the hearing room with me, and also appearing remotely is Judge Szpondowski.

Let's get started with appearances for both parties who will be arguing today, and if anyone else is attending with you in person or remotely, please indicate who that is. For example, if your client is attending, please let us know. And following the hearing, please confer with the court reporter to make sure that there are no questions about the spelling of names or terms.

So let's start with appearances for Petitioner.

MR. LAREAU: Steve Lareau of Alston & Bird on behalf of Petitioners, and with me in the courtroom is my colleague, Christopher Douglas. I don't believe we have anyone attending remotely.

JUDGE OGDEN: Okay. Thank you. And who will be arguing on behalf of Petitioner?

MR. LAREAU: I will be, Your Honor.

JUDGE OGDEN: Okay. Mr. Lareau? Did I pronounce that correctly?

MR. LAREAU: That's correct.

JUDGE OGDEN: Okay. Thank you.

And for Patent Owner?

MR. WYDE: Good morning, Your Honor. My name is Joshua Wyde of Alavi & Anaipakos, and I'm here for the Patent Owner Iarnach

1 Technologies. And I don't believe anybody is on the line remotely for Patent
2 Owner.

3 JUDGE OGDEN: Okay. Thank you, Mr. Wyde.

4 MR. WYDE: You're welcome.

5 (Whereupon, the above-entitled matter briefly went off the record to
6 address a technical issue.)

7 JUDGE OGDEN: [W]elcome to the USPTO's San Jose
8 Office. I'm going to begin with a few preliminary matters. First, as always,
9 recording of any PTAB hearing is prohibited. We have a court reporter that
10 will provide a transcript of the hearing, and that will become part of the
11 record in due course.

12 And as you can see, the court reporter is not here in the room with us
13 today, so if you can just keep that in mind and make sure that you're
14 speaking clearly and into the microphone for the record. That will be
15 helpful. And if you're referring to any slides or portions of the record, make
16 sure you identify that clearly so that it's clear from the record what you're
17 referring to.

18 Per the hearing order, which is Paper No. 34 in this proceeding, each
19 party will have 45 minutes total to argue their case, and Petitioner will open
20 the arguments and can reserve rebuttal time. And then Patent Owner will
21 respond to Petitioners' arguments and can also reserve sur-rebuttal time.
22 And the rebuttal time and sur-rebuttal time should not exceed more than half
23 of each side's total argument time.

24 And please remember that the arguments you make today should be
25 limited to only those arguments that you previously presented in your briefs.
26 And if you can, it would be helpful to make clear which challenges and

1 claims you're addressing at all times so that's clear for the record. And also,
2 we would ask both parties to hold any objections you might have about
3 opposing party's arguments until it's your time to come to the podium, and
4 then you can note any objections at that time.

5 So I'll maintain a clock, which you can see behind us. And the light
6 on the clock changes to yellow when you're nearing the end of your time,
7 whether opening or in rebuttal, and then when the light is red, you've run out
8 of time. But if you're still in your initial presentation and you'd like to
9 continue, you have the option of cutting into your rebuttal or sur-rebuttal
10 time. You can just do that as you feel appropriate. And if that happens, the
11 clock will start ticking upwards.

12 So Petitioner, would you like to reserve any rebuttal time?

13 MR. LAREAU: We would, Your Honor. We intend to reserve 15
14 minutes for rebuttal.

15 THE COURT REPORTER: Testing. Thank you. Sorry to interrupt.

16 JUDGE OGDEN: Okay. I have put 30 minutes of time on for
17 Petitioners' initial arguments, and you can start when you're ready.

18 MR. LAREAU: Can the court reporter hear my voice okay on the
19 podium microphone?

20 THE COURT REPORTER: I can hear you.

21 MR. LAREAU: Great. May I proceed, Your Honor?

22 JUDGE OGDEN: Yes. Go ahead when you're ready.

23 MR. LAREAU: All right.

24 THE COURT REPORTER: I apologize. I just have to say something
25 to bring myself back. Okay. Thank you. Go ahead.

1 MR. LAREAU: Okay. Good morning, Your Honors. Steve Lareau on
2 behalf of the Petitioners. I'd like to start today with just kind of a table
3 setting of where this dispute really lies coming through all of the briefing.
4 You know, there's kind of one core dispute that pervades most of the
5 briefing that I'm sure you've noticed, and that is the question of whether it
6 would be obvious to incorporate direct transitions into 987.3, the primary
7 reference that the Petitioner relies on.

8 So I thought it'd be helpful just to set the stage a little bit. This is
9 looking at Slide 8. What do we know? Well, we know that the Patent Owner
10 admits that direct transitions were disclosed in the prior art. There's no real
11 dispute about that at this point in the record. We know that the Patent Owner
12 admits that direct transitions were known by persons of ordinary skill in the
13 art. Again, not really disputed at this point. We know that direct transitions
14 were one of a limited number of possible choices that a POSITA could
15 implement when looking at power-saving state changes. These are all things
16 that are known. These things aren't in dispute anymore.

17 Turning to Slide 9, what is in dispute? Well, the only real issue, core
18 issue, that's in dispute is whether a person of ordinary skill in the art would
19 be motivated to implement this change and whether they could. And we'll
20 address both of those things.

21 Now, one preliminary issue I'd like to address is claim construction.
22 This is particularly relevant to Claim 4, or excuse me, to Claim 14. And the
23 issue here is the Patent Owner is seeking to import a limitation into Claim
24 14. Specifically, they are trying to construe, transition, to be a, quote, direct
25 transition. This is just not found in the plain language of the claim as the,
26 you know, institution decision correctly recognized.

1 Turning to Slide 12, when the Patentee wanted to claim the direct
2 transition, it did so. It's very clear it knows how to do that. In Claim 1,
3 Claim 6, Claim 10, the direct transition is clearly stated in the claims. And
4 when the Patentee wished to claim something broader than a direct
5 transition, so just a transition of any flavor, it did so. It did so in Claim 12
6 and Claim 14. And here we just see a generic transition.

7 What is a generic transition compared to a direct transition? Well, it's
8 a direct transition or it's an indirect transition. So the claims themselves tell
9 us the whole story, but that's not the only place we have to look.

10 Looking at Slide 15, you can look to the specification of the patent.
11 What does the specification tell us? Well, the specification tells us when a
12 Patentee wishes to discuss a direct transition, it knew how to do so. It talks
13 about directly transitioning between two low-power states in the
14 specification, and in other instances, it uses the broader term, the unmodified
15 transition, to refer broadly to either an indirect transition, which is discussed
16 throughout the patent, or in some cases, a direct transition because a
17 transition is broadly incorporating both of those things. That's just --

18 JUDGE TROCK: Just for a second. I just want to clarify. So this
19 claim construction issue you're talking about with respect to Claim 14,
20 where the language is configured to transition, you also mentioned that there
21 is similar language in Claim 12. So are you telling us that how we decide the
22 claim construction issue is not going to impact Claim 12?

23 MR. LAREAU: Well, Your Honor, the Patent Owner is not
24 challenging the construction of transition in Claim 12 to broadly include
25 direct and indirect.

1 JUDGE TROCK: So if our claim construction determination goes
2 against you, does that impact Claim 12 as well?

3 MR. LAREAU: Ultimately, no, because we've proven that a direct
4 transition was obvious. Now, the opposite of that, if you rule in our favor
5 with respect to Claim 14, the Patent Owner has no other arguments for
6 Claim 14. Claim 14 is therefore invalid. That is conceded. For Claim 12, the
7 Patent Owner has a separate argument that we'll be addressing, which is
8 why in their papers they say that they don't address the claim construction
9 for Claim 12. But it does lead to a curious situation where the Patent Owner
10 is seeking to change the construction for 14 but not for 12.

11 JUDGE TROCK: All right. Thank you.

12 JUDGE SZPONDOWSKI: Counsel, I have a question. I am on Slide
13 15, which there's a passage from the specification that's discussed in Figure
14 7A, which Figure 7A is the prior art, correct, the G.987.3 reference?

15 MR. LAREAU: That is correct, Your Honor.

16 JUDGE SZPONDOWSKI: Okay. So are there any embodiments
17 described in the '892 patent aside from the prior art that show an indirect
18 transition?

19 MR. LAREAU: I don't believe so, Your Honor. I believe that in 7A, it
20 talks about this is an embodiment that exists in the art, and this is what an
21 indirect transition would look like from the asleep state, which is the bottom
22 left corner, to the listen state, the bottom right corner. When the patent is
23 talking about an embodiment that recites an indirect transition, this is an
24 example of that embodiment.

25 JUDGE SZPONDOWSKI: So looking at the second to last sentence
26 in the excerpt that's on Slide 15 that starts, conventional ONUs, doesn't that

1 statement about what conventional ONUs lack, which is directly
2 transitioning, doesn't that indicate that that's precisely what the invention
3 here is trying to accomplish?

4 MR. LAREAU: That might be one aspect of what the invention is
5 trying to accomplish, but there's no statement saying that it's the only
6 potential point of novelty in this entire patent. And so as we've seen, for
7 instance, for Claim 12, which has the same issue, the Patentee has a separate
8 argument saying, oh, this other thing is not in the prior art. So just because
9 they've drafted two claims that don't claim a direct transition -- excuse me --
10 does not mean that they weren't trying to claim some other aspect of the
11 invention and have a broader claim set.

12 JUDGE SZPONDOWSKI: Thank you.

13 JUDGE TROCK: This is Judge Trock. The claim construction issue
14 on direct versus indirect transition. So what's your position on what direct
15 transition --

16 MR. LAREAU: Our position on what a direct transition is, is a
17 transition from one state to another state without going through an
18 intermediate state.

19 JUDGE TROCK: So if there's any other state in between, that's an
20 indirect transition?

21 MR. LAREAU: With respect to how the states are defined. And what
22 I mean -- low-power state and second low-power state in the claims are
23 defined by only two attributes, and that is the power state of the receiver and
24 the transmitter. And so I just want to be clear when I say no intermediate
25 state, I'm talking about states where those power states -- in some way.

26 JUDGE TROCK: So different than the one you're starting from?

1 MR. LAREAU: Correct.

2 JUDGE TROCK: Okay. Thank you.

3 JUDGE OGDEN: It seems like we may have an explicit definition of
4 what, directly transitions, means in the '892 patent on column 12 starting at
5 line 31, and that sounds similar to what you just put forward. Is that your
6 understanding of what it means is what's in that passage?

7 MR. LAREAU: Yes, Your Honor. And I believe we cited this in our
8 papers as well. We cited that specific definition. And it's further evidence
9 that the Patentee was capable and knew what a direct transition was, and so
10 the absent of direct transition necessarily leads to the conclusion that it is
11 something broader than a direct transition.

12 JUDGE OGDEN: Thank you.

13 JUDGE TROCK: This is Judge Trock. So this column 12, I believe it
14 starts on line 33 through 36, so it's referring here that direct transitions refer
15 to changing the operational state of the ONU between the first and the
16 second states. So it's referring to the, not A. So is this particular states that
17 we're talking about here, the ones that you defined as a first state and a
18 second state, or could it be any other states?

