

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

QUALCOMM INCORPORATED,
Petitioner,
v.
NETWORK SYSTEM TECHNOLOGIES, LLC.,
Patent Owner.

IPR2024-00343
Patent 7,594,052 B2

Record of Oral Argument
Held: March 20, 2025

Before CHARLES J. BOUDREAU, STEVEN M. AMUNDSON, and
IFTIKHAR AHMED, *Administrative Patent Judges*.

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

JUDGE BOUDREAU: Morning, everyone. We're here for the oral argument in the case IPR2024-00343, Qualcomm Incorporated v. Network System Technologies, LLC.

Later today, following a short break, we'll hear oral argument in IPR2024-00338 involving the same parties.

I'm Judge Boudreau, and joining me are Judges Amundson and Ahmed.

Let's get started with the parties' appearances.

Who do we have today for Petitioner?

MR. VANDENBURGH: I did not press the unmute button. My apologies. I will start again.

Good morning, Your Honors. My name is Derek Vandenburg, and I will be arguing the first of the IPRs today on behalf of Qualcomm. With us on the Zoom today, our three other attorneys from our firm. Peter Kohlhepp will be presenting the argument in the second of the IPRs, and we also have Aaron Pederson and Nate Louwagie on the Zoom today with us.

JUDGE BOUDREAU: All right. Thank you, Mr. Vandenburg.

And the -- for Patent Owner?

MR. CHRISTOPHER: Good morning, Your Honor. This is Angelo Christopher from Nixon Peabody. I will be arguing the 343 IPR. I have with me today Co-counsel Peter Krusiewicz who will also be arguing on the 343 IPR. And then my colleague, Benjamin Holt will be arguing the

1 338 IPR. We also have with us Jennifer Hayes, our lead counsel, and Daniel
2 Stringfield, all from Nixon Peabody.

3 JUDGE BOUDREAU: Thank you, Mr. Christopher.

4 Welcome, everyone. Obviously, our hearing today is over
5 video. Given that, I just want to start by clarifying a few items. First, if you
6 encounter any technical difficulties that you think will fundamentally
7 undermine your ability to adequately represent your client, please, let us
8 know immediately.

9 Second, we remind you to please mute yourself when you aren't
10 speaking.

11 Third, please identify yourself each time you speak in order to
12 help the court reporter prepare an accurate transcript.

13 Fourth, we have the entire record, including the parties'
14 demonstrative exhibits, so we can refer to your own papers, or you're free to
15 share your screen as well, whatever you prefer. But in any case, we just ask
16 that you please refer to the demonstratives, papers, and exhibits clearly and
17 explicitly by slide or page number to assist the preparation of the accurate
18 transcript of the hearing.

19 Finally, we do have a public line, so please be aware that
20 members of the public may be listening.

21 We set out the procedure for today's hearing in our order that
22 we entered on February 12th granting the parties' request for oral argument,
23 and received the parties' demonstrative exhibits earlier this week. And we
24 also received Patent Owner's Objections to Petitioner's Demonstrative Slide
25 Numbers 15, 26, 49, and 54 as containing or citing evidence not previously
26 cited in any paper filed in this proceeding. If the parties want to address

1 these objections during your time, feel free to do so. Otherwise, we'll just
2 take the objections under advisement.

3 As the oral hearing order stated, each party will have a total of
4 one hour to present arguments, though I understand that Patent Owner also
5 filed a verification form and request under the Board's Legal Experience and
6 Advancement Program, or LEAP, so, as stated in our hearing order, we will
7 grant up to an extra 15 minutes to Patent Owner if Mr. Krusiewicz is
8 presenting today.

9 Petitioner has the burden of proof as to whether the challenged
10 claims are unpatentable and will go first. Patent Owner will then present
11 opposition arguments. And then to the extent that Petitioner has reserved
12 time, Petitioner will reserve rebuttal -- will present rebuttal, rather. And then
13 to the extent that Patent Owner has reserved time, Patent Owner will present
14 its surrebuttal.

15 Finally, we remind the parties not to interrupt each other while
16 the opposing party is presenting its arguments and demonstratives. If you
17 believe that a demonstrative or argument presented by the other party is
18 objectionable, you can raise that objection or any arguments related to the
19 objection during your own time, as I mentioned before.

20 We have a lot to cover today with two proceedings and multiple
21 grounds, so please keep that in mind while you're managing your time. With
22 that, I think we're ready to begin.

23 Mr. Vandenburg, do you have any questions before we get
24 started?

25 MR. VANDENBURGH: I do not. I will say two things. One
26 is, my hope is to reserve 15 minutes for rebuttal.

1 JUDGE BOUDREAU: Okay.

2 MR. VANDENBURGH: And I'm going to set a timer that's
3 going to hopefully help me do that. And I am not planning to share my
4 screen. I'm going to refer the Board to our slides, I understand you have
5 hard copies of them, as I go. Unless, I may share, if there's a particular point
6 where it would help for me to point to something with a mouse. So that's
7 my introduction.

8 JUDGE BOUDREAU: All right. Sounds good. Thank you.

9 MR. VANDENBURGH: I think we should go ahead and jump
10 into it here. So for the 052 patent, trial was instituted based on two primary
11 references, neither of which were before the Patent Office during the
12 original prosecution, and both of which show the same mapping method that
13 is both disclosed and claimed in the 052 patent.

14 Now, Patent Owner's arguments primarily are based on reading
15 in limitations into the claims that simply aren't there. In a number of
16 instances, they're not formally asking for construction, but by saying that the
17 claims are limited to things that are not present in the plain and ordinary
18 claim language, they are asking for implicit constructions, and those
19 constructions are unsupported by the intrinsic evidence, and in several
20 instances would result in the claims being limited to things that aren't even
21 disclosed in the patent.

22 But before I get to the merits, I would like to go ahead and start
23 with the allegations that we have not shown that the -- two of the references,
24 the two references involved in Grounds 1 and 2 don't qualify as prior art
25 printed publications.

1 JUDGE AMUNDSON: This is Judge Amundson. But before
2 we get into that, if I could just ask about claim construction. Can you update
3 us on the status of the claim construction in the Western District of Texas?

4 MR. VANDENBURGH: The update is there still is no decision
5 on claim construction. The -- we had two Markman hearings, one, I believe
6 in December of '23, one in February of '24. We've had some supplemental
7 briefing, including some that went in most recently, but the Court still has
8 not ruled.

9 JUDGE AMUNDSON: All right. Thank you. And so, I
10 looked at the docket sheet. It looks like there was some supplemental briefs
11 that went in on February 21st. Is that the latest?

12 MR. VANDENBURGH: That is the latest. I'm sorry, did --
13 February -- yes, February 2025 was the latest briefing.

14 JUDGE AMUNDSON: All right. Thank you.

15 MR. VANDENBURGH: All right. All right. So back to the
16 issue of whether Radulescu2004 and OCP, the two references involved in
17 Grounds 1 and 2, qualify as printed publications. And if I could direct the
18 Board's attention to Slide 3, the evidence we submit on these -- on both of
19 these references is overwhelming.

20 Now, the point I want to start with is to emphasize that the
21 critical date here is March 17th of 2004, and that's because Patent Owner has
22 made no argument, has presented no evidence that it's entitled to an
23 invention date prior to its earliest priority date. And that's important,
24 because it means that Radulescu2004 is a prior printed publication for two
25 reasons.

1 One, it was handed out to more than 500 attendees of the 2004
2 DATE conference. That's the Design, Automation and Test in Europe
3 Conference that took place in February of 2004. But secondly, it's also prior
4 art because it was uploaded to the IEEE website, IEEE Xplore on or about
5 March 8th of 2004, although those are before the priority date.

6 Now, I -- I've listed the evidence here. I'm happy to go through
7 any of that evidence if the Board is interested in any of it, but we do discuss
8 it in our brief. So the only thing that I really want to call out among that
9 evidence is what's Item 5 on Slide 3, which is the exhibits that were
10 submitted with the second Hall-Ellis Declaration. And particularly, the
11 Exhibit 10-66, which is shown on Slide 4, which is corroborating what the
12 other declarants have said.

13 And what this shows, this is an actual copy of the proceedings.
14 We know from the right-hand slide that -- the right-hand image that I've
15 reproduced and the -- all the pages are there, that it -- that the bound
16 proceedings include the Radulescu2004 article. And if you look at the
17 middle image on Slide 4, there's the date received by the Library of
18 Congress, February 26th, 2004.

19 The fact that the Library of Congress received the bound
20 version on February 26th strongly corroborates the other evidence showing
21 that it was handed out at the conference in February and posted to IEEE
22 Xplore on March 8th.

23 JUDGE BOUDREAU: I do have one quick question about
24 mister -- Dr. Dutt's declaration. He said that he received a copy of all of the
25 -- see, I'm looking --

26 MR. VANDENBURGH: About proceedings, yeah.

1 JUDGE BOUDREAU: Paragraph 15 of his declaration.
2 "When I checked into the DATE04 conference, I was given a physical copy
3 of the DATE04 proceedings, either in paper or CD form. This physical copy
4 of the DATE04 proceedings included all of the papers accepted for that
5 year's conference."

6 I just want to be clear. He doesn't still have a copy of all of the
7 papers or that CD that was received; is that correct? It wasn't entirely clear
8 from the record.

9 MR. VANDENBURGH: I believe the answer to that is, no,
10 primarily because if he did, I think we would've sent it in as an exhibit, but
11 he did not. But he is a regular attendee, regular presenter at the DATE
12 conference, and that is his recollection, and again, corroborated by other
13 evidence such as 10-66.

14 JUDGE BOUDREAU: All right. Thank you.

15 MR. VANDENBURGH: All right. So then, moving ahead to
16 Slide 7, which just shows the front page of Exhibit 10006, which is Version
17 1 of the Open Core Protocol Specification. Again, the evidence is -- here is
18 overwhelming, but the primary evidence is the fact that both the 052 patent
19 and Radulescu2004 refer to OCP as an existing protocol.

20 Obviously, if it's an existing protocol, the specification existed.
21 This is roughly 120-page document that bears all the hallmarks of
22 authenticity. I'll note that Patent Owner has not filed a motion to exclude on
23 any, sort of, evidentiary grounds. So again, that combined with the other
24 evidence that I've, again, summarized on Slide 8 overwhelmingly shows that
25 OCP is also prior art.

1 The last point I'll make on these is just the burden of proof here.
2 You know, the -- to read Patent Owner's papers, you'd think we have to
3 prove that it's a prior publication beyond a reasonable doubt. And while we
4 certainly think the evidence is overwhelming here, the evidentiary standard
5 is simply preponderance of the evidence, and we have met that here.

6 So then --

7 JUDGE AHMED: Mr. Vandenburg, how do you address
8 Patent Owner's argument that it was not properly presented in the Petition?
9 You merely cited the declaration of Dr. Dutt and Mr. MacPherson, and
10 incorporated by reference, and our rules do not allow that.

11 MR. VANDENBURGH: We -- we've -- we cited cases in our
12 brief where the Board has recognized and held that what we did was proper.
13 The reality is, you never know when you file a petition, whether or not the
14 patent owner is going to challenge the status of something's prior art, and
15 especially in a case like this where it's pretty clear.

16 So I think the Board has been understanding that on this
17 particular issue, a high level discussion is appropriate in the opening papers
18 without violating the Court's or the Board's procedural rules.

19 JUDGE AHMED: Okay.

20 MR. VANDENBURGH: So with that, I'd like to go ahead and
21 turn to the merits, and I'm going to take them in order, starting with Ground
22 1. We have four grounds. Ground 1 is anticipation by Radulescu2004, and
23 it's directed to Claims 1, 2, 5, 6, and 7.

24 Now, as I alluded to at the beginning, this ground turns entirely
25 on Patent Owner's efforts to read limitations into the claims that aren't there.

1 Now, before I get to that -- those claim interpretation issues,
2 just high level on Radulescu2004. It is, of course, very similar in its
3 disclosure, in its figures to what is shown and described in the 052 patent.
4 Not surprising.

5 The inventors of 052 are also among the authors on
6 Radulescu2004. So just like in the 052 patent, Radulescu2004 shows a
7 system on ship with modules that communicate with each other over a
8 network that includes network interfaces and routers. Just like in 052,
9 Radulescu2004 emphasizes that it uses connections to provide differential --
10 differentiated services to the modules.

11 These connections are described as these end-to-end channels
12 that have properties so that the network can provide the appropriate service
13 to each request.

14 And then turning to Slide 12, it of course shows the same
15 preferred structure of the network interface. We see Figure 1 of
16 Radulescu2004 and Figure 3 of the 052 patent each have a network interface
17 that includes adapters that receive the signal from the module, process that
18 signal, send it to a shell such as a multicast shell or a narrow cast shell, and
19 then that signal is output to what's described as the network interface kernel.

20 And then on the next three slides, I go through each of those in
21 some further detail. I don't think there's too much dispute among the parties
22 on this. There's actually more detail in Radulescu2004 than there is in the
23 052 patent.

24 So if you look at Slide, 13 for the adapters, it's the same. Just
25 like in the 052 patent, it shows a master shell that receives three input lines
26 from the master, request data, command and flags, and address, and that's

1 what we're going to be talking about a lot is address, but it sequentializes
2 that and outputs it. That's what it says it does.

3 Then if you go to Slide 14, you see a description of the narrow
4 cast shell, both the figure as annotated by Patent Owner on the left, and then
5 the relevant text on the right. And what this slide shows is that the narrow
6 cast shell maps the request to the desired connection, and that each
7 connection is a point-to-point connection to a particular slave. So it was
8 explained in that text, this is -- the mapping is done by the con block, which
9 identifies the correct connection using the address from the request and
10 configurable address ranges stored in the narrow cast module.

11 And then finally, Slide 15 shows us how the mapping is then
12 carried out. And this is one of the slides that is objected to that I think the
13 primary objection is that Figure 2 was not expressly cited as a figure, but
14 certainly this page and the text describing Figure 2 were.

15 And the important thing here is that, as we describe in the text,
16 the mapping is accomplished in the network interface kernel by receiving
17 from the narrow cast module a con ID signal in addition to the message.

18 And you can see, as I've highlighted in blue, there's a con ID
19 signal input into the NI kernel. And as stated in the text, when a port has
20 multiple connections to allow differentiated traffic classes, in that case, there
21 are con ID signals to select on which connection a message is supplied or
22 consumed. So the narrow cast module does the mapping, and then the
23 mapping is accomplished by outputting this con ID that the -- that the
24 network kernel uses to select the appropriate connection on which the
25 message is to be consumed.

1 So with that understanding, then, let's turn to the claim
2 language. And on Slide 16, I put the claim language as a whole, just to
3 orient us to the various subparts of the claim as the parties have referred to
4 them, and the disputes here are focused on 6 Pre 2 and 6D. Now, I wouldn't
5 be surprised if the Board -- I -- certainly I found this language the first
6 couple times I read it to be hard to parse, to actually figure your way through
7 it and see what exactly it's requiring.

8 So on Slide 17, I've made an effort to clarify that with some
9 paragraph breaks and some color coding to make it clear for our discussion
10 of what this claim requires. And relative to 6B2 -- pre 2, I don't think there's
11 too much dispute.

12 The claim requires that a first module issues a request for
13 communication service. That request for a communication service is based
14 on two things: specific communication properties, and at least one
15 communication service identification. In turn, that second thing, the at least
16 one communication service identification, comprises one of two things:
17 either a communication thread, or an address range. And then the mapping
18 step, I'll talk about that more later, describes how the mapping of that
19 information takes place.

20 But the first dispute relates to that first language, and it -- the
21 issue simply comes down to this: when the claim says that the request for
22 service is based on these two things, does the master have to actually
23 transmit those two things, and other -- and specifically, does it need to
24 transmit an address range? And our point is, that's not how the claim is
25 drafted. It's drafted with more broad terminology that merely requires that

1 the service request be based on this -- these one of two things that are either
2 a thread or an address.

3 And when it comes to the construction of that term, our point is
4 that we shouldn't construe "based on" in this context to mean that you have
5 to -- actually, the request has to contain, for example, an address range,
6 because that would be entirely inconsistent with the specification. The
7 specification does not disclose anywhere that the request from the master
8 includes an address range.

9 Instead, it consistently says exactly what's in Radulescu2004
10 that what's sent by the master is simply an address. And we don't construe
11 claims in a way to exclude all of the embodiments of the patent.

12 Now, let me dig into that a little deeper just to show the
13 evidence on this point. If you could jump ahead to Slide 19. Of course, in
14 the figures, we have the same figure that we have in Radulescu2004 showing
15 the three signals coming in from the Master. WR data, command and flags,
16 and address.

17 And Patent Owner's expert, when talking about Radulescu2004,
18 says, well, a person skilled in the art would know that address means
19 address, not address range. Well, and that's fine. But if that's true for
20 Radulescu2004, that's also true for the 052 patent.

21 And it's not just that. You go on to -- there's other instances in
22 the patent. For example, on Slide 20, the -- talks about the idea of the
23 invention. The invention is to offer differentiated services by mapping the
24 identification means of the protocols to connections.

25 The identification means in the existing protocols are
26 communication, threads, and addresses. Again, not address ranges,

1 addresses. Same thing on the right. This is from the description of the
2 Preferred Embodiment talking about the fact that a master module requests a
3 communication service, i.e., a request is issued to the slave module. That's
4 the request. And if you read down, it says, "The request includes an
5 identification means from the existing protocols," and again uses this
6 language, "The identification means are communication threads and
7 addresses," i.e. The threads or addresses are mapped to connections through
8 the interconnect based on specific connection properties.

9 And finally, let me just talk about Figure 4 and the description
10 of Figure 4. This is important because, again, this is the limitation that was
11 added to gain allowance, and the applicant told the patent office at the time
12 that the address language was supported by what is shown in Figure 4. And
13 if you read that description, what it still says nothing about the master
14 sending an address range to the network interface.

15 Instead, what it shows, the only thing it shows, is that the
16 network interface has a map. It has a table. And that table identifies address
17 ranges and the connection associated with each one. So the description is
18 consistent with exactly what is shown in Radulescu2004. The master issues
19 a request that includes an address, and it's based on an address range in the
20 sense that the network interface has a map of address ranges associated with
21 the addresses that might come to it that it can use to map and choose the
22 appropriate connection. Now --

23 JUDGE BOUDREAU: Hang on a second. Let me -- this is
24 Judge Boudreau. Let me ask a question about that. So even if the request
25 itself doesn't need to include the address range, would you agree that the

1 claim does require that the communication service identification must
2 include the address range?