19 MR. LAREAU: I believe that it's referring -- when it says the first and
20 the second, it's referring to what is also claimed, which is the two low power
21 states that are defined by the power status of the transmitter and the receiver.

22 JUDGE TROCK: Okay.

23 MR. LAREAU: If there's no further question of that, I'm going to
24 move on to what I believe is the core dispute.

25 To your point, Your Honor, I just want to briefly remind everyone the
26 first state that's defined in the patent is just defined by two parameters and

1 two parameters only, which is that the receiver is on and the transmitter is
2 off. We see there's no dispute that that's taught in 987. That was looking at
3 Slide 17.

4 Now looking at Slide 18, it's also taught in Röger, and that's not
5 disputed. The second state, which is the other one, is both receiver off,
6 transmitter off. That's it. That's how the patent defines these states. We
7 don't need to think about anything else. It doesn't matter what they're
8 called, doesn't matter anything else as far as the claim is concerned. These
9 are the sole defining features of these states. This is also taught in G.987.3.
10 It's not disputed, looking at Slide 19. Looking at Slide 20, it's also in Röger,
11 not disputed.

12 Now, the other key aspect of this dispute is direct transitions, and
13 these are what we're talking about, again, direct transitions from the first
14 state to the second state and second state to the first state, so vice versa. And
15 those are taught in Röger. This is not disputed anymore. It was disputed in
16 the POPR. It's not disputed now. Any time we see these high marks going
17 down, those are direct transitions.

18 Just to give Your Honors a brief overview and orientation to this
19 figure because it's a little confusing, this is an oscilloscope trace for a CO,
20 which is an OLT. So those are ONUs. And these are traces for each one of
21 those individually, and the X-axis is obviously time. There's a question in
22 the institution decision about what these traces actually reflect. These reflect
23 voltage -- so not current, not power, but voltage.

24 JUDGE TROCK: One, is that correct?

25 MR. LAREAU: Yes, Your Honor. I apologize. And this is Figure 2
26 from Röger, which is Exhibit 1006. Other than Röger, we also see it in

1 Figure 6, where we have captured traces as opposed to the theoretical traces
2 that were shown in Figure 2.

3 Well, what has the Patent Owner said about these direct transitions?
4 We know they're in the prior art. What has the Patent Owner said? Well, the
5 Patent Owner (audio interference) that there are so few realistic possibilities
6 that the ITU and the authors of G.987.3, they must have considered these
7 because it has to happen. Any person (audio interference).

8 What has the Patent Owner said? They said not only would you had to
9 have thought of it, they definitely did think about it. These are admissions
10 from the Patent Owner about whether direct transitions were known or
11 something that would come from a obvious to try or reasonable chance of
12 success.

13 So moving to motivation to combine, we know that all of the elements
14 are present in the art. There's no real dispute. Now we're looking at Slide
15 24. Why would we combine these things? Well, we can look to the
16 references themselves. G.987.3 tells us that it is desirable to reduce the
17 power consumed by an ONU as much as possible, the primary reference that
18 we rely on. So this entire section of the standard is directed to ONU power
19 management with this stated goal. It's the first sentence of the entire section.
20 And then the rest of this page goes on ad nauseum explaining all the
21 different ways you could do that and the reasons for that and the benefits of
22 doing so. So that's from G.987.3.

23 JUDGE TROCK: Counsel, you're referring to Slide 24, right?

24 MR. LAREAU: Yes, Your Honor.

25 JUDGE TROCK: Okay. It would be helpful every time you refer to a
26 slide that's up on that screen, that you first identify it for the record.

1 MR. LAREAU: Apologies, Your Honor.

2 JUDGE TROCK: Thank you.

3 MR. LAREAU: Turning to Slide 25, what does Röger say about
4 power savings? Röger says the goal is to operate all subscribers with the
5 least power possible -- the least possible power consumption. And why is
6 that? Because Röger is a system that is an optically powered passive optical
7 network, which means that the power consumption and power savings is
8 paramount. So if you were trying to figure out how to improve a broader
9 standard, a kind of generic standard, where would you look? You would
10 look to a place where power savings is the most critical consideration, and
11 it's an optically powered network.

12 JUDGE OGDEN: Just to clarify, the Röger reference came before the
13 G.987.3 standard, correct?

14 MR. LAREAU: Yes. I believe that is correct, Your Honor.

15 JUDGE OGDEN: So it doesn't seem like the purpose of Röger was to
16 improve upon the standard because the standard hadn't existed yet. So
17 starting with the standard that came out, and then your (audio interference),
18 according to Petitioner, a person of ordinary skill would have used to modify
19 this, right?

20 MR. LAREAU: Well, again, the Röger reference is a specific kind of
21 unique flavor of a passive optical network, right? So this is an experimental
22 optically powered passive optical network. The G.987.3 standard is the XG-
23 PON standard. Okay? It has a 2010 date. They were developing it prior to,
24 obviously, 2010. It didn't just issue out of thin air in 2010. Excuse me. So
25 they were working on it up until this date, and there was a preceding

1 standard that it pulled a lot of its architecture around the G-PON standard,
2 which I believe came out in 2003.

3 Now, admittedly, we're a little bit outside of the record here, but since
4 you asked the question, this is, I believe, two years before the XG-PON
5 standard actually issued from the ITU, if I have the date correct in my head.
6 And so I believe that's sufficiently contemporaneous, and I think that this is
7 a situation where this is kind of a unique situation where you would really,
8 really care about power savings. And so this is a place you would look
9 naturally to improve perhaps a more generic standard.

10 JUDGE OGDEN: Could it be that perhaps Röger came out with an
11 idea and then the standard came along later and said, no, for whatever
12 reason, we decide that it's not a good idea to transition between the two low-
13 power states, therefore, that's prohibited in this standard? And then if that's
14 the case, you know, wouldn't a person of ordinary skill in the art really have
15 a strong incentive to follow the standard rather than go back to things that
16 may modify that?

17 MR. LAREAU: Well, Your Honor, to that point -- and we addressed
18 this in the reply -- what actually happened in the development of the XG-
19 PON standard, there were two competing proposals for power savings. One
20 was a doze mode, one was the listening. So when we think of that state
21 diagram, there are the two branches, the left side and the right side. Those
22 are two competing proposals, and they had a deadline for when they had to
23 issue the standard.

24 And so as a compromise, they just put them both in. That's the
25 practical human history that we addressed in the reply as to how this actually
26 happened. And so what's not in the record anywhere is anything to support

1 the notion that there was some sort of considered rejection of direct
2 transitions.

3 JUDGE TROCK: Well, Counsel, didn't you earlier argue that Patent
4 Owner's expert came to the conclusion that they must have considered this
5 transition from two low-power states but they did not include it?

6 MR. LAREAU: That is certainly Dr. Litvin's unsupported conclusion.
7 He does not cite any documents or anything of record to support that
8 conclusion other than a single sentence in something that's called Note 2,
9 which we'll discuss. But there is no actual evidence to support that
10 conclusion, and, in fact, the only evidence that is in the record supports the
11 opposite conclusion, which is the one that I just explained, which is there's
12 these two different proposals, they ran out of time, and they put them both in
13 the standard.

14 JUDGE TROCK: But doesn't the note you're referring to say that it's
15 prohibited to go between those two low-power states directly? Is there strong
16 evidence against your position?

17 MR. LAREAU: I do not believe so, Your Honor. And if you'll give
18 me a second, I will go to Slide 37. So this is the Note 2 that we're talking
19 about. So this is something that they rely heavily on in their argument to
20 support their position, and it's important to understand what exactly this note
21 is. This note comes from the OLT state machine, not the ONU state machine
22 table, the OLT state machine table. Okay? What this tells you is it says,
23 direct transitions between doze mode and cyclic sleep mode -- those are the
24 two branches -- are disallowed."

25 Now, what does this not say? It doesn't say they're prohibited. It
26 doesn't say, we thought about it really hard and came to the conclusion that

1 it was impossible. It doesn't say that we thought this was a bad idea. It
2 doesn't say that the architecture of our standard doesn't support that. None
3 of those things are present in here.

4 JUDGE TROCK: Well, let me stop you there. Are you telling me that
5 disallowed does not mean prohibited?

6 MR. LAREAU: I'm going to say no, Your Honor. I would say
7 disallowed just means disallowed. What disallowed means in the context of
8 the OLT state machine table, not the ONU state machine table, says what
9 that tells a POSITA is that this state machine in this standard as to the state
10 didn't yet support direct transitions. That's all that that means. It says we
11 don't support this yet. But what it does tell you is that they're known. You
12 can't disallow something without knowing that it exists.

13 JUDGE TROCK: So granted, for sake of argument, that you're
14 correct that it's known -- and it doesn't appear as if Patent Owner is
15 disputing that vigorously -- but the fact that there's a disallowance here, in
16 the context of actually knowing that the states exists suggests, I think at a
17 minimum, that there's a problem with going from one state to another.
18 There's a rationale for disallowing it.

19 MR. LAREAU: Your Honor, the record is -- that rationale is absent
20 from the record.

21 JUDGE TROCK: And you're saying that Patent Owner's expert
22 doesn't provide any such rationale?

23 MR. LAREAU: It is conclusory at best. You can see this from our
24 reply. The ITU, every time there's a contribution, a change, anything is
25 added to this standard, there are documents to support that change. They
26 submit documents, contributions -- we often talk about contributions. And all

1 of the different participants in the standard get together, they submit these
2 things, they debate them, they have conference calls. All of this is publicly
3 accessible.

4 And what's not in the record is anything to support the conclusion that
5 the ITU has rejected these transitions. And if there was something, I expect
6 we would have seen it, but we haven't.

7 JUDGE TROCK: Okay. Thank you.

8 JUDGE SZPONDOWSKI: Counsel, I have a question on that. So
9 Patent Owner argues that using direct transitions in the G.987.3 reference
10 would be incompatible with this design. So the fact that direct transitions
11 were known and yet they weren't used, doesn't that lend some credence to
12 that argument?

13 MR. LAREAU: No, Your Honor, it doesn't. And let me explain why.
14 I'm going to move to Slide 40. What we know from the actual record, is that
15 the proposal that is in our Petition is the exact thing that occurred in the
16 standard. So what happened? What happened, you know, in the standard to
17 actually implement direct transitions? What did they do? They took the
18 existing branches, and they turned them into something where there's direct
19 transitions.

20 I'm looking now at Slide 41. This is a presentation. This is a
21 contribution to the ITU. This is a PowerPoint as opposed to a Word doc.
22 They're normally Word documents. So this is the ITU author speaking. So
23 what are we doing? We're reusing a mandatory branch of -- all we're doing
24 is a change to the internal state semantics, not to the protocol, and it doesn't
25 matter what we call it.