3 MR. VANDENBURGH: No. No. The consumer -- well, wait
4 a second. I got to get my terminology right. The claim says that the
5 communication service identification comprises an address range.

6 JUDGE BOUDREAU: Right.

7 MR. VANDENBURGH: So that -- that's what it is, but the
8 service request needs to merely be based on that thing. And this is the last
9 point I was going to make, which is on Slide 18. I'm backing up a little bit.

10 Our expert, Dr. Hassoun, based on what's described in the
11 specification, concludes that a -- the language I've highlighted, a POSA
12 would understand that the service request sent by master is based on an
13 address range in the sense that the request contains an address. It
14 corresponds to one of the address ranges stored in the network interface,
15 identifies the slave for which it's intended. So that identification does have
16 to include an address range, but the request does not.

17 JUDGE BOUDREAU: What in Radulescu were you mapping
18 to the communication service identification that includes an access range?

19 MR. VANDENBURGH: That is what's shown in Figure 4,
20 where within the network interface, we have a map of address ranges and
21 connections associated with each address range. That's the disclosure of the
22 patent.

23 JUDGE BOUDREAU: Figure 4 of Radulescu?

24 MR. VANDENBURGH: No, I'm sorry. I misspeak. Figure 4
25 of the 052 patent. In the -- in Radulescu, the address range, again, is
26 understood in the same way that the 052 patent describes it, which is the

1 language I showed on Slide 14, where it talks about the con block mapping
2 to a connection based on the address received from the master and address
3 ranges stored in the narrow cast shell.

4 And I don't believe that Patentee has disputed that when it says,
5 "The address range assigned to a slave is configurable in the narrow cast
6 module," that it's saying that the narrow cast module has address ranges
7 associated with each connection.

8 JUDGE BOUDREAU: Well, I think the question that I was
9 asking is a little bit different. I was trying to figure out what in Radulescu
10 corresponds to the communication service identification in Claim 6.

11 MR. VANDENBURGH: I -- it -- I guess it would be the
12 address ranges assigned to each slave that's referred to in that paragraph on
13 Slide 14. So just like in the 052 patent, it is an identification in the sense
14 that the narrow cast shell as this as address ranges corresponding to each
15 slave and the connection to each slave so that it can map with that and the
16 address received from the adapter to the --

17 JUDGE BOUDREAU: So the address range itself is the
18 communication service identification; is that what you're arguing?

19 MR. VANDENBURGH: That is correct. That is correct. That
20 is how Claim 6 reads on Radulescu2004 is via the address range alternative.

21 JUDGE BOUDREAU: Okay. Thank you for clarifying that.

22 MR. VANDENBURGH: Yep. Yep. So I think I've talked
23 about that element as much as I intended to. I just want to talk also about
24 the mapping limitation that Patent Owner disputes. And if I could --

1 JUDGE AHMED: Before you do that, could you address
2 Patent Owner's argument that in the Petition you actually relied on the
3 master module sending the communication service identification?

4 MR. VANDENBURGH: Thank you. I -- yes. And what I
5 would ask the Board to do is to read the snippet they cite in context, we have
6 another of these instances where they're taking things out of context.

7 If you read the two pages before, you'll see that we read the
8 claim exactly as we are now. The one little snippet, they say and granted,
9 perhaps it was inartfully written, but when it says includes, it's more in the
10 sense of this limitation is met for the reasons we've just been describing
11 ahead.

12 And we never argued that Radulescu2004, the master actually
13 transmits a range. We were consistent with the specification that this
14 language is met because an address is transmitted that is compared to
15 address ranges stored in the narrow cast module. But again, they -- the only
16 point to that one little snippet and that snippet is not -- should not be read the
17 way they claim.

18 Okay, let's talk about the mapping limitation and I'm on Slide
19 23. And what I've done here is I've excerpted the color coded parsing that
20 patent owner put in its patent owner response. And I think we agree on this.
21 The claim requires that you map the thing in green, the request -- at least one
22 communication service that's based on communication -- specific
23 communication properties, to the thing in blue, connection based on
24 connection properties, and then you map according to what's in red, be at
25 least one communication service identification.

1 Skipping ahead to or turning ahead to Slide 24. Again, just to
2 emphasize, okay, how should we read this? We should read this consistent
3 so that it covers what's disclosed in the patent. We were told by the
4 applicant during prosecution that this language describes what is disclosed in
5 connection with Figure 4?

6 And again, what Figure 4 shows is this mapping is based on
7 taking the request that includes an address, comparing it to a map that has
8 ranges and connections. So you've got existing connections with connection
9 properties associated with each range. So that by choosing finding the
10 address range that includes the address, you can map it to a connection and
11 send the data where you want with the properties that you've associated with
12 that connection. Again, that's exactly what's described in Radulescu2004.

13 I've -- again, this is largely on Slides 25 and 6, a repeat of what
14 I've already talked about of how the con block is mapping to choosing the
15 connection to use, with these connections having connection properties,
16 based on the address and the ranges stored in the con block.

17 And then Slide 26 again, explains how this actually takes place,
18 which is that it out outputs a con ID signal to the network interface kernel
19 that allows, and it stated in the bottom on the text on the right, as you have
20 multiple connections that allow differentiated traffic classes with the con ID
21 signals helping you to select on which connection a message is supplied or
22 consumed.

23 Okay. So I am -- I'm going through my time quickly. I see I'm
24 already at 29 minutes. I got to move ahead to Ground 2. Ground 2 is
25 directed to all limitation -- is directed to all claims. And it is a particularly
26 strong combination to combine Radulescu2004 plus OCP because

1 Radulescu2004 expressly says that OCP is one of those existing protocols
2 that it's seeking to present backward compatibility to.

3 And I don't think there's any dispute that among the signals
4 included in OCP are the M address space signal that describes an address
5 space, an address range, as well as MThreadId, which is a obviously an
6 identifier of a thread. So it fits together with the disclosure of
7 Radulescu2004 in that it includes both of those identifiers that are claimed in
8 the 052 patent. Now --

9 JUDGE BOUDREAU: So, Mr. Vandenburg, as you know, a
10 patent owner argues that those messages are merely optional. Can you
11 address that point?

12 MR. VANDENBURGH: Yes. Yes. I have two answers to
13 that. One is a legal one and one is a technical one. Let me start with a
14 technical one. The point on the technology is, first of all, Radulescu2004
15 says it wants to provide backward compatibility. If you're going to provide
16 backward compatibility, you need to provide the ability to receive all of the
17 signals that might come from an OCP module, and that would include even
18 the optional ones.

19 Second point technically, is that these features are beneficial
20 features. They exist in OCP because they have useful advantages. This is --
21 and I showed this on Slide 31 relative to address space.

22 On the lower left, that's the quote from the OCP specification.
23 The address space is used because often you want to have the same data
24 saved in two different locations. You might save it in a -- in a register base
25 or in a -- in a regular memory space. In that -- in that instance, you need the
26 M address space to tell you which location you have to go to. And that, of

1 course, maps very naturally -- I guess I did not attend the pun there. It fits
2 very naturally with Radulescu's disclosure, because in that instance, as Dr.
3 Hassoun says on the right on Slide 31, you need the M address space signal
4 to know which memory location to go to. So when you're mapping as
5 Radulescu2004 teaches, you would need to use that M address space in a
6 system that has this desirable feature to perform the mapping.

7 Just -- and I went longer on the technical discussion than I
8 thought, but it's also true on the threads. And the point of threads, and Dr.
9 Hassoun goes on at length that threads exist because they are a desirable
10 feature, because they provide additional functionality that designers want.
11 And relative to combining with Radulescu, the features provided by OCP's
12 threads are exactly the ones that Radulescu wants to use to map its
13 connections based on connection properties.

14 So again, the combination makes sense, because OCP says,
15 well use threads if you want to transmit information regarding a priority or
16 ordering. Those are the same things that Radulescu teaches are its
17 connection properties. So it makes sense, it's obvious, and there's a
18 motivation to use the threads as part of the mapping in order to communicate
19 that ordering and priority information.

20 Then, though I said in addition, the last point I think I'm going
21 to make on this ground actually is the legal point which I show on Slide 36.
22 Part of Patent Owner's argument is well, Radulescu2004 already says it
23 works just fine with addresses. Why would you try to do something
24 different if it -- if it teaches you can map with addresses.

25 And that's an argument that was addressed and rejected by the
26 federal circuit in this *Intel* case I quoted here. There the Board had accepted

1 a very similar argument. You had -- the primary reference and the
2 secondary reference each taught a different way of accomplishing a
3 particular function. And the Board actually said, well, obviousness hasn't
4 been proved because you haven't proved that somebody would think that
5 there's -- the other one is better.

6 Why would you make a substitution unless the secondary
7 reference is better?

8 And the Federal Circuit rejected that argument. Says, the
9 Board's reasoning belies its conclusion that, and those are the two
10 references, address the same problem. And that the secondary reference was
11 a known way to address that problem is precisely the reason there is a
12 motivation to combine.