1 And so (audio interference) to implement this. And so we've
2 submitted these documents not because they're prior art. They're not prior
3 art. (Audio interference) the idea that it's impossible to do what our petition
4 suggests because that is precisely what was done in the standard, exactly
5 what we're suggesting, which is you would just simply implement direct
6 transitions, something that was known, into the existing standard as it
7 existed.

8 And so the Patent Owner (audio interference) possibly do this. There
9 are all these signaling mechanisms in states that would prevent this from
10 occurring. But that's directly rebutted by documentary evidence that has no
11 opposition. We'll look at another --

12 JUDGE OGDEN: So it's your position that this contribution D8
13 standard would modify existing G.987.3 standard?

14 MR. LAREAU: Yes, Your Honor. In fact, the (audio interference)
15 editing G.987.3. So these are contributions (audio interference) subject of
16 our Petition, so Exhibit 1007. And how would we add direct transitions to
17 that? So that's what these contributions are talking about. They're literally
18 talking about the technical feasibility of performing the modification that
19 we're suggesting. And what you see from these documents, they're saying
20 it's easy. They're saying there's no problem doing this.

21 This is another one. This is D75. This was contemporaneous with D8.
22 It says, it is a naturally simplified implementation.

23 JUDGE TROCK: What are you referring to? What slide?

24 MR. LAREAU: Oh, sorry, Your Honor. This is Slide 43. And it says,
25 the mode state machines" -- they're talking about the direct transitions -- can

1 be derived as a reduction of the two-mode state machines currently specified
2 in G.987.3. That's our reference. What they're saying is, you can do this.

3 And then the same going to Slide 44.

4 JUDGE TROCK: Before you go any further, Counselor, did Patent
5 Owner make any evidentiary objections against these two contributions, D8
6 and D75, this documentation?

7 MR. LAREAU: I believe they did, Your Honor.

8 JUDGE TROCK: What was the basis for that?

9 MR. LAREAU: One was authenticity, and another was hearsay, Your
10 Honor, I believe.

11 JUDGE TROCK: Are they still maintaining those objections?

12 MR. LAREAU: We have not heard anything further from Patent
13 Owner with respect to those objections.

14 JUDGE TROCK: What's your position on those objections?

15 MR. LAREAU: First of all, we served an additional declaration
16 addressing the authenticity of these because they were pulled directly from
17 the ITU website. (Audio interference) on the other side. And they never
18 moved to exclude any of these (audio interference).

19 JUDGE TROCK: So we don't have it?

20 MR. LAREAU: I don't believe so, Your Honor.

21 JUDGE TROCK: So we can't rely on it?

22 MR. LAREAU: No, Your Honor. But these (audio interference) upon
23 by courts, by boards.

24 JUDGE TROCK: You're not asking us to take official notice of it, are
25 you?

1 MR. LAREAU: No, Your Honor. I'm just suggesting that these things
2 are documents that can survive the objections where there was no motion to
3 exclude.

4 JUDGE TROCK: Understood. But what I'm trying to get is at the
5 (audio interference) of these two contributions, D8 and D75. What's the
6 status of that (audio interference).

7 MR. LAREAU: They've never pursued those objections any further,
8 Your Honor.

9 JUDGE TROCK: Did they file their objections in (audio interference)
10 or was it just with you?

11 MR. LAREAU: I believe so, Your Honor.

12 JUDGE TROCK: They did?

13 MR. LAREAU: Yeah.

14 JUDGE TROCK: Okay. Just taking a moment.

15 MR. WYDE: Your Honor, we did not.

16 JUDGE TROCK: Identify yourself.

17 MR. WYDE: I'm sorry, Your Honor. We did not file objections. It's
18 not on the record. It goes against my client, but he's incorrect.

19 JUDGE TROCK: Okay. All right. Thank you. Just wanted to clarify.

20 All right. You can proceed. Sorry.

21 MR. LAREAU: Thank you, Your Honor. And just for the hearsay
22 objection, to the extent that Your Honor is still interested in this where they
23 haven't moved, you know, these are business records from the ITU, by the
24 International Telecommunications Union. These are documents that are
25 maintained by them. It's run by the UN.

26 JUDGE TROCK: What are the date of these contributions?

1 MR. LAREAU: This was 2013. D8 was 2013. It's roughly a year after
2 the priority date. I can get those exact dates for you, but that's the rough time
3 frame of what they are. Again, (audio interference.) prior art. These are
4 merely to rebut a technical feasibility argument that the Patent Owner has
5 suggested.

6 JUDGE TROCK: I understand. Thank you.

7 MR. LAREAU: If you look at -- this is Slide 44. This is part of that
8 same reference -- excuse me, that same contribution we were just looking at.
9 And what we see is these are the changes. These are actually red lines to the
10 standard, so red lines to G.987.3, that were being proposed at the time. And
11 so what did they do? You can see. There's not very much change. They
12 added a parameter, right? These are all things that are well within the skill of
13 an ordinary artisan, right? Just adding parameters, signaling there's no
14 indication in the record that there was any difficulty here.

15 I think it's important to know, you know, the idea -- the Patent Owner
16 has argued that it would be impossible to do this because, you know, you
17 would never ever collapse or modify or transition or use the doze and sleep
18 states as they exist in G.987.3, but when we look at what they said in the
19 underlying litigation, from their infringement contentions, this is exactly
20 what they said. I'm reading it from the bottom of Slide 46. They say, the
21 watchful sleep mode, which is the one they say implements these direct
22 transitions, collapses dozing and cyclic sleep in a single state machine that's
23 been specified and adopted as replacement since the introduction of XG-
24 PON. XG-PON is G.987.3.

1 So what they're saying is that's exactly what happened. You just took
2 the existing things. You collapsed them into a single state machine. Seem to
3 be running a little --

4 JUDGE TROCK: Don't worry about the time so much. So Counsel,
5 these are infringement contentions from the Patent Owner in the AT&T
6 case; is that correct?

7 MR. LAREAU: Yes, Your Honor.

8 JUDGE TROCK: That's Slide 46, right?

9 MR. LAREAU: Yes, Your Honor.

10 JUDGE TROCK: And that's the G.9807 standard that we're referring
11 to here, right?

12 MR. LAREAU: I actually believe in that instance they're referring to
13 something that is a corollary to that, which is G Supp. 45, but this refers to
14 two -- there's snippets from two different documents on this page.

15 JUDGE TROCK: Right. So G.9807, that's later in time, right?

16 MR. LAREAU: Correct, Your Honor. That is the XGS-PON standard,
17 which I believe is Exhibit 1010 in the record.

18 JUDGE TROCK: All right. Thank you.

19 MR. LAREAU: I do want to address one other brief point, Your
20 Honor, on the motivation to combine. In addition to what the references
21 teach us, we also submitted evidence regarding improvements in chip speed.
22 This is something that was noted in the institution decision. And in response,
23 we never got any additional evidence from the Patent Owner other than
24 some conclusory statements from Dr. Litvin saying that you wouldn't really
25 want to do this because there already are state transitions in G.987.3, and
26 you wouldn't actually be interested in improving those.

1 We relied on external documents, the Wong reference and the Litvin
2 reference, to support the notion that there were improvements in transceiver
3 technology, specifically the receiver on time, so how long it takes for the
4 receiver to turn on, which is obviously a critical consideration in
5 determining transitions between low-power states. And so, you know, the
6 way the record stands right now, our evidence is both testimonial, and we
7 have documentary evidence to support that, and we still just have in
8 response conclusory testimony from the Patent Owner's expert, which is the
9 same state of play that we had at the POPR.

10 JUDGE TROCK: Counsel, did you depose Patent Owner's expert?

11 MR. LAREAU: I did, Your Honor.

12 JUDGE TROCK: And did you ask him these questions?

13 MR. LAREAU: I did ask him some of these questions.

14 JUDGE TROCK: What was his response?

15 MR. LAREAU: Well, Your Honor, it depends on the specific
16 question. And I asked him if he did any sort of analysis of any documents
17 outside of what was provided to him, right? Did you go look at any ITU
18 documents? Did you go look for other documents that support the
19 conclusions that you drew? And he didn't. He only looked at what was in the
20 Petition and, you know, what was in the record at that time. He did not do
21 any additional research to support any of his conclusions to go find
22 documents that say, no, actually, people developing these standards didn't
23 care about transceiver technology.

24 JUDGE TROCK: So he admits that in his deposition?

25 MR. LAREAU: He admits that he didn't look at anything else. He
26 admits what he looked at. We went through exactly what he looked at and

1 exactly what he didn't look at -- look like. Excuse me, look at. And that is in
2 that exhibit, which I can get the exhibit number. It's one of the later
3 thousand exhibits.

4 JUDGE TROCK: If you could get the citation to that and give it to us
5 later, that'd be okay.

6 MR. LAREAU: Absolutely, Your Honor. So yes, he admits that he
7 solely looked at just what was handed to him and he had blinders on to
8 everything else. In fact, he admitted that he didn't even look at the POPR, he
9 didn't look at -- Dr. Litvin wasn't their first expert in this whole proceeding.
10 They had a different expert for the POPR, and then after the institution
11 decision, their original expert was gone, and then all of a sudden we have
12 Dr. Litvin.

13 Dr. Litvin didn't look at anything that was said by the previous expert,
14 wasn't curious to see what they said before, wasn't curious to see what the
15 Patent Owner had said in the POPR. He just kept his blinders on and only
16 looked at the things that were specifically put in front of him.

17 JUDGE TROCK: Thank you.

18 MR. LAREAU: Seeing that we're running a little later on time, Your
19 Honor, I'm going to move on to some of what I would call sort of the
20 ancillary issues in some of the other claims and address them briefly, unless
21 there's anything else on sort of what I'd call the core dispute that Your
22 Honors would like to discuss.

23 JUDGE TROCK: No. Go ahead.

24 MR. LAREAU: Seeing nothing, I'll go ahead and move in to Claim 4.
25 The Claim 4 dispute is actually relatively simple. There's sort of two
26 outcomes. The argument that the Patent Owner makes is that what we're

1 suggesting is impossible. And the reality is that this claim is a little oddly
2 worded. Now I'm looking at Slide 48. Claim 4 dependent on Claim 1, it says
3 transmitting to an OLT, a message indicative of the transitioning between
4 the first state and the second state. Well, the first state and the second state
5 defined only by the power states of the transceiver, which means that the
6 transmitter is off. So how can the ONU send a message to the OLT when the
7 transmitter is off? That's a perfectly valid question.

8 There's one or two outcomes we see this going. Either this claim is
9 indefinite because it recites an impossibility and it's outside the scope of this
10 proceeding or the prior art teaches this. Those are the only two possibilities
11 that this could exist because assuming that an ONU could send a message
12 without somehow violating the direct transition rule, right, because Claim 1
13 recites a direct transition unlike 12 and 14, how could that be?