13 The same thing is true here. The references show that
14 communicating information for mapping purposes can be accomplished with
15 an address, with an address space, with a thread, and the fact that they are
16 known ways to address the same problem shows the obviousness here.

17 I do want to keep moving along because I want to talk a bit
18 about the Weber reference. I'm moving on to Ground 3 now. And this is
19 anticipation by the Weber reference. I've shown on Slide 38, just the high-
20 level understanding of what Weber shows. I don't think there's much dispute
21 on this at this point.

22 Weber discloses a System-on-Chip with functional blocks,
23 equate to modules, A through E. Each of those functional blocks
24 communicate over a point-to-point bus with an interface. Well, not all of
25 them, but some of them do. The ones like 120, 122, 123, 124, all are

1 communicating over a point-to-point bus with interface that then
2 communicates with a shared bus.

3 And in addition, we have, I think what the parties now agree, is
4 a Bridge F that provides a bridge between two shared buses, 112 and 114.

5 Now start with what's not disputed. Again, it's not disputed that
6 Weber discloses a System-on-Chip that communicates with connections.
7 And connections in the same sense of the patent, end-to-end connections
8 with connection properties associated with them.

9 And they also don't dispute that Weber teaches the mapping as
10 claimed at least relative to threads. That it teaches mapping a thread -- the
11 mapping occurs in the network interface. A thread issued by a module is
12 sent to an interface and is mapped by the interface to a connection on the
13 shared bus. So really, the only dispute relative to Claim 6 is whether or not
14 what Weber discloses, it's shared buses, point-to-point buses, interfaces,
15 bridge, if that constitutes an interconnect means as claimed in the 052 patent.

16 And I don't want to spend too much time on the construction of
17 interconnect means because it does not matter at the end of the day. The
18 only point I'll make is that we agree the patent distinguishes networks from
19 direct interconnects, like mirror buses, mirror switches. But the Patent
20 Owner chose a broader term.

21 They didn't claim network. They could have claimed network.
22 They didn't. Instead, they use this broader term interconnect and the patent
23 clearly describes even mirror buses, mirror switches as examples of
24 interconnects. But again, the Board does not need to resolve this because
25 Weber is not a mirror bus. It's not a direct bus connection between modules.
26 It has these separate point-to-point connections with interfaces that do

1 things. Those interfaces, as I'll get to, create hops as do the bridge or bridges
2 that connect together to shared buses.

3 Now, this brings us to the patent's definition of network, which
4 I show on Slide 41 and it comes straight out of the specification. This is the
5 interpretation they asked for in the district court and that we have agreed to,
6 "multi-hop interconnection between modules separated by one or more
7 network nodes." Comes right out of this sentence. It's the only time that
8 network is talked about in terms of hops. And it talks about the multi-hop
9 nature of a network where communication modules are not directly
10 connected, but separated by one or more network nodes.

11 Now, one of the things I almost guarantee you're going to hear
12 from NST today, from Patent Owner, is that our expert used the term hop to
13 describe two different things, and that's true. He did. Because the term hop
14 is a broad term and it can be used to understand two different things
15 happening. And in particular, it can be used to describe the data traveling
16 from a module to a node or between nodes. That's a hop. Or it can be used
17 to describe the data traveling through the node that as a -- you know, the link
18 -- the links are connected by hops, by the node itself. Two fair ways in the
19 art to think of the term hop.

20 JUDGE AMUNDSON: This is Judge Amundson. I had a
21 question on the concept of nodes. So if I've got a network and it's got
22 routers, are the routers nodes in the network?

23 MR. VANDENBURGH: The routers are -- we -- yes, the
24 routers are most certainly nodes. They're not -- it's not limited to routers, but
25 the -- but a router is an example of a node.

1 JUDGE AMUNDSON: Okay. So now I've got a network and
2 I've got a computer with a network interface card on it. The computer with
3 the network interface card is connected to the network. Is the computer with
4 the network interface card, is that one node or is it two nodes, the computer
5 one node, the network interface card being a second node?

6 MR. VANDENBURGH: In the terminology of the patent, and
7 we've laid this out in our Reply brief, the network interfaces are also
8 network nodes.

9 JUDGE AMUNDSON: Is that a special thing based on
10 lexicography?

11 MR. VANDENBURGH: No. No. I don't think so at all. I
12 think ordinarily, you would consider a network interface to be part of the
13 network, and it -receives data. It does work on those data -- on that data and
14 then sends it out. So in that sense, it is a hop, no different than any other
15 component that serve -- I'm sorry, I used that word hop. Node. It is a node
16 that does functions on the data, performs operations on the data, just like any
17 other node, like a switch would do.

18 JUDGE AMUNDSON: All right. Okay. Thank you. I think I
19 understand your position.

20 MR. VANDENBURGH: And just to perhaps -- I -- this isn't
21 necessary for the purpose of the Weber analysis because of the bridge, which
22 I believe there's no dispute at this point, but if you look at Slide 48, Figure 4
23 of the patent doesn't show any switches. All it shows is network interfaces.
24 So the only basis to conclude what are the hops, what are the nodes that
25 provide hops in this figure, it is the network interfaces.

1 And that's also consistent if you back up one slide with Slide
2 47, where the patent expressly shows the network interface being part of the
3 network. I've included the annotated version as annotated by Patent
4 Owner's expert, acknowledging what the patent clearly teaches, which is, it
5 shows the network interfaces as being part of the network.

6 Then -- and I'm -- I do want to go back to Slide 42, because as I
7 said, hop can be used in two different ways, but the patent's teaching is only
8 consistent with one of those ways. So again, this sentence in the
9 specification talking about a multi-hop nature of a network is separated by
10 one or more nodes. The only way that it makes sense to have a multi-hop
11 created by one network node is to be counting the links as hops.

12 So I've shown on the left, it's distinguishing a direct connection
13 where there's only one hop. Data just travels from module to module. On
14 the right, I've shown how a single node makes the network multi-hop,
15 because now the data has to hop from the module to the node, node to the
16 network.

17 And I -- just to then turn to Slide 43, that's exactly what
18 Radulescu shows. This is an example highlighted by our expert in his
19 opening declaration. It shows an example, and obviously data moves in any
20 direction through this network. But one example is data moving from
21 Module A to Interface 120, to another Interface 124, to a Bridge F, to
22 another module -- a turn -- another Interface 128, and then to its final
23 destination, into the module. So --

24 JUDGE BOUDREAU: And, Mr. Vandenburg, it's Judge
25 Boudreau, I was just going to say that you're starting to get into your rebuttal
26 time now.

1 MR. VANDENBURGH: Yeah. I'm -- I do want to cover a
2 couple of more things. There -- just to go to Slide 44. Patent Owner,
3 especially in their Sur-reply -- and read pages 3 to 5 of their Sur-reply -- they
4 basically acknowledge that a bridge is a node that provides a hop. So put
5 aside the issue of whether the network interfaces are nodes that create hops.
6 Unquestionably, node -- I'm sorry, Bridge F creates a hop in Figure 1 of
7 Weber.

8 So their real primary response is, well, but Figure 1 isn't on a
9 single chip, and the claim is limited to a single chip. That is simply ignoring
10 the plain language of the patent. I've quoted that language on Slide 44. It
11 says System 100 is an example of a system that may consist of one or more
12 integrated circuits. Weber is clear.

13 Then, the last thing I really need to spend some time on is, I
14 want to jump ahead to Slide 52. Because what Patent Owner really does is
15 they try to add additional requirements to their own construction of network.
16 So they were the ones who asked for this construction, multi-hop
17 interconnection between modules separated by one or more nodes, but now
18 they say, in addition to that, it's got to be a router or a switch, got to have
19 protocol conversion. You got to have root variability and you got to have
20 packets.

21 There's no basis in the claim language, no -- and no basis to
22 interpret the claim language to require any of these. You know, the same
23 rules apply to patent owners when they're defending validity that apply to
24 defendants when they're defending against infringement accusations. We
25 don't read limitations in their claims. They've made no argument of any, sort

1 of, lexicography. They've made no argument of disavowal. There's nothing
2 in the specification to do that.

3 These words they're talking about, router, conversion, packets,
4 they're only talked about in the description of the preferred embodiments.
5 There's no suggestion that they are necessary features of a network. We've
6 accepted networks defined in the background, and that's what it is, but
7 there's no basis to read anything further in.

8 JUDGE BOUDREAU: Just going back for a minute to your
9 point about the patent disclosing that there could be one or more integrated
10 circuits. Claim 6, itself, in the preamble, recites a, "method of
11 communicate" -- sorry, "method of communication service mapping in an
12 integrated circuit."

13 Are you suggesting that we should read that to be broader than
14 what the --

15 MR. VANDENBURGH: No. I didn't mean to suggest that.
16 We have not contested at least that Claim 6 has to be on a single chip. My
17 point is that Weber, in describing for example the Figure 1 embodiment,
18 unquestionably says -- and go back to that slide again. Slide 44. Weber
19 unquestionably says that the System 100 that includes, for example, a bridge
20 that provides a hop, that that System 100 is an example of a system that may
21 consist of one or more integrated circuits or chips.

22 So in that disclosure, it is disclosing an option where it's all on a
23 single chip. Their expert said, well, but I know some of those components,
24 and it would be hard or expensive to do that. That's legally irrelevant,
25 whether it's hard or expensive. And as our expert testified, he provided

1 examples where exactly those components have been combined on a single
2 chip.

3 I do have some other things that I had planned to cover, but I
4 am conscious and want to maintain my time. So I think I -- for the
5 remainder of our argument, I do want to -- no, there is one more point I want
6 to make before I be done.

7 They rely heavily on an alleged admission by our expert that a
8 network has to have packets. And I want to direct your attention to Line 50.
9 It's at Slide 56. On the left is his testimony. It's from his declaration where
10 he said exactly the opposite. The testimony they rely on is on the right.
11 This is an instance of simply trying to twist testimony into something that it
12 was not.

13 If you read that testimony, it starts with the witness, Dr.
14 Hassoun, asking for clarification, can you give me an example of a
15 communication pathway? And in response, Patent Owner's attorney gave
16 him an example. Sure. Network-on-Chip. Packets are transmitted over
17 network, right? And he says, sure. Okay. Read in context, it is clear that
18 he's just -- when he says sure, he's just agreeing to the example. He's not
19 agreeing, contrary to his declaration, that all networks have packets.

20 Becomes clear later in his testimony where he's saying, there's a
21 whole bunch of questions, I understand your example. He's viewing this as,
22 you provided me an example. I'll testify regarding that example. He did not
23 agree that networks have chips or that networks have to have packets. None
24 of those limitations are in those claims, and as a result, Weber also
25 anticipates all of the claims. And if not anticipated, then as the Board

1 preliminarily found, it would've been obvious to substitute the network of
2 Radulescu2004 into Weber, therefore, achieving all the claim limitations.

3 With that, I'll reserve the rest of my time.

4 JUDGE BOUDREAU: All right. Thank you. I think you have
5 about ten minutes left for rebuttal.

6 Mr. Christopher, whenever you're ready. And also just let me
7 know, would you like to reserve any time for surrebuttal?

8 MR. CHRISTOPHER: Yes, I would, Your Honor. We would
9 like to reserve ten minutes for surrebuttal.

10 JUDGE BOUDREAU: Okay.

11 MR. CHRISTOPHER: May it please the Board. I -- I'd like to
12 start our presentation with a brief overview of state of the art and the
13 inventions in the 052 patent. If Your Honors can turn to Slide 3 of our
14 demonstrative, I'm going to attempt to share demonstrative to pave the
15 presentation.

16 The 052 patent generally relates to System-on-Chip or SoC
17 technology. At a very high level, the system on a chip includes multiple
18 components, like processors and memory, which are referred to as modules
19 or sometimes IP blocks, that are connected with an interconnect so that they
20 can communicate. The specification talks about two conventional types of
21 interconnects that were used for SoCs.

22 The first was a point-to-point interconnect in which all of the
23 modules on the chip were directly connected to one another. The other type
24 of conventional interconnect discussed in the specification is a bus, which
25 unlike the direct point-to-point connections, the modules share a bus and can
26 communicate with one another.

1 The invention in the 052 patent is directed to a specific type of
2 interconnect, a network. And we'll talk about this a little bit in the claim
3 construction, but the difference is, unlike these direct connections and buses,
4 the modules are indirectly connected and separated by network nodes, things
5 like routers.

6 Turning to Slide 4. Figure 1 of the 052 patent provides an
7 example of a network, and in this example, we have two routers. One of the
8 important aspects of a Network-on-Chip is that it decouples computation
9 from communication. And what that means is that you can reuse existing
10 modules, like the master modules and the slave modules you see in Figure 1,
11 without modifying them to work with the network.

12 And so one way that the NoC enables this is that it includes
13 adapter units, which translate the protocol used by those existing modules in
14 a network interface, which packetizes and de-packetizes the information so
15 that it could be sent over the network.

16 JUDGE AMUNDSON: This is Judge Amundson. I had a
17 question. If you could go back to your slide for -- and your highlighted
18 version of Figure 1 from the patent. As I understand NST's position, it's that
19 the network interfaces are not part of the network. Do I have that correct?

20 MR. CHRISTOPHER: So in the specification, the network
21 interface is at the boundary of the network. But I would refer to the claim,
22 Claim 6 in particular. The claim recites a plurality of processing. Those are
23 coupled to one another with the interconnect means. And then the
24 communication between the modules and the interconnect means, which is
25 the network, is controlled by the network interface, which is consistent with

1 the specification explaining it's an intermediary between the module and the
2 network.

3 And so that dispute in terms of whether the network interface is
4 part of the network or not part of the network, we could debate about the
5 boundary, but the key is the network interface is not a network node that
6 creates a hop under our claim construction. Because if you think about it,
7 it's just that the boundary is controlling the communication between the
8 module and the network. The data isn't hopping that. The hop occurs when
9 the data hops a network node within the network, making the network,
10 which is the interconnect means, separately recited in the claim, making it
11 multi-hop.

12 If I can turn -- if that answers your question, Your Honor, turn -
13 -

14 JUDGE AMUNDSON: Well, that -- it doesn't quite. I mean, I
15 -- it seems like it's a yes or no. Is it NST's position that the network interface
16 is part of the network or not? It seems kind of binary there, but I -- I'm not
17 sure I understand NST's position on that.

18 MR. CHRISTOPHER: I guess my answer depends if you're
19 talking about this figure. In this figure, yes, the network interface is shown
20 as part of the network. But in the claims, the interconnect means and the
21 network interface are separately recited elements of the invention.

22 JUDGE AMUNDSON: All right. Okay. I got it. Thank you.

23 MR. CHRISTOPHER: Turning to Slide 5, the invention of the
24 052 patent is directed to a concept called mapping. Because the modules are
25 reused from existing systems, they don't, as the specifications put it, have the
26 notion of a connection. In other words, we haven't modified them to work

1 with the network, and so they don't know about the connections inside the
2 network.

3 And so the concept of mapping refers to mapping a request
4 from the module to a connection with specific connection properties
5 according to a communication service identification, which in the claims can
6 be either a communication thread or an address range. And the specification
7 teaches the benefits of doing the mapping according to those criteria.

8 For instance, at Column 7, starting at Line 49, for the threads, if
9 you have a request that uses fast memory, you can map that request onto a
10 connection in the network with high guaranteed bandwidth. And then the
11 converse, let's say you got a request with full memory, you can map that
12 request onto a connection with lower guaranteed bandwidth. So you're
13 mapping requests onto connections that are appropriate for that request, and
14 you're more efficiently allocating the resources within the network
15 depending on the request. And so that's the concept of mapping.

16 Turning to Slide 6, the other example, of course, is, as we
17 discussed in Petitioner's presentation, is an address range. And the address
18 range can be advantageous for mapping in situations where there are no
19 communication threads.

20 Turning to Slide 8, I'd like to begin my presentation with
21 Ground 3 in the claim construction issues. And I'd like to address the claim
22 construction issue that didn't come up in Petitioner's presentation, but I think
23 is dispositive for Ground 3 in Independent Claims 1 and 7.

24 If we could turn to Slide 10, the term mapping needs appears in
25 Independent Claims 1 and 7 of the 052 patent. The Petition proposed
26 construing this as a Section 112, Paragraph 6 term, and the Petition proposed

1 as the corresponding structure, an adapter unit including a sequentializer unit
2 and a desequentializer unit.

3 Turning to Slide 11, Petitioner's expert, Dr. Hassoun, confirmed
4 during his first deposition that the desequentializer structure is required
5 under this claim construction, but turning to Slide 13, the problem with the
6 Petition is that the Petition never alleged, let alone met its burden to show,
7 that Weber discloses a desequentializer unit structure under Petitioner's own
8 claim construction.

9 Turning ahead to Slide 14, in the Reply, Petitioner's response
10 was that Patent Owner hadn't proposed this construction, but that ignores
11 two things. One, Dr. Hassoun's testimony that this structure is required
12 under the claim construction, and two, our agreement in the Patent Owner
13 response to apply this construction for purposes of the proceeding.

14 And so even here in the Reply with the chance to address this
15 issue, so you could see on Slide 14, this is Page 25, Petitioner doesn't
16 specifically identify any corresponding structure or an equivalent in Weber
17 for this desequentializer unit. And so for all of those reasons, Petitioner
18 hasn't met its burden for Ground 3, at least in relation to these Independent
19 Claims 1 and 7.

20 Unless your Honors have any questions on the mapping means,
21 I'd like to turn now to the interconnect means claim construction. This term
22 appears in each of the independent claims of the 052 patent.

23 And I'm going to turn to Slide 18. There are really three issues
24 in this case with the claim construction, the first being, is this subject to
25 Section 112, Paragraph 6? And we didn't really have any discussion of that
26 during Petitioner's presentation.

1 And I think we generally agree that the Board may not need to
2 resolve that dispute. And that's because whether it's subject to 112 (6) or
3 whether it's not, we believe the construction is the same. An interconnect
4 means in the context of the O52 patent is a multi-hop interconnection
5 between modules separated by one or more network nodes.

6 Now, the third dispute, and this -- it relates to Petitioner talked
7 about this. What does a hop entail under that claim construction, and does
8 Weber disclose a hop.

9 If we could skip ahead to Slide 20, while we don't have a
10 construction of this term in the District Court case involving Petitioner and
11 Patent Owner, there is a District Court construction of the term.