14 We point to -- this is looking at Slide 49 -- the sleep request message
15 that's taught when the ONU exits a doze mode or a sleep mode in the
16 standard, it sends a sleep request message to signal its state transition
17 change. So the G.987.3 suggests and teaches that you would send a message
18 when you transition. So that's in G.987.3. The only question is whether
19 Claim 4 actually recites an impossibility. And sort of either way it goes,
20 either the claim is invalid later in a district court under 112 or it's invalid
21 because it's taught by G.987.3

22 I'll also note that Note 2, interestingly enough -- and I'm looking at
23 Slide 51 now -- suggests that an OLT could receive a request from an ONU
24 to do a direct transition. How that's possible, I can't tell you, but the note
25 suggests that it's possible, and that would further render Claim 4 obvious.

1 Claim 12. Looking now at Slide 53. What's in dispute for Claim 12?
2 Last limitation of Claim 12, 12D. And this about whether an ONU can
3 receive a periodic consent message before it enters one of the two low-
4 power states or only during. And so it's really a question of claim
5 construction.

6 So if we look to the specification, what do we see? The message that
7 are taught in the patent, the messages that allow an ONU to transition into
8 these states, they're shown in the figures. Now looking at Slide 54, which is
9 Figure 7B, and I'm now looking at Slide 55, which is Figure 5. So in all of
10 the figures of the patent, at 5, 7A, 7B, 7D, 7E, any of them that showed a
11 transition, they all show that the message is sent to an ONU before it enters
12 one of these states. That is either the sleep allow message, which is the prior
13 art message, which is the message that's in G.987.3, or it's what the patent
14 calls LPM allow, which is low power mode allow. Same thing as sleep
15 allow. Those are the messages that are sent. The figures, without question,
16 all show it happening before it transitions into a low-power state.

17 And there's no depiction of it transmitting a message to an ONU
18 while it's in a low-power state. It's just not in the patent. And what do we
19 see from the specification describing these figures? It says that -- and this is
20 looking at column 7 of Table 1. There's a Table 1, column 7. The actual line
21 numbers are a little confusing and the way the formatting is. It says, the
22 LPM allow message grants -- the OLT grants consent to the ONU to
23 transition into a low power mode. That's teaching that this message allows
24 you to transition into the mode.

25 And then the one part of the specification the Patent Owner relies on
26 is in Table 6, which is on the next page. And it says that upon transition to

1 and periodically during this state, the OLT sends the LPM allow message to
2 the OLT -- excuse me, to the ONU. And so, upon transition to, means in
3 order to transition to it, it must send this message. So the specification
4 contemplates that this message would be sent prior to the ONU entering that
5 state. I'm looking at Slide 56.

6 JUDGE TROCK: Counsel, let me interrupt you. This is Judge Trock.
7 So what do you make of the spec column 12 starting at line 46 going down
8 to the end of the column? In particular, I want to direct your attention to
9 starting around line -- well, 46 through 55 talks about the three different
10 modules, 902, 904, 906 that are illustrated in Figure 9. And then as we move
11 down to line 59, it says, in some implementations, the transition may be
12 based on obtaining permission to transit from one low power mode to
13 another low power mode obtained by sending a request message from the
14 ONU to the OLT and receiving a corresponding grant message from the
15 OLT.

16 I read that, and that suggests to me, that you're in one of those two
17 low power modes already, and you're getting a grant, a permission message
18 from the OLT. So isn't that describing some of what's going on with respect
19 to what's being recited in Claim 12?

20 MR. LAREAU: No, Your Honor. And the reason is because what this
21 says is the ONU has to send a message to request that and then it receives it,
22 and if it's in either one of the low-power states, it can't send that message
23 because the transmitter is off.

24 JUDGE TROCK: So you're saying that's an impossibility unless it's
25 in some other state?

1 MR. LAREAU: Correct, Your Honor. So it has to be before it's in
2 those low-power states. According to the rules of the claims, the ONU
3 cannot send that message if it's in -- this is the same reason that they say that
4 Claim 4 is impossible. It doesn't make sense to have a transmitter send
5 something if it's off.

6 JUDGE OGDEN: Can we just go off the record for a second?
7 (Whereupon, the above-entitled matter went off the record at 11:47
8 a.m. and resumed at 11:49 a.m.)

9 MR. LAREAU: All right. Thank you, Your Honor. I just want to
10 make one last point on Claim 12, which is that under the Patent Owner's
11 proposed interpretation of 12B, what it requires is that the ONU already be
12 in the first low-power state or the second low-power state. Well, if the ONU
13 is in the second low-power state, that means its transmitter is off and its
14 receiver is off. So if it's receiver is off, how can it receive a periodic consent
15 message? If this claim is limited to the scenario where you have to already
16 be in the state to remain in the state, then this recites an impossibility. So
17 they're asking the Board to construe this in a way that recites an
18 impossibility, and I don't think that's the correct outcome.

19 JUDGE TROCK: But if it's the first state, the receiver would be on,
20 correct?

21 MR. LAREAU: Correct, Your Honor. Right. And so one of those
22 aspects of the or statement in 12B would be an impossibility, the second one.

23 Turning to Claim 15, and I'm going to Slide 15 -- and actually, Your
24 Honor, before I do that, I do want to just answer your earlier question. It's
25 Exhibit 1036. And the general discussion that I was referencing is page 29,

1 line 7 through 32, line 19. And then the specific admission or answer that I
2 think you might be interested in is at 32, 15 to 19, page 32, lines 15 to 19.

3 JUDGE TROCK: This is the examination of Patent Owner's expert,
4 right?

5 MR. LAREAU: Correct, Your Honor. Correct. This is a portion of the
6 deposition transcript.

7 JUDGE TROCK: All right. Thank you.

8 MR. LAREAU: Turning to Claim 15, which is the last main issue, and
9 again, this is another question not really about what the art teaches, but more
10 a question about claim interpretation. This is really just a question about
11 whether one parameter that's passed from the OLT to the ONU can satisfy
12 both the first time period and the second time period of Claim 15. Now, it's
13 important to remember Claim 15 is dependent from Claim 14. Claim 14
14 doesn't recite direct transitions. Okay? So we're in a little bit of a broader
15 world here than we were with Claim 1, which does recite direct transitions.

16 Now, the one parameter, I_{sleep} , the ONU -- 987.3 teaches that the ONU
17 uses that parameter to know how long it can stay in either the sleep state or
18 the listen state, so either of the two low power modes that we point to. So
19 that's what it teaches. And there's no prohibition that one parameter can't be
20 used for two different things, because it's just more efficient signaling.
21 There's no prohibition in the claim that says you can't do that.

22 And frankly, Your Honors, as we've recited in the papers -- and I'm
23 running out of time, so I'll be brief here -- this is inconsistent with the way
24 that the Patent Owners have addressed Claim 3, which is exactly the same
25 parameter, or the same parameter that's passed, the I_{sleep} . And then they
26 don't contest that there.

1 Unless there's any other questions, I'm going to reserve the rest of my
2 time for rebuttal.

3 JUDGE OGDEN: Okay. Thank you, Mr. Lareau. Looks like you have
4 about three minutes left for rebuttal time. If necessary, we could give you
5 just a bit more if that's necessary.

6 So let's go to Patent Owner. Mr. Wyde, would you like to reserve sur-
7 rebuttal time?

8 MR. WYDE: Yes, Your Honors, I would. Five minutes, please.

9 JUDGE OGDEN: Okay. I set the clock to 40 minutes, and you can
10 begin when you're ready.

11 MR. WYDE: Before I start, I just have a -- would it be okay if I just
12 read -- do you watch the screen while we go? Is that beneficial or no?

13 JUDGE TROCK: It is sometimes, yes.

14 MR. WYDE: Okay. Then I will endeavor to multitask it. Okay. With
15 that, Your Honors, thank you. And may it please the Court.

16 Turning to page two, we have the table of contents here, which shows
17 that I plan to discuss to claims at issue first. And then I plan to turn to
18 Petitioners' obviousness arguments. And lastly, I plan to address the one
19 claim construction issue, whether the claims, without the word direct,
20 nonetheless do require direct transition between the first and second claimed
21 state.

22 So turning to page three, I'd like to look at the issues that are present
23 for the Court. Turning to page four, as seen here, there are 11 challenged
24 claims, including Independent Claims 1, 10, 12, and 14. And there are four
25 disputes between the parties which I will go through one at a time.

1 First, it is Patent Owner's position that for the claims requiring direct
2 transitions, it would not have been obvious to modify Petitioners' primary
3 reference, G.987.3, specification to allow an ONU to transition between a
4 particular state, listen state, and a particular sleep state that Petitioners have
5 identified as the first and second state, respectively. And note that limitations
6 1D and 10D do not explicitly -- sorry, *do* use the word -- explicitly used the
7 word "directly" -- where 12 and 14 do not. So there's a question as to
8 whether 12 and 14 do, in fact, require direct transitions as was presented in
9 Petitioners' opening. So if we have time, I will get to that.

10 Turning to page 5, second, Patent Owner contends that Petitioners
11 have not shown limitation 12B, which requires an OLT to send periodic
12 consent messages, that allow the ONU to remain in one of the two low-
13 power states. And if the Board agrees with Patent Owner regarding this issue
14 for Claim 12, then the Board need not reach the claim construction of
15 whether 12 requires direct transitions, i.e., the first issue I presented.

16 So just a side note, it is Petitioner -- sorry, Patent Owner's view that
17 Claim 12 is just like Claim 14. It uses the same language, and it does require
18 direct transitions. Our position is only that the Court need not get there
19 because it's so clear that there's no consent message in another limitation, so
20 the Court need not address that as Patent Owners do.

21 Turning to page 6, we have the third issue. Specifically, Patent Owner
22 believes that Petitioners have not shown Dependent Claim 15 obvious, at
23 least because Patent Owner disagrees with Petitioners, that two control
24 messages with a power management role specifying only a single time in
25 each message meets its claim limitation. Rather, it is Patent Owner's view
26 that Claim 15 requires a control message with one power management

1 message specifying two time periods, one for the first low-power state and
2 one for the second power state. And again, Claim 15 is a dependent claim, so
3 the Board need not reach this issue if it decides for Patent Owner regarding
4 Claim 14 for issue one.

5 Turning to page 7, this shows the fourth and last issue. Where it is
6 Patent Owner's view that while the particular modification of G.987.3 that
7 Petitioners advocate for would not have been obviously, additionally, for
8 Dependent Claim 4, Petitioners have not shown how or why an ONU would
9 or could send a message indicative of a transition of the direct transitions
10 Petitioners would like to add. And again, because this issue only concerns
11 Dependent Claim 4, if the Board finds for Patent Owner with respect to
12 Claim 1, the Board does not have to reach this issue.

13 All right. Turning to page 8, I'm not going to address the issues in
14 turn. Turning to page 9, let's look at Petitioners' suggested modification to
15 G.987.3 that Petitioners say would have been obvious. And as we will see,
16 Petitioners' modification is incompatible with G.987.3's fundamental
17 design.