12 In the Eastern District of Texas in a case between Patent Owner
13 and Texas Instruments, the Court construed the term interconnect means as,
14 as we proposed, a multi-hop interconnection between modules separated by
15 one or more network nodes. And that's because the specification describes
16 the interconnect means as a network, and that's what a person of skill in the
17 art would understand a network to be.

18 Turning to Slide 21. That's consistent with the specification,
19 which discloses that the interconnect in the invention is embodied to the
20 network chip. It's consistent with the expert's testimony. It's consistent with
21 the specification turning to Slide 22, which repeatedly distinguishes a
22 network from buses, from point-to-point wires, switches.

23 And the problem with Petitioner's construction, Petitioner
24 alluded to this, that it is somehow broader, is that if you were to construe the
25 interconnect means to read on a bus or a point-to-point wire or a switch, the

1 claim would read on the very prior art that's distinguished in the background
2 section of the path.

3 If we turn to Slide 23, the Federal Circuit, for example, in the
4 SciMed case, the Open Web case, we cited these cases in our papers, held
5 the claim should not be read so broadly as to encompass prior art that's
6 distinguished in the specification. And that's precisely the case here, which
7 is why the Court in the Eastern District of Texas construed this term as a
8 multi-hop interconnection.

9 In fact, turning to Slide 24, in the District Court case, while it
10 was in relation to different but closely related patents, it's the same
11 technology. Petitioner agreed that this is how a person of skill in the art
12 would understand multi-hop interconnection.

13 Turning to Slide 25, and this, I think, is the core dispute as it
14 relates to Ground 3. What does a hop entail? In the Institution Decision, at
15 Page 43, the Board requested further discussion and evidence of what a hop
16 entails. The evidence shows that in this context, a hop occurs when a packet
17 traverses a network node within the network.

18 And I'll give you an example, turning to Slide 26. Here, the
19 network end includes multiple routers. When the packet travels from left to
20 right, this interconnect is multi-hop because it hops each of the two routers.
21 And this makes sense in terms of the word hop. It has to hop over
22 something for there to be a hop, and that makes this a multi-hop
23 interconnect.

24 And to Your Honor's question earlier, you could see here the
25 network interfaces, again, they may be part of the network in a very broad
26 sense, but in terms of this dispute, they aren't network nodes that create

1 hops, because the packets originate from the -- let's say we're going from left
2 to right, the packet originates from the network interface on the left. It
3 doesn't hop over that.

4 And then it eventually reaches the network interface on the
5 right, where the information is, depacketized. So those network interfaces
6 aren't defining hops. It's the nodes, the intermediate nodes, that the data
7 hops over. That's what creates hops. So I'd like to turn back to Petitioner's
8 Slide 42.

9 JUDGE AMUNDSON: Oh, this is Judge Amundson. If you go
10 back to that Slide 26, how do you address Qualcomm's point that what NST
11 is doing is it -- it's reading a limitation into the claim? It's reading a packet
12 requirement limitation into the claim? Could you address that?

13 MR. CHRISTOPHER: Sure. So I don't necessarily agree with
14 the characterization of reading something in. The packet aspect is how a
15 person of skill in the art would understand hop. In other words, when we
16 talk about a multi-hop interconnect in a network, the thing that does the hop
17 is a packet.

18 And so I don't think we're reading in a requirement, we're
19 explaining how a person of ordinary skill in the art would understand a hop.
20 What is it? It happens in the packet versus the node. It's the thing that hops.
21 It's a packet. And so that would be our response to that point.

22 JUDGE AMUNDSON: It seems to me like we have to
23 construe the agreed upon construction as to what a hop is, but okay, I think I
24 understand your position.

25 MR. CHRISTOPHER: Yeah. I completely understand, Your
26 Honor. And what -- and what we've tried to do in this case was follow the

1 Board's guidance in the Institution Decision. It can give you some evidence
2 and discussion of what is a hop, because I think it'll be dispositive for
3 Ground 3 to understand why Weber's bridge buses don't have hops, because
4 they don't have packets.

5 But I want to -- I want to briefly address Petitioner's Slide 42,
6 which I'm going to share on the screen, with hop. And I think this illustrates
7 the dispute well. Petitioner mentioned that its expert, I -- and I think it had
8 to acknowledge this, originally testified that the example on the left, he
9 disagreed with them. He said this wasn't a hop.

10 And then this example, he testified in his first deposition, is one
11 hop. And so that's inconsistent with his second declaration, which they're
12 now relying on to argue, as shown on Slide 27, that it's just merely the link.
13 I mean, you could see his testimony on the left-hand side of Slide 27. He
14 testifies, "If it's going directly from one node to another node, then it's not a
15 hop." He was very clear about this.

16 And so Petitioner's rationale for changing Dr. Hassoun's answer
17 is that our claim construction refers to only one or more network nodes.
18 And so therefore, in their view, you only need one network node to define a
19 hop. But that's not correct. You have to take a step back and consider the
20 interconnect means term in the context of the claim.

21 The claim recites a plurality of modules, two or more. And you
22 can have in a system on a chip many modules. Dozens, perhaps even
23 hundreds. The interconnect means couples all of those modules together.
24 And so the idea by saying that the modules are separated by one or more
25 network nodes is that add between any given pair of modules, you only need

1 to have them separated by one node. But that doesn't redefine what a hop
2 means to a person of skill in the art.

3 And I think I could illustrate this for you with Slide 26 and
4 Figure 1. You see here, there are three modules. There's two on the left,
5 there's one on the right. And this is one example of how you can architect
6 this.

7 If you were to communicate between the two modules on the
8 left hand side, those are only separated by one network node through the
9 network, and yet the network is a multi-hop interconnect. And so the fact
10 that the construction merely requires one node between the modules doesn't
11 redefine what a hop is. It's when it traverses the network node.

12 Just very quickly, Your Honors, with respect to the packet
13 issue, this is supported by Dr. Bagherzadeh's testimony, who testified that a
14 person skilled in the art understands that this is what a hop entails on Slide
15 29. It's consistent with the specification, which is teaching that the network
16 uses packet-based communication. And we also have some extrinsic
17 evidence that describes the use of packets in a network, with a paradigm
18 shift relative to traditional bus architectures.

19 And so for all those reasons, we think that the evidence shows
20 hop occurs when you have a package averse and network node.

21 Before I move on though to Weber, there's one more slide I
22 want to address from Petitioner. Slide 48, which I'm going to share on the
23 screen. Petitioner referred to Figure 4, and argued that Figure 4 is only
24 multi-hop if you consider these links between the master module on the left
25 and the network interface, but that's not a hop. That's not in the network.
26 The claim construction is for the interconnect means, which is the network.

1 This is a hop between the module and the network interface. It's completely
2 outside the network.

3 And then moreover, the notion that this is a direct connection at
4 Figure 4 between the two network interfaces is merely a byproduct of the
5 fact that this is a simplified schematic of the Network N. It's the same
6 Network N as in Figure 1, which includes multiple routers, and we all agree
7 is multi-hop. Dr. Bagherzadeh confirmed that this Network N is the same as
8 Figure 1. This is Paragraph 108 of his declaration.

9 So unless Your Honors have any further questions on the claim
10 construction, I'll turn to Weber, and why Weber does not disclose the
11 claimed interconnect means under this construction.

12 Turning to Slide 32, the simplest and most straightforward
13 reason why Weber, which is nearly two bridges or two buses bridged
14 together, is not a network, why it's not multi-hop, doesn't transmit packets.
15 It's just two buses connected together. It's not a network.

16 Dr. Bagherzadeh testified to this in his declaration, Paragraph
17 262, and Dr. Hassoun, Petitioner's expert, in his first deposition, he admitted
18 that Weber doesn't disclose packets. And so for that simple reason, the idea
19 that you can identify certain segments of buses bridged together as hops is
20 incorrect. They're not hops. There's no packets.

21 If I could turn ahead now to Slide 40. Excuse me, 41.
22 Petitioner discussed this issue briefly during their presentation, which is,
23 there's another problem with Petitioner's reliance on this annotated version.
24 And we've added the blue boxes, but they've drawn these yellow boxes in
25 red lines. The initiator, the function of Block A here in Function Subsystem

1 102 on the top left is on a different integrated circuit than the target function
2 of Block A and FPGA (phonetic) 110.

3 Now, turning to Slide 42. Petitioner pointed you to Paragraph
4 38 of Weber, which does say, "A system 100 is a system that may consist of
5 one or more integrated circuits and chips." But that doesn't mean you can
6 integrate all of those separate integrated circuits onto one. If you read that in
7 context, in particular Paragraph 37, the preceding paragraph, Weber
8 discloses that embodiments may include fewer subsystems, including for
9 instance, only one subsystem. And if you have one subsystem, then you
10 only have one integrated circuit.

11 So when you read those sentences together, they're perfectly
12 consistent, and it doesn't suggest to a person of skill in the art that you could
13 take all of those individual circuits in Figure 1 and put them all together on a
14 single integrated circuit. It just merely recognizes that you may only have
15 one system -- subsystem, which is only one integrated circuit.