18 Turning to page 10. But to understand Petitioners' proposed
19 modification and why it isn't optimal to the G.987.3 specification, we really
20 need to take some time to appreciate how the G.987.3's OLT and ONUs
21 coordinate. To that end, what I'd like to on this slide is to go through some
22 simple signaling between the OLT and the ONU and see how the state
23 transitions work. So let's assume that the devices start in their active free
24 states, shown in yellow with the double yellow circles.

25 Now, in this scenario, the OLT sends a sleep allowed on message to
26 the ONU shown at 1 in green in the middle. At this point, the OLT

1 transitions to the active free state shown in 1 in green on the left. To denote
2 that the ONU will be in the state when the ONU receives the SA(ON)
3 message. And as shown at 1 in green on the right, the ONU, in fact, does
4 transition to the active free state after receiving the SA(ON) message.

5 Okay. At this point, the ONU is free to go into the sleep or the doze
6 branch on its own. And the 2 shown in the middle, in cyan, when the ONU
7 sends the OLT a sleep request sleep message, the ONU transitions its -- to its
8 sleep branch shown in 2, in cyan on the right. Then when the OLT receives
9 the SR(Sleep) message, the OLT transitions to the low power sleep state
10 shown in 2 on the left, indicating that the OLT believes the ONU is now in
11 the sleep branch. Note, as shown in the middle, that when the ONU is in the
12 sleep branch, the OLT cannot forward downstream data to the ONU because
13 the ONU's receiver may be on.

14 Then in this example, the ONU comes out of the sleep state and sends
15 the OLT an SR(Awake) message at 3. When the OLT receives this message,
16 the OLT transitions back to the awake free state, noting that the ONU is now
17 again allowed to go back into the sleep or doze at the 1. At 4, the ONU
18 decides to go into its doze branch, so it sends the SR(Doze) message and
19 transitions to its low-power state shown in the right, the doze state, the other
20 branch. And the OLT transitions its low power doze state when it receives
21 the SR(Doze) message shown on 4 on the left, noting that the ONU is in this
22 doze branch. Note that in the doze state because the OLT to receive -- the
23 OLT can down, send forward downstream data because the ONU's receiver
24 is on.

25 Lastly at 5, the OLT sends an SA(OFF) message to the ONU telling
26 the ONU to get out of its doze state. The ONU will go into the active hold

1 state as shown on the right, and at this point, the ONU may not enter the
2 doze or the sleep state. The most important point here is that the OLT is
3 tracking the ONU's power state.

4 Turning to page 11, this slide illustrates why the ONU can't send an
5 indication of a transition from the listen state 6 to the sleep state 4. On the
6 left, after the ONU sends an SR(Sleep) and falls into the sleep state, the
7 ONU turns its transmitter and receiver off. At this point, the ONU does not
8 have the ability to send an SR(Doze) request because its transmitter is off.
9 Likewise, as shown on the bottom right, once the ONU goes into its doze
10 branch and falls into the listen state, the ONU again turns off its transmitter,
11 so the ONU can't send an SR(Sleep) request at this point.

12 JUDGE TROCK: I have a question, Counsel.

13 MR. WYDE: Yes.

14 JUDGE TROCK: How does the ONU get out of this, um, sleep state?

15 MR. WYDE: Um.

16 JUDGE TROCK: If its transmitter and its receiver are off? Is there
17 just a timer that wakes it back up or --

18 MR. WYDE: Uh.

19 JUDGE TRUCK: -- listening for a message in the low-power state
20 from the OLT? How does this occur?

21 MR. WYDE: In, in either the doze or the sleep state, when a key sleep
22 timer expires, it jumps up into the sleep aware or the doze aware at which
23 point it can then, it has its transmitter and receiver on and it can get the SR
24 or the SA(OFF) messages. And of course, in the doze state, the receiver is
25 always on, so it can also get the SA(OFF) message in the doze state. So,

1 either -- so, the timer will bump it up into its intermediate aware state, and if
2 it receives the SA(OFF), it will then go into the active power state.

3 JUDGE TROCK: All right. Thank you.

4 MR. WYDE: Turning to page 12. Therefore, the entire G.987.3
5 specification is architected so that the sleep and the doze states are mutually
6 exclusive. The first quote shown here is from Petitioners' own documents,
7 and as it notes, in a system supporting both doze and cyclic sleep modes,
8 each low-power mode is nonetheless characterized by either a doze or sleep
9 behavior, but not both. At the start of each cycle, the parties, i.e., the OLT
10 and the ONU, negotiate whether the ONU will doze or sleep.

11 Now, Patent Owner's expert, Dr. Litvin, explained the very same
12 thing. He said, the OLT needs to know which of the two low power modes
13 the ONU is intending to enter, if given permission, i.e., after the OLT sends
14 an SA(ON) message, because the particular low-power state will determine
15 if the OLT can continue to send downstream data to the ONU in the doze
16 mode, or not, and the sleep mode. And we've reproduced the ONU state
17 machine again at the bottom, again illustrating the OLT can forward
18 downstream data when the ONU is in the doze branch but not when it is in
19 the sleep branch and the two branches are mutually exclusive.

20 Now, turning to page 13, one more thing, and then we'll turn to
21 Petitioners' specific modifications that it proposes. So, here we have the
22 OLT state transition table from G.987.3. So again, imagine the OLT is in the
23 active free state and the OLT receives the SR -- an SR(Doze) request from
24 the ONU as shown at 1. This SR(Doze) from the ONU is the input into the
25 OLT's state transition table. At that point, the table shows the OLT will
26 transition to State 5, indicating that the ONU is in the low power doze range.

1 If the ONU then sends an SR(Awake) message, as shown at 2, the
2 state table says the OLT should transition to the awake free state recognizing
3 that the ONU can now choose to go back to doze or sleep. But if the OLT
4 doesn't receive that message, the OLT will remain in State 5 rather than
5 tracking that the ONU moved to State 2. If after failing to receive the
6 SR(Awake) message, the ONU then at 3 sends an SR(Sleep) request, the
7 sleep request will come in when the OLT thinks the ONU is in the doze
8 mode.

9 Now the infamous Note 2 comes into play, and Note 2 says that when
10 -- that the ONU is not allowed to make this type of transition from doze to
11 sleep, as we previously saw. So, Note 2 says if the OLT sees this sequence
12 of messages, the conclusion is that the OLT must have become
13 unsynchronized, i.e., the OLT must have missed a message, received a
14 current message, et cetera. Note 2 does not say that this direct transition
15 occurred.

16 JUDGE OGDEN: Well, couldn't, um, to say that it's unsynchronized,
17 wouldn't that also be consistent with the idea that maybe the ONU made a
18 transition on its own and -- but, you know, hasn't sent a message to inform
19 the OLT about that? And, but then when the OLT finds out that that
20 transition has made, then it needs to synchronize things and get back so that
21 its own state corresponds to the ONU state?

22 MR. WYDE: When you say didn't send, for whatever reason, maybe
23 the message was lost or interrupted, yes. The ONU should have, per the
24 spec, sent the message, but for whatever reason, the OLT didn't get it. And
25 then the ONU does transition to the other power branch. At that point, if the

1 OLT gets the message indicating that I've transitioned to the other power
2 branch, the OLT knows it's off. It's lost synchronization. It needs to rethink.

3 Because that will never happen. That's what Note 2 says. The
4 conclusion is you become unsynchronized. It's not that the ONU has gone
5 from doze -- State 6 to State 4, sleep to doze. It's that you become
6 unsynchronized because that should never happen. That's what Note 2 is
7 saying.

8 JUDGE TROCK: So Counsel, do the claims require that the system
9 always be in synchronization?

10 MR. WYDE: No, of course not. The claims don't have to do with --
11 the claims have to do with Rx and Tx and first state and second state. This is
12 the prior art that Petitioners are relying upon. And I know this has been a
13 long background section, but quite frankly, I could spend the whole time
14 here, and I think the conclusions will follow for Patent Owner because with
15 this background, with this understanding, when we then look at what they'd
16 like to do, you can see that it will not work. It does not work and it's not
17 obvious. In fact, it was rejected.

18 JUDGE TROCK: Well, the reason I ask that is, for example, if we
19 look at limitation 1E, it says, ensuring the ONU is fully powered up,
20 synchronized, and capable of responding to both up and downstream traffic
21 in control before exiting a first or a second state. You see that? How does
22 that affect the argument here? Because you were just telling us that --

23 MR. WYDE: Mm, yeah.

24 JUDGE TROCK: -- there would be evidence of a missed
25 synchronization.

1 MR. WYDE: Sure. So, this limitation as I read it, and I don't believe
2 it's at issue, but ensuring that the ONU is powered up, fully synchronized,
3 and capable of responding to both upstream and downstream traffic, i.e.,
4 turning on the receiver and transmitter, before exiting the first and second
5 state. Exiting --

6 JUDGE TROCK: Well, it's not first . . . and." It's "first . . . or."

7 MR. WYDE: Right. You're right. "First . . . or." But that's -- that's
8 not exiting to go from one to the other. It's just exiting. It could go to a third
9 state and not one --

10 JUDGE TROCK: Well, let's, for sake of argument, assume that it's
11 going to transition from one state to the other, from a first to a second or a
12 second to a first. Doesn't this limitation require that the ONU would be fully
13 powered up, synchronized, and capable of responding to this traffic?

14 MR. WYDE: I think that's an, an impossible reading because the
15 transition -- the other limitation -- it would be in conflict with the other
16 limitation that requires directly transitioning. And directly, as we discussed,
17 and I think all the parties are in agreement, means going from Rx Off/Tx
18 Off, Rx On/Tx Off without turning the transmitter on.

19 JUDGE TROCK: So, then how am I to understand your argument
20 about the synchronization problem? Because I'm kind of confused here.
21 You're telling me walking through Slide 13 that if this were to occur, there's
22 a synchronization issue.

23 MR. WYDE: Yes.

24 JUDGE TROCK: And then I look at the claims, and it seems like the
25 claim is requiring these things to be synchronized. So, which is it? How are
26 we to resolve this?

1 MR. WYDE: The -- what the claims require and what the prior art
2 does are -- do not have to be the same.

3 JUDGE TROCK: Well, but you're using this argument about
4 synchronization to -- to take the position that it's an impossibility what
5 Petitioner wants to do.

6 MR. WYDE: Yes. Yes, absolutely.

7 JUDGE TROCK: And I'm trying to square that with what the claim
8 says.

9 MR. WYDE: Right. Well, we haven't even gotten into what Petitioner
10 would understand --

11 (Simultaneous speaking.)

12 JUDGE TROCK: I understand. That's why I'm asking about this
13 synchronization problem, because you brought it up.

14 MR. WYDE: So my understanding is the synchronization is before it
15 leaves 1 or 2 at 4, first or second state, before it leaves those, but that leaving
16 -- I see. So you're saying leaving could be leaving from one to the other or
17 vice versa?

18 JUDGE TROCK: You indicated from Slide 13 that it had made this
19 move and that the OLT must have missed the message so it must conclude
20 there's a breakdown in synchronization.

21 MR. WYDE: Yes.

22 JUDGE TROCK: Okay. If that's the case, then how does that affect
23 what I'm reading in Claim 1 and specifically with limitation 1A?

24 MR. WYDE: So quite frankly, the Petitioners haven't brought it up.
25 I'm speaking extemporaneously because it hasn't come to light, but the way
26 I read that is this synchronization is before it leaves the first or second state,

1 i.e., for example, and again, if you're looking at the prior art, it would be
2 going from a sleep to sleep aware maybe or listen to doze aware, not going
3 directly from listen to sleep or sleep to listen.

4 JUDGE TROCK: Right. But that's their position, right, that the
5 teachings in the prior art would provide someone with ordinary skill the idea
6 that they could with an idea to save power, transition from one low-power
7 state to the other. You're telling us that that's an impossibility.

8 MR. WYDE: Well --

9 JUDGE TROCK: That we can't do this, and you're pointing to this
10 Slide 13 as evidence to demonstrate that it is an impossibility. It can't be and
11 that there's a problem if that occurs, which would be the lack of
12 synchronization that had occurred.

13 MR. WYDE: Per the specification --

14 JUDGE TROCK: Am I understanding your argument?

15 MR. WYDE: My argument is the specification demands that the ONU
16 not make that transition. The specification prohibits it. The ONU --

17 JUDGE TROCK: Where does it prohibit that?

18 MR. WYDE: That is Note 2.

19 JUDGE TROCK: Hold on a second. Your Note 2 is not part of the
20 specification in the patent, so I'm getting confused about the words that
21 you're using here.

22 MR. WYDE: The prior art.

23 JUDGE TROCK: The prior art.

24 MR. WYDE: Disallows is the exact word.

1 JUDGE TROCK: You're saying this argument here in the prior art is
2 demonstrating because of this that what Petitioners want to do here is an
3 impossibility.

4 MR. WYDE: You can't follow the specification and -- no, you can't,
5 and follow the specification.

6 JUDGE TROCK: Okay. All right. Thank you.

7 JUDGE OGDEN: Can we interpret Note 2 -- if you wouldn't mind
8 going back to Slide 13. Could we interpret Note 2 in saying that a direct
9 transition between the doze and cyclic sleep modes are disallowed by the
10 OLT? Because this is a table after all specifically for the OLT and there's
11 not a corresponding note in the ONU, and I understand you've made some
12 arguments about that. But could we interpret this as saying that maybe the
13 ONU itself would have discretion to switch between the doze mode and
14 cyclic sleep mode branches on its own?

15 Because, you know, for example in the active free mode, the ONU has
16 some discretion to go down either of those two branches. But the OLT itself
17 is not allowed to just make that transition, and if it receives any sort of
18 request that the OLT make that change, then that's an error and it needs to
19 wake up the ONU to its, you know, fully awake state in order to synchronize
20 that, but that may not necessarily be a restriction on what the ONU can do.

21 MR. WYDE: So the reason I went through all the signaling is to show
22 that the inputs from the ONU are telling the OLT what to do. I also took a
23 little bit of time to note the mutual exclusivity because the OLT can be
24 something different in the sleep and doze mode. It can forward downstream
25 traffic or it can't, and that's why they're mutually exclusive, as the expert
26 said, their own documents said, the whole architecture said.

1 The reason it's in the OLT state table rather than ONU table is
2 because the ONU can't accidentally do something on its own. There isn't
3 going to be a missed message. There isn't going to be a corrupt message. It's
4 the master of its domain, so it's assumed that the ONT will follow the
5 specification and not make that transition. The OLT, on the other hand, for
6 all the reasons that we've said may become unsynchronized, and that's why
7 it's in the OLT state machine and state table. That's why the note is there.

8 But the OLT is following the ONU, and I do not think it's a plausible
9 reading that the ONU is allowed to do that, the expert, the specification, the
10 architecture. And I think if we go to the next slide, 14, when we actually
11 look at their proposal, we could see what will happen if they do that.

12 JUDGE TROCK: Well, Counsel, how do you respond to Petitioners'
13 evidence that you're saying it can't do this transition, but they point to
14 evidence that you can, that these suggestions to modify the standard indicate
15 that you can make these transitions?

16 MR. WYDE: There's some legerdemain going on here, Your Honor.
17 There's so many letters and numbers here. The G.8701.1, I believe, the
18 newer specification, that is not the modification that they proposed. Now
19 they're trying to equate those two, and I can skip to that section if you'd like
20 and go through it. But the newer specification has not done the modification
21 which they are proposing. That is not true.

22 JUDGE TROCK: And what do you make of Petitioners' argument
23 that your client in the AT&T case indicated that that was an infringement of
24 this patent?

25 MR. WYDE: Again, they're trying to equate what the plaintiff in a
26 litigation pointed to in the new specification, which operates differently than

1 the modification which they're advocating for. We've laid it out much better
2 than I could here. We capitulate it orally as to what we point it to and why
3 it's not the same thing, but it's not.

4 JUDGE TROCK: Well, I agree. This is Judge Trock again. I agree
5 with you that it's not necessarily the same thing because it is a different
6 standard.

7 MR. WYDE: Sure.

8 JUDGE TROCK: However, it's your client, and you're taking a
9 position in the AT&T case on the same patent that that specification
10 infringes the patent, right?

11 MR. WYDE: Yes.

12 JUDGE TROCK: And then here you're saying, well, that's an
13 impossibility.

14 MR. WYDE: Yes.

15 JUDGE TROCK: You can see our dilemma here.

16 MR. WYDE: If I could, let me just turn to page 14 because this is
17 what they proposed. Specifically, Petitioners map ONU State 6, listen, to the
18 first claim state where the ONU transmitter is on and ONU receiver is off.
19 And Petitioners map the second state, State 4, sleep, where the ONU has
20 both its receiver and transmitter off. Petitioners' proposal is to allow the
21 ONU to transition to alternate between the sleep and listen state.

22 And if we turn to 15, what will happen if they do that? So after the
23 OLT sends the SA(ON) allowing the ONU to choose what it wants to do, if
24 the ONU goes into the doze mode as shown on the top, the OLT thinks it's
25 in the doze mode, and the ONU slips into the sleep state, what's going to
26 happen is you're going to lose data and induce errors because the OLT

1 thinks the ONU is in the doze state where it can receive downstream data.
2 And if it sends it and the ONU is in the sleep state where it can't, lost data,
3 induced errors.

4 Conversely, if the ONU goes into the sleep state, the OLT won't send
5 downstream data because it knows the receiver is off. So if the ONU decided
6 to slip into the doze state, there's no advantage there because the OLT is not
7 going to send downstream data, so it's going to go into a high power state
8 for no reason.

9 So one is a terrible outcome, and one is at worse, you know, it cuts
10 against their motivation to combine to decrease power if you have increasing
11 power for no reason.

12 JUDGE TROCK: So your argument is that these are disincentives to
13 make this combination?

14 MR. WYDE: I think yes, having something that loses data and
15 induces area is an extreme disincentive. I think breaking the specification is
16 a disincentive.

17 JUDGE TROCK: Right. Thank you.

18 JUDGE OGDEN: If we say presume that there is a transition made
19 between, you know, one of the low-power states to the other, and the ONU
20 does send a request to the OLT reflecting that change, couldn't we just say
21 that that sort of change is disallowed for the OLT to make that change, so
22 that's why the OLT has to, you know, wake up the ONU at that point in
23 order to synchronize everything? But maybe the ONU, maybe the standard
24 doesn't prohibit the ONU from making that change on its own and sending
25 the request to the OLT. It's just that the OLT is prohibited from itself just
26 making that switch on its own.

1 MR. WYDE: So Judge, the ONU cannot send that request. They
2 cannot tell the OLT that it's going to do that. They cannot send a sleep
3 request. The transmitters are off. If the ONU turns its transmitter on to send
4 that request, the transition no longer becomes direct. The Petitioners propose
5 that as a solution, but that's, again, not a feasible path. In both the sleep and
6 the doze States 4 and 6, the transmitters are off, and to make a direct
7 transition to let the OLT know that it's going to do that would be to turn the
8 transmitter on, and then you'd no longer have a direct transition.

9 JUDGE OGDEN: So your position is that, you know, because of that,
10 the only reason that the OLT would get system messages is some sort of
11 error, something has gone wrong?

12 MR. WYDE: That is the only conclusion, the only logical conclusion,
13 and that is what it asserts.

14 JUDGE OGDEN: Okay. I got it. Thank you.

15 MR. WYDE: Turning to page 16. So Petitioners have tried to equate
16 their proposed change for the redesign G.987 with the specification, but
17 these are different designs. The G.9807.1 ONU, the specification has gotten
18 rid of the sleep and the doze ONU requests. Now G.9807.1's ONU only
19 makes a watchful sleep request, and G.9807.1 ONU no longer has a sleep
20 and listen state that Petitioners point to in the older specification. The ONU
21 only now has a single low-power state. G.9807.1's design is not the
22 modification that Petitioners propose. Petitioners advocate for sleeping the
23 sleep and the doze state and allowing the ONU to alternate between them.

24 Turning to page 17, we see the G.9807.1's state diagram and
25 transition tables. Note that the OLT still supports the older G.987.3 ONUs
26 that use the sleep and doze states that Petitioners do point to. And the newer

1 specification still does not show that the ONU is allowed to go between, to
2 and from the sleep and doze states, 4 and 6. To the contrary, Note 2 is still in
3 the OLT table saying that the ONU may not send the sleep request if the
4 ONU is in the doze state or vice versa.

5 Now, moving to page 18, we can consider Petitioners' secondary
6 reference, and per Mr. Röger or -- I think I'm going to call him Roger --
7 Petitioners point to Röger's describers S3 and S4 making direct transitions
8 from Rx On/Tx Off and Rx Off/Tx On and vice versa as shown in red in the
9 portion labeled with the green curly brace at the bottom and say that a
10 POSITA would have seen these and made Petitioners propose changes to
11 G.987.3.

12 But as Dr. Litvin pointed out, Röger's design such that Röger can
13 make these transitions because it is not in a doze mode, wherein a captive
14 office, i.e., here the CO, expects S3 and S4 to be able to receive downstream
15 data. As shown in the slide, during all the pointed to transitions, the CO will
16 not try to send downstream data to S3 and S4 so these subscribers can toggle
17 their receivers on and off.

18 At the end of the period shown in green is the communication period
19 labeled "Com", and on page 19, we see a more detailed view of the Com
20 period. The Com period starts. At the rendezvous time the CO is sent to the
21 subscribers to wake them up, and the period ends at the time the CO sends
22 the end command to put the subscribers back to sleep. So again, the CO
23 knows exactly when the subscribers can receive data. And between those
24 times, the rendezvous and the end, because the CO does not expect the
25 subscribers to be able to -- sorry, does expect the subscribers to be able to

1 receive downstream data -- note the subscribers keep their receivers on the
2 entire time.