16 I'd like to turn ahead to Slide 45, and this is getting into the
17 network interface issue we had discussed earlier. Petitioner's argument that
18 this is multi-hop depends on counting Interfaces 120, 124, and 128 as
19 network nodes that create hops. As we discussed --

20 JUDGE BOUDREAU: Mr. Christopher, this is Judge
21 Boudreau. Is there a reason that a person of ordinary skill in the art wouldn't
22 want to put all of those onto a single chip -- or onto a single IC?

23 MR. CHRISTOPHER: Sure. So let me back up to Slide 44.
24 Dr. Bagherzadeh testified to this in his deposition, or deposition -- his
25 declaration, and he discussed, at the time of the invention, which at this

1 point, as we're in today's hearing, is more than 20 years ago, it would've
2 been impractical or unusual.

3 He doesn't say it's impossible, but he said, look, a person of
4 skill in the art would understand, a lot of technical drawbacks of doing this.
5 There's a lot of challenges you have to overcome.

6 And I've highlighted on Slide 44 just some bullet points
7 summarizing his declaration. He goes through this through several
8 paragraphs. There's compromised performance. You increase the form
9 factor in the die size. You'd have increased expense. You have thermal
10 management issues, because you think some of these generate a lot of heat.
11 And so one may have a heat sink if it's off on its own, and you have to deal
12 with that.

13 You have the inability to upgrade things, right? As opposed to
14 it being modular, you swap one thing out, you put it all in one package. You
15 can't do that.

16 And Dr. Hassoun, in his second declaration, didn't really
17 disagree that all of those trade-offs and problems exist. He just maintains
18 that Weber discloses a single integrated circuit, and he points to an example
19 in which somebody did integrate, for instance, a CPU and a DRAM on one
20 chip, but we've never denied that it was theoretically possible to do.

21 We've just said, there are many, many reasons from a technical
22 standpoint why a person of skill in the art wouldn't look at Figure 1 and
23 immediately think, let me put all of those on a single integrated circuit.
24 Again, this was more than 20 years ago.

1 If I turn back, just -- I'll turn ahead to Slide 46 and the network
2 node issue. But I think this is something the Board should consider in terms
3 of whether the network interfaces counts as network nodes.

4 In the district court case, Dr. Hassoun, Petitioner's expert,
5 submitted a declaration in which he states, as I've highlighted in Paragraph
6 86 on Slide 46, that when you put all of the disclosures together for the
7 corresponding structure of the interconnect means, excluding the network
8 interface, because it is separately recited, the structures are -- he lists them
9 and eventually lists the network.

10 So he, himself said the structure for the network excludes the
11 network interface. And that makes sense, because in the claim, the network
12 interface is separately recited as controlling the communication between the
13 module and the interconnect means. And so in the context of the claim and
14 the way that it is written, you can't count network interfaces as network
15 nodes, because they're between the module in the interconnect mean.
16 They're not within the interconnect means and they're not creating hop.

17 Okay. Turn ahead to Slide 48. This wasn't in Petitioner's
18 presentation, but I'll just very briefly address it because it was in their
19 papers. They've also relied on the Figure 14 embodiment from Weber. It's
20 really different from Figure 1, because you just have two buses connected
21 together. That's what those communication subsystems are. There's no
22 hops, because there's no packets. The intermediary they pointed to is a
23 network interface under their mapping network node. But even if you accept
24 all that as true, there's only one hop, right? Because there's only one
25 network node between those communication subsystems. So this isn't multi-
26 hop.

1 And then again, very briefly on Slide 50, Petitioner relied on
2 this example from Figure 1 in its Reply. They had relied on this theory in
3 their Petition for the multi-hop interconnect.

4 But even if you were to consider it, I'll turn to Slide 51, there
5 are no hops on the Bus 114 between the Interfaces 120 and 122, so just a
6 bus. To the extent Petitioners relying on the Direct Links 115 and 120, and
7 then the Interface 120 for a hop, that is no different than the links between
8 the master modules and the network interface in the patent. It's outside the
9 network. If the bus is supposed to be the interconnect means, the network,
10 the bus doesn't have any hops. It's just the mere bus.

11 Unless Your Honors have any questions on Ground 3, actually
12 going to turn ahead now, given Petitioner's presentation, to Ground 1 and 2,
13 and then I will come back to Ground 4. Okay. Turn to Slide 69. We'll just
14 start by addressing Radulescu in Ground 1.

15 Slide 71. The Board and the Institution Decision found that
16 Petitioner failed to show that Radulescu2004 discloses the claimed
17 communication service identification. The evidence in this IPR doesn't
18 warrant a different result.

19 Turning to Slide 72. I know Petitioner covered this, but I think
20 it's important to just briefly discuss how Radulescu2004 works, because it
21 illustrates why Radulescu2004 does not disclose either the communication
22 service identification or the claims mapping.

23 So starting with the figure at the top on the left-hand side of
24 Figure 72. This is the network interface. On the left-hand side, the network
25 interface receives a request and a protocol like PTL or AXI. It's one of those
26 reused modules we talked about. It's received by the adapter. The adapter,

1 shown in Figure 5 -- you can see the content of the request. It includes,
2 write-read data, command was flagged, and an address. It's sequentialized
3 into a message. The message goes into a narrowcast module.

4 The only mention of an address range in Radulescu2004 is in
5 relation to this narrowcast shell. Both parties agree that an address range for
6 the target is configured and stored in the narrowcast shell, but that doesn't
7 mean that the communication service identification is based on an address
8 range, nor does it mean that Radulescu2004 does mapping according to an
9 address range.

10 Turning to slide 73. Petitioner argued that Patent Owner is
11 trying to implicitly construe this term based on as being including, and we're
12 not doing that. We haven't proposed a claim construction for based on. The
13 reason, as Petitioner alluded to, our response focused on whether the request
14 includes the communication service identification, is because that's what the
15 Petitioner argued on Page 25.

16 Petitioner argued that we have to read that in context, and we're
17 taking that out of context, the meaning was being artful. But the only other
18 discussion of this limitation in the Petition is on the preceding page, Page 24.
19 And the way it proceeds is that it gives a conclusion that Radulescu discloses
20 the claim language, proceeds to discuss what Radulescu discloses, and then
21 here on this snippet, as Petitioner put it, on our slide, this is the conclusion
22 they give. "Thus, the requests for communication services, write-read
23 operations made by the master IP module include a communication service
24 identification corresponding to at least one address range." And so that's
25 what we responded to, and I think that's what the Board responded to in its
26 Institution Decision.

1 But turning to Slide 74, even if the Board were to consider this
2 new based-on language, that while we're not relying on it being included, it's
3 just based-on, it also fails. During his second deposition, we asked Dr.
4 Hassoun, Petitioner's expert, what does based-on mean in this context? And
5 he testified, it needs to consider at least a communication thread or one
6 address. There is no evidence that the request in Radulescu2004 consider,
7 are based on, or include an address range. They merely include an address,
8 and there's no explanation in the Reply as to how this request, which doesn't
9 even know the address range, can somehow consider the address range.

10 And so for that reason, Petitioner hasn't shown that
11 Radulescu2004 discloses the communication service identification.

12 Before I move on, I want to address Petitioner's arguments
13 about the specification of the 052 patent. Petitioner had argued that the 052
14 patent for Figure 4 doesn't disclose that the request includes an address
15 range, and tried to analogize Radulescu to that, but that's not correct.
16 Petitioner's expert, Dr. Hassoun, admitted during his deposition -- this is
17 Exhibit 2084 at Page 220, Lines 1 through 7. He admitted that a person of
18 skill in the art would understand that in the Figure 4 embodiment, the
19 request could include an address. We all agree that a request that includes
20 an address range is at least based on an address range.

21 And so the notion that the 052 patent only provides the same
22 amount of detail as Radulescu2004 is not correct, because the 052 patent
23 also discloses expressly mapping according to an address range.

24 I'll also note that Dr. Bagherzadeh, to this point, also testified
25 that a person of skill in the art would understand that the request in Figure 4
26 can include an address range. This was cited, both deposition sites. We're

1 on Page 10 of our certify, and the cite for Dr. Bagherzadeh, I just want to
2 note, we had cited the wrong exhibit. We cited his declaration --

3 -- I just want to note we had cited the wrong exhibit. We cited
4 his declaration, but it should be 1050. And it's starting at Page 114, Line 15.
5 So the experts agreed that in the 052 patent, we have a clear example of a
6 request being based on an address range. And that's a distinction between
7 the 052 patent and Radulescu, which is completely silent about this.

8 Turning to Slide 76. Radulescu doesn't disclose a claim
9 mapping, at least because it doesn't have the communication service
10 identification. But even if it did, and this is an anticipation ground, it doesn't
11 expressly or inherently disclose the concept of mapping according to an
12 address range.

13 Turning to Slide 77, the only mention in Radulescu2004 about
14 how a connection selected for a given request, is that a con ID signal is used
15 to select the connection. Nothing in Radulescu2004 suggests or discloses,
16 whether expressly or inherently, that an address range is used for mapping.

17 Petitioner, during its presentation, had pointed out that, well,
18 you could use the address range to identify, you know, the target, a memory
19 region and the target, but that's different than mapping. You're mapping a
20 request to a connection. The address range may be a region of memory
21 where you're going to go do a transaction ultimately at the target, but that's
22 different than doing the mapping of the request to the connection according
23 to that address range.