3 In short, Röger has a fundamentally different design where the CO
4 micromanages the subscribers and will not try to send data during the times
5 where the subscribers can toggle their receivers on and off. But nothing in
6 Röger changes the fact that G.987 does not allow for Petitioners' proposed
7 modification.

8 All right. I'm on page 20, and I'd like to turn now to Claim 12 and its
9 dependents regarding the prior art's lack of consent message so that the
10 ONU can remain in low power mode.

11 Turning to page 21, as a reminder, Claim 12D requires an ONU
12 sending a period consent message to allow the optical network unit, the
13 ONU, to remain in either first or low second power state. Now, as shown
14 here, Petitioners' view is a message allowing the ONU to enter a power state
15 meets this claim limitation, i.e., the ONU does not already have to be in a
16 low-power state when it receives the consent message. So Petitioners point
17 to the SA(ON) message that's shown in cyan to show that that message that
18 allows the ONU to enter this state, not remain in low-power state, allegedly
19 meets this transition.

20 And note that all the other OLT SA messages are off messages.
21 They're shown in green. And they may take the ONU out of sleep, but the
22 ONU does not need a consent message to remain in the low power mode. In
23 contrast, it's Patent Owner's position that the ONU does have to be in a low-
24 power state to remain there. Therefore, even if Petitioners' contention that an
25 ONU can receive the SA(ON) message to enter a low-power state is true,

1 active held is not a low-power state so it does not allow the ONU to remain
2 in a power state, just enter a lower power state.

3 Now, an additional note, Petitioners say it's an impossibility for the
4 ONU to receive the consent message in one of the two low-power states
5 where the receiver is off, but nothing in Claim 12 requires the periodically
6 sent message to be received in the second state. It's just not there. It just has
7 to receive a message, which could be in the first state, to allow it to remain
8 in one or the other, so I think that's a red herring.

9 JUDGE OGDEN: Wait. Sorry. Just so I understand, my first
10 impression here is this is suggesting that you're sending a message that it
11 can either remain in the first state or that it can remain in the second state.
12 Sounds like you're interpreting it.

13 MR. WYDE: Yes. The message allows the ONU to remain in either
14 the first or second state. That's 12D. But the actual -- I'm going to turn now
15 to the patent. Let me see if I can zoom in on Claim 12. Unfortunately, my
16 mouse doesn't seem to be working very well. But a transmitter transmitted
17 to configure to transmit the generated messages to the ONU, but it doesn't
18 say transmit the messages to the ONU in the second state. Nothing in Claim
19 12 requires that the ONU be in the second state and receive the message.
20 That is a interlineation that's just not there. It's a figment. A close reading of
21 Claim 12 you'll see has no requirement of the ONU to (audio interference)
22 where, quite frankly, Patent Owner agrees the receiver is off, can't be done.
23 It's not required.

24 JUDGE OGDEN: Why isn't it the same for the first state? Why isn't
25 that the same one?

1 MR. WYDE: The first state is the doze state, Judge Ogden, where the
2 receiver is on, so it can receive messages in the first state. I believe I have
3 the first and second state correct. It could be vice versa, but the state where
4 the receiver is on, it can receive messages. So there's no problem receiving
5 messages in that state.

6 JUDGE OGDEN: Right. But I think you pointed to -- was that
7 limitation 12C?

8 MR. WYDE: I don't know, Your Honor. I'm looking at the patent
9 itself.

10 JUDGE OGDEN: Yeah. That's designated as 12C that begins with --

11 MR. WYDE: Okay.

12 JUDGE OGDEN: -- a transmitter.

13 MR. WYDE: Configured to transmit the generated message to the
14 ONU.

15 JUDGE OGDEN: Right.

16 MR. WYDE: I think that's a --

17 JUDGE OGDEN: You're saying that that transmitted message only
18 (audio interference) remaining in the first low-power state, but not the
19 second low-power state?

20 MR. WYDE: Quite frankly, that would meet the claims because the
21 last limitation requires it to remain in either one or the other. So if it received
22 it in those and it could remain there, then that would meet the limitation.

23 JUDGE OGDEN: Okay. Right. Then that just sort of begs the
24 question of why is that second low-power state included in that limitation
25 12D?

1 MR. WYDE: I'm an attorney here second guessing. I could think of
2 reasons you could receive a message that if you're in the low-power state,
3 set a timer, and you're allowed to remain there for so long. I could architect
4 something that would work where it would be received in the state where the
5 receiver is on and then allows the ONU to remain in the second state. But
6 again --

7 (Simultaneous speaking.)

8 JUDGE OGDEN: In that case, you'd be receiving the message while
9 it's not yet in that second state, right?

10 MR. WYDE: But it would be in the first state, which is in one of the
11 low-power states. It just has to remain in one or the other.

12 JUDGE OGDEN: Your position is that when it receives the message,
13 it has to be in either the first low-power state or the second low-power state.

14 MR. WYDE: And logically --

15 JUDGE OGDEN: But it can't receive the message if it's not in one of
16 those two states?

17 MR. WYDE: Gotcha.

18 JUDGE OGDEN: For example, the awake free state?

19 MR. WYDE: Well, the awake free state, the transmitter and receiver
20 should be on. It's the sleep state where the receiver is off that it can't receive
21 a message. So it has to be in a low-power state when it receives the message,
22 and it can only be in the doze, the Rx Off/Tx Off state, because that's the
23 only state where the Rx is on.

24 JUDGE TROCK: Judge Trock. Why does it have to be in that state?

25 MR. WYDE: Why does it have to be in that state? If I say I'm going
26 to --

1 JUDGE TROCK: Just to follow through with the question, why can't
2 it be in some other state?

3 MR. WYDE: Oh. Because of the word "remain." If I say I'm going to
4 send you permission messages to remain in this room, you have to be in this
5 room to remain in this room.

6 JUDGE TROCK: Well, I could also argue I'm going to give you a
7 ticket to go see a ball game, and when you get to the ball (audio
8 interference) for the amount of time that the game is going on. Isn't that the
9 same permission? You're not there yet, but when you get there, you get to
10 stay there for that period of time, so we couldn't we interpret the claim to
11 read that in that sense? In other words, the question is, is this claim written
12 in the present tense, or is written in a future tense?

13 MR. WYDE: Right. I would point you to the tables where there's 112
14 support for this. Let me see if I can find it. Okay. It's Table 6 on page 23 of
15 Exhibit 1001, the patent. It says --

16 JUDGE TROCK: Table 6 spans two columns.

17 MR. WYDE: Right.

18 JUDGE TROCK: So which one are we referring to?

19 MR. WYDE: It talks about it several times, and it's highlighted up
20 here on the screen. But in the awake free state, upon transition to and
21 periodically during. So upon transition to and periodically during. So I think
22 that when it's entering the low-power state and during the power state is
23 when the specification talks about it.

24 JUDGE TROCK: All right. Well, let's just start with upon transition
25 to.

26 MR. WYDE: Right.

1 JUDGE TROCK: So you're saying that that phraseology, the way it's
2 written here in the specification, interpreted by someone of ordinary skill in
3 the art that it's already in the low-power state.

4 MR. WYDE: No. That would be the one that lets you go into it, but
5 then it says periodically during. "Periodically during" is the language of the
6 claim.

7 JUDGE TROCK: Let's just start with the language "upon transition
8 to."

9 MR. WYDE: Yeah. My take on it is that does not --

10 JUDGE TROCK: Mean when you get there?

11 MR. WYDE: No.

12 JUDGE TROCK: It doesn't?

13 MR. WYDE: No, I don't think so. I think that could be the message
14 that allows you to go to the low-power state. It's the second part, the
15 periodically during the (audio interference). And the "periodic" language
16 and the "remain" of the claim language seems to be reflecting the second
17 portion. So we would not say that the transition to. You're already there.

18 I'm out of time, but I'm going to eat into my sur-reply just to say a
19 little bit about Claim 15 on page 24. Here's Claims 1F, 1G, and 3G right
20 next to Claim 15. And as seen on the left, 1F requires the ONU to receive a
21 power management message shown in cyan below labeled "PMM."
22 Limitation 1G requires the ONU to change the power management rule
23 labeled "PMR" based upon the PMM. This is illustrated on the left where
24 the ONU could, for example, change the time in the power management rule
25 based upon the PMM.

1 Finally, Claim 3 requires that the PMR, which can be at the ONU,
2 specified two time periods. But the PMM need not be in the PMR or have
3 two time periods. Claim 15, on the other hand, as shown on the right,
4 requires the OLT to transmit a control message labeled “CM” shown in cyan
5 that includes the PMR for the PMR must specify two time periods.

6 So while the language is very similar, they’re different claim scope.
7 Claim 15 has a 1 to 2 relationship and requires the PMR in the message have
8 two rules, two time periods, whereas limitations 1F, 1G, and 3 do not. So
9 with that, I’ll wrap up.

10 JUDGE OGDEN: Okay. Thank you, Mr. Wyde.

11 MR. WYDE: You’re welcome.

12 JUDGE OGDEN: Got about three and a half minutes of sur-rebuttal
13 time.

14 MR. WYDE: Thank you, Your Honor.

15 JUDGE OGDEN: And Mr. Lareau, you have about the same amount
16 of time in your rebuttal time. You can begin when you’re ready.

17 MR. LAREAU: Thank you, Your Honors. This is Stephen Lareau. I
18 want to briefly just address some of the things that we just heard and
19 primarily on the core dispute.

20 First, our proposed modification to G.987.3 is done in view of the
21 question of is the claim obvious, right? And the claim just recites a first low-
22 power state and a second low-power state. It doesn’t say, what does it call it?
23 It doesn’t say, is it watchful sleep, is it doze mode, is there a sleep mode?
24 Those names aren’t actually relevant to the inquiry that we’re making there,
25 whether the claimed invention is obvious. And so the --

1 JUDGE TROCK: No. But you identified them in your Petition that
2 way.

3 MR. LAREAU: We identified the low-power states that are disclosed
4 in the prior art that aren't disputed, right? That's what they're called in the
5 prior art. So yes, we refer to them by the name that they're referred to in the
6 prior art.

7 And so what we heard just now, and I'm going to Slide 41, what we
8 heard is that your proposal is completely separate and completely distinct
9 and completely different than what was accused of infringement, what's in
10 the XGS-PON standard, which is G.9807. The only evidence in the record,
11 the documentary evidence in the record, says that that's not true, because
12 what did the ITU do to create that? They took the exact low-power states
13 that we're referring in our petition, and they made a direct transition between
14 them. They called it a different name. That's the only difference.

15 What's the difference between a direct transition between the sleep
16 state and the doze state as it's defined in G.987.3? Well, doze states are
17 defined by just the state of the transceiver. So is the transmitter on, off? Is
18 the receiver on, off? And what did they do? They said, "We've got this new
19 thing. We call it watchful sleep, but we're just reusing the protocol that
20 already exists."

21 The machine that my colleague put up from G.987.03, the XGS-PON
22 center, the later one, the accused infringement one, that's why it looks like
23 the right branch of this, because that's exactly what they did. When you look
24 at what sleep aware and what doze aware are in 987.03, the reference we're
25 relying on, in both of those states, the receiver is on and the transceiver -- or
26 the transmitter is on and the receiver is on.

1 So it's not that big of a stretch to say, look, in the context of
2 understanding Claim 1, which is what we're doing, those are the same states.
3 And then the only difference is what comes after that, the very bottom row.
4 So the idea that you have this branch and that branch and that somehow
5 they're so fundamentally incompatible, it's directly controverted by the
6 documentary evidence that's in the record here.

7 Now, my colleague also pointed a lot to the fact that in G.987.3 when
8 a ONU exits either the sleep state or the listen state, it sends a sleep request
9 message to the OLT, and that's the reason that you couldn't do this. Well,
10 first of all, you can because they did, and they then accused it of
11 infringement. So we know that that's just not true. But beyond that, the
12 premise of that argument is that a modification in our obviousness analysis
13 does not allow for any other modification, right? Whether you don't send a
14 message or you send a message, by the way, are outside of Claim 1, really
15 what he's talking about is something that's claimed (audio interference).

16 They already argue that Claim 4 is impossible under their invention.
17 So going back to Claim 1, it doesn't require -- there's nothing in Claim 1
18 about (audio interference) sending a message to exit a sleep state. And by
19 the way, exiting the sleep state or the low-power state wouldn't be occurring
20 when it does a direct transition. It's still in a low-power state. The reason it
21 sends those messages to the ONU -- or, excuse me, to the OLT -- know that
22 hey, you know, I've stuck my periscope up. My antenna is up. I can hear.

23 And so there's no reason for an ONU to do that when it's transitioning
24 from one low-power state to another low-power state, and that's well within
25 the ordinary skill in the art.

1 JUDGE TROCK: Counsel, let me ask you the same question. What
2 about this synchronization problem that you're (audio interference) if you've
3 transitioned from one low-power state to the other low-power state, you
4 didn't keep the OLT informed of this, and the OLT now is lost, doesn't
5 know where the ONU is, what's powered on, and why it's not where it
6 expected it to be.

7 MR. LAREAU: Well, I will tell you that that statement, in the
8 synchronized, that whole stanza -- I don't have the claim limitation letter in
9 front of me -- that all is present in G.987.3 verbatim. So in terms of what is
10 taught in the prior art, that is absolutely taught, just disclosed verbatim,
11 which is why it's not contested as part of this proceeding. So that's where
12 that statement came from. It came from the prior art standard, and then they
13 just put it in the claim. So already Note 2 was dealing and aware of that
14 exact statement, because that's in G.987.3.

15 JUDGE TROCK: Right. And so I guess what I would like some
16 clarification, or at least your position out of this, is that Patent Owner's
17 counsel is arguing that if you made this transition, there would be a
18 synchronization problem. And then I look back at Claim 1, in particular
19 limitation 1E, and it says, "Ensuring the ONU is fully powered up,
20 synchronized, and capable of responding to both up and downstream traffic
21 and control before exiting the first or the second state." So if there is a
22 synchronization problem which occurs because of that transition, then how
23 do you square that with the limitation in white?

24 MR. LAREAU: Well, separate from all of this, Your Honor, in the
25 underlying litigation, it was argued that that was indefinite because you can't
26 exit the first state and be fully powered up at the same time. You can't

1 actually exit the first state or the second state and have your transmitter or
2 your transceiver fully powered up. It's not possible. But this is what they've
3 alleged practices the patent. It's what the standard said. It said you can do
4 this, and so it's taught. And that's just a question that we've never had to
5 answer.

6 But the reality is that that presupposes that you cannot make a
7 modification to the standard. If you're allowing for direct transitions by
8 implementing the direct transitions of Röger into the standard, then you're
9 not worried about this anymore. Then Note 2 is not relevant anymore. The
10 synchronization question doesn't really --

11 JUDGE TROCK: What's the level of ordinary skill here in this case?

12 MR. LAREAU: I believe it's a person with -- I'm going to abbreviate
13 here -- but bachelor's of engineering and about two years of experience in a
14 relevant field.

15 JUDGE TROCK: So your position is that someone of that level
16 someone of that level of ordinary skill would be capable of doing this kind
17 of work that the standard is dealing with?

18 MR. LAREAU: Absolutely, Your Honor. And I'll tell you why,
19 because --

20 JUDGE TROCK: Would you opine on that?

21 MR. LAREAU: Yes, Your Honor. Because these documents that
22 we've submitted show how easy it was. We show how few modifications
23 were made. If you look at the red line that's in exhibits -- excuse me. Let me
24 go to Slide 43.

25 JUDGE TROCK: Well, Counsel, I agree that it's just a couple of
26 words here, but the consequences of this are significant, are they not?

1 MR. LAREAU: In turns out they're actually not, Your Honor. It's not
2 particularly serious in the sense that it breaks anything, because they were
3 easily able to do it. It's a natural simplification.

4 JUDGE TROCK: Right. That begs the question, what's the level of
5 skill of these people making these modifications? Somebody with a
6 bachelor's degree and two years of work experience?

7 MR. LAREAU: Some of them, yeah.

8 JUDGE TROCK: Or are these PhDs doing this?

9 MR. LAREAU: There's a variety of members. ITU has thousands and
10 thousands of members.

11 JUDGE TROCK: Well, let's go back to your sample here on Slide 41,
12 this D8 contribution. Who made that contribution?

13 MR. LAREAU: I believe that was Denis Khotimsky. I mean, he is the
14 --

15 JUDGE TROCK: And what's his level of skill?

16 MR. LAREAU: I believe he is at least a person of ordinary skill in the
17 art.

18 JUDGE TROCK: Not just "at least." Is he far beyond that?

19 MR. LAREAU: Well, I don't have his CV in front of me, Your
20 Honor, but I will tell you that he might be the author of this, but these are
21 obviously compilations. I believe he was one of the rapporteurs of this
22 working group in Study Group 15 at the time, and so just because he
23 submitted this document, he compiles the discussions that are occurring
24 within the group.

25 But again, even if you just put aside their characterization, right -- and
26 these aren't my characterizations. These are their characterizations of the

1 modifications. But even if you put those aside and you actually just looked
2 at the modifications that they made, they're minor. They're saying, we
3 changed the name of this variable, and we said that I_{Sleep} becomes I_{lowpower} ,
4 which is a timer. It says it applies to another low-power state.

5 JUDGE TROCK: Not to interrupt you, but does your expert say this?
6 Because we can't rely on your argument here. We got to have some kind of
7 evidence that someone on the record is testifying that somebody with that
8 level of skill is capable of making these modifications.

9 MR. LAREAU: Absolutely, Your Honor. And so if you look at
10 paragraph 73 and 74 -- well, excuse me, 74 -- and of the expert declaration
11 of Dr. Sergienko, which is Exhibit 1003. It's cut off on this printed copy --
12 he describes a reasonable expectation of success that a POSITA would have
13 in view of this framework.

14 JUDGE TROCK: All right. Thank you.

15 MR. LAREAU: All right. If no further questions, I've run out of time.

16 JUDGE OGDEN: I just have one more question. I know we're past
17 time, but we'll give some additional time to Patent Owner as well. But I
18 wondered if you can answer. I understand at least from your Petition that
19 with respect to Dependent Claim 4 that you're saying that the message
20 indicative of the transitioning between the first state and the second state
21 would occur because the ONU has to come up to the active held state, and it
22 would send a message in that state.

23 But if the standard, the G.987.3 standard is modified according to
24 contribution D8, it doesn't seem like it would have to come up into the
25 active held state. And so when in that case would there be a message sent?

1 MR. LAREAU: Well, this illustrates the fundamental issue with
2 Claim 4, which is why the Patent Owner has taken the petition that it recites
3 an impossibility, which is it can't send a message if its transmitter is off. So
4 again, our position is it's either indefinite and it's outside this proceeding,
5 but to the extent that it's not indefinite, it's taught by the art because the art
6 teaches this idea that you would send this message when you exit one of
7 those states. We see that on Slide 49, the sleep request state that we spoke
8 of.

9 JUDGE TROCK: This is Judge Trock. With respect to Claim 4, is
10 there a timing restriction here as to when this message is being sent? Your
11 suggestion is that the message should be sent afterwards when its transmitter
12 is back on.

13 MR. LAREAU: That's the only --

14 JUDGE TROCK: Is there some timing that restricts when this
15 message would be sent?

16 MR. LAREAU: It's not explicit, Your Honor. But to the extent that
17 that is the only logical interpretation of this claim, then it is disclosed, but
18 otherwise, it's not. Your Honor, there is nothing in the specification of the
19 patent that talks to this, so we're left with just the origin in view of
20 everything else. But this embodiment is not described in any meaningful
21 way.

22 JUDGE TROCK: So Claim 4 could be met by sending a message at
23 some later time?

24 MR. LAREAU: At some later time. And if that's the case, then that's
25 taught by the sleep request message.

26 JUDGE OGDEN: Okay. Thank you, Mr. Lareau.

1 Mr. Wyde, we went nine minutes over on Petitioners' time, so we'll
2 give you nine additional in addition to the three and a half. So you have
3 about 12 and a half minutes.

4 MR. WYDE: Thank you, Your Honor. I won't need it.

5 I think the last question you asked was very instructive. You said, "In
6 the latest specification, when would the ONU send a message when it
7 transitions between these two states?" There are no two states in the second
8 specification. There would be no message because there's only one low-
9 power state.

10 It's a different design than Petitioners have suggested. Petitioners
11 suggest keeping the asleep and the doze state and transitioning between the
12 two. The new specification does not have two states; it only has a single
13 state. The OLT does support the older ONUs that have the two states that
14 Petitioners rely upon. It's their petition. They said it was obvious. They
15 pointed to a very particular modification that they want: keep the two states,
16 allow the ONU to transition back and forth.

17 They criticize us for indicating that you can't fix the problem by
18 sending a request when they're in one of the states, but we didn't bring that
19 up. We're responding to their suggestion of how to fix their proposed
20 modification. They suggested that that was a workaround -- in the reply for
21 the first time, by the way.

22 But it is incorrect to say that the new specification implemented what
23 they are suggesting. The new specification said, "Get rid of one of the
24 branches. Only keep one." And as noted in our briefing, the documents call
25 this a, quote, major change, unquote. This is not a small undertaking. You do
26 not modify a specification which the entire industry is relying upon willy-

1 nilly with a few changes and say it's easy. Their own specification noted it
2 was a major change.

3 I'll just leave it at that. So that's all I have, Your Honors.

4 JUDGE OGDEN: Okay. Thank you, Mr. Wyde.

5 And thank you both sides for appearing today and answering my
6 questions. We'll take the issue under advisement, and we'll issue a final
7 written decision in due course. So this hearing is adjourned. Thank you.

8 (Whereupon, the above-entitled matter went off the record at 12:51
9 p.m.)

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