24 So unless Your Honors have any questions about Ground 1, I'd
25 like to turn now to Ground 2 and slide -- actually I'd like to skip ahead to

1 Slide 87. In our papers, and I -- and I -- I'll -- if time permits, I can come
2 back.

3 So in our papers we talked about how the OCP document
4 describes the MAddrSpace space signal and the MThreadId signal is merely
5 optional, the signals. You don't have to use them. And the Petitioner didn't
6 really address or acknowledge that or explain why a person of skill in the art
7 would be motivated to use them.

8 But perhaps the bigger issue with OCP is that, like
9 Radulescu2004, it doesn't disclose mapping. The -- turning to Slide 88, and
10 starting with the Petition. Petitioner argued that, like Radulescu2004, OCP
11 describes the use of connections for the transfer of requests of specified
12 communication properties over an interface. And so Petitioner argued that
13 both Radulescu and OCP described connections.

14 But turning to Slide 89, the evidence shows that this is not
15 correct. Dr. Bagherzadeh explains -- this is Paragraph 187 in his declaration.

16 He explains, well, OCP, it may use the word connection, but it's
17 not the same kind of connection as both Radulescu2004 and the 052 patent.
18 It's in a completely different layer of the OSI model. It's not the type of
19 connection we're talking about in the claim, where we're mapping a request
20 to a connection in the network.

21 This is actually consistent with the 052 patent, which describes
22 -- which itself draws a distinction between the connections and the network,
23 and OCP is something that does not have the notion of a connection. I
24 mean, that's the whole point of doing this mapping is you take a protocol in
25 an existing interconnect that doesn't have the notion of a connection, and

1 you map it onto a specific connection according to the communication
2 service identification.

3 In fact, Radulescu2004, on the first page, makes the same
4 distinction. That OCP is transaction-based and it is not -- it's a
5 connectionless protocol. And so because OCP does not have a connection,
6 OCP does not disclose mapping. Neither reference discloses mapping,
7 according to an address range or a communication thread.

8 At most, OCP shows that outer strength signals were known,
9 and threads were known. The 052 patent doesn't purport to have invented
10 these signals. The invention is to do mapping according to those signals,
11 which is not disclosed in either reference.

12 Turn back just very briefly to touch -- before I move on to
13 Ground 4, on the optional nature of these signals which Your Honor pointed
14 out, starting at Slide 80.

15 Again, starting with the Petition. What were the allegations in
16 the Petition? The Petition alleged that a person of skill in the art would've
17 looked to OCP to see what kind of content are in the requests pointed to
18 these signals. But OCP describes these signals as merely optional
19 extensions. That's shown on Slide 81, described as optional.

20 Slide 82, we have Figure 2 from OCP. It lists a number of
21 different signal properties that could be included in a request, but notably
22 MAddrSpace and MThreadId are merely optional.

23 And so what's missing from the Petition is an explanation as to
24 why a person of skill in the art would use these OCP signals in a request,
25 that's number one. Number two, if they did use them in a request, why is it
26 they would have to be processed or used by Radulescu2004's network

1 interface? Because Radulescu2004's network interface, it shows you the
2 signals that are processed to accomplish its connections. It doesn't show you
3 any other connections. And so that was missing from the Petition.

4 If we could turn to Petitioner's Slide 31, just very briefly I want
5 to talk about the motivation to use each of these signals that Petitioner has
6 alleged.

7 Dr. Hassoun, in his reply declaration -- and this is consistent
8 with Petitioner's argument earlier, says, well, if you want to provide
9 backwards compatibility, well, then you have to make Radulescu work with
10 both the MAddr and MAddrSpace signals. But then in the same breath, in
11 the same paragraph, he admits that only some architectures take advantage
12 of those signals. And he doesn't explain why you necessarily have to use
13 this MAddrSpace signal if it's present in Radulescu2004.

14 Turning to -- back to Patent Owner's Demonstrative Slide 85.
15 When we asked Dr. Hassoun about the optional nature of these requests
16 during his deposition to try to figure out why is it that you would use these,
17 he gave a circular answer that if you've architected the system that that's a
18 requirement, then that would be a requirement of the system. And it doesn't
19 answer the question, which is why would you use these optional OCP
20 signals in the first place as a threshold matter?

21 And even if you did, that doesn't get you all the way there,
22 because according to the claim, you would then have to use it to do
23 mapping. And so that concept's not taught in either of the two references.

24 Just to quickly address the MThreadId signal. And I'll refer
25 Your Honors to Petitioner's Slide 33. Petitioner argued that a PHOSITA
26 would use the OCP threads to get the benefits of threading.

1 And then on Slide 35, they point to Dr. Hassoun's testimony in
2 which he talks about different properties that would be advantageous to add.
3 But as shown on Patent Owner's Demonstrative Slide 83 -- back up. Excuse
4 me, Slide 84. Dr. Bagherzadeh testified that all of those properties that Dr.
5 Hassoun pointed to as the reason to add this MThreadId signal, are already
6 present in Radulescu2004. You don't have to modify it to do mapping
7 according to that MThreadId signal to be able to get these advantages that
8 he's identified as the motivation to do it.

9 And so for all those reasons, we think Petitioner has failed to
10 meet its burden for Ground 2. Unless Your Honors have any questions, I'd
11 like to turn now and address Ground 4 of the Petition, Weber and Radulescu.

12 JUDGE BOUDREAU: Mr. Christopher, I just wanted to
13 confirm that you're still planning to allow Mr. Krusiewicz time to argue part
14 of the case.

15 MR. CHRISTOPHER: Yes. I'm hoping to let him start his
16 segment in the next couple of minutes here.

17 JUDGE BOUDREAU: Okay. Thank you.

18 MR. CHRISTOPHER: Thank you for that, Your Honor.

19 I just want to briefly walk through Ground 4. The first problem
20 with Ground 4 is it doesn't rectify the deficiency in Weber with respect to
21 the integrated circuit because the Petition merely argued that this was
22 disclosed. It never argued that it was obvious. They've come back in the
23 Reply. Now they're arguing it's obvious. That wasn't in the Petition.

24 Turning to Slide 55, you could look at Dr. Hassoun's testimony
25 on this. It's very conclusory. He refers back to his first declaration, which
26 didn't offer this opinion. The closest he ever came was Paragraph 233, in

1 which he says kind of a catchall, well, if it's not disclosed, then any
2 limitation is obvious. And that's not sufficient for a petitioner to meet its
3 burden on obviousness.

4 And just very quickly, I want to jump ahead to the motivation
5 to combine so we can get to Mr. Krusiewicz. You know, one of the things
6 the Petition overlooked -- this is Slide 62, is that Weber disclosed --
7 describes the disadvantages of using buses, just like the 052 patent and just
8 like Radulescu2004. And on Slide 63, what it discloses, both experts agree,
9 is a solution to some of those problems that provides for better scalability
10 and performance.

11 And so the problem with the Petition was it assumed that just
12 because Weber's bus, that Radulescu2004's network on a chip would
13 automatically lead to improvements in terms of performance and scalability,
14 and that's not necessarily true. It depends on the bus we're talking about.
15 And it depends on the network we're talking about.

16 In fact, turning to Slide 64, the Petition acknowledge that
17 Weber provides benefits over traditional buses. And its only response is,
18 you would provide further improvements. But it doesn't explain what
19 improvements would be made or how they would be made. And Dr.
20 Hassoun, in his declaration -- this is Paragraph 90. He really fares no better
21 than the Petition. He also fails to explain why the combination would lead
22 to improvements in scalability and performance.

23 Turning to Slide 65. One of the other motivations to combine
24 in the Petition was that if you combine Radulescu2004 with Weber, you
25 could allow for concurrent data transmission, but rather -- or, excuse me.
26 Weber, in its solution, already provides for concurrent data transmission.

1 And so that would not motivate a person of skill in the art to modify Weber
2 to completely replace all of its buses and interfaces with Radulescu2004 to
3 do something that it already does.

4 And then finally turning to Slide 66 -- actually, Slide 67. The
5 Petition failed to consider the disadvantages, the trade-offs of using a
6 network on a chip as opposed to a bus. This is Petitioner's Exhibit 1021 that
7 was submitted with the Petition. And it does describe advantages of using a
8 network over a bus, but what it also describes is disadvantages of using a
9 network. And it describes advantages of using a bus.

10 The Petition failed to weigh these and consider these, and
11 explain why, on balance, a person of skill in the art, looking at the particular
12 architecture and Weber, would've been motivated to modify it with
13 Radulescu2004.

14 The federal circuit, this is cited in our papers. The *Arctic Cat v.*
15 *Polaris* case, stated that the Board must weigh the benefits and drawbacks of
16 the modification against each other to determine whether there would be
17 motivation to combine. Petitioner didn't do that in this case. On Slide 68,
18 Dr. Hassoun's second declaration where he attempts to address this issue.
19 He doesn't weigh the disadvantages. He doesn't do the analysis. He just
20 says that he already did the analysis in his first declaration, and he cites
21 Paragraphs 238 and 241.

22 But Your Honors, if you read those paragraphs of his first
23 declaration, none of those paragraphs discuss, or consider, or weigh any
24 disadvantage of using an NOC. And so unless Your Honors have any
25 further questions on Ground 4, I'd like to turn it over to my co-Counsel, Mr.
26 Krusiewicz to address public accessibility.

1 Thank you, Your Honors.

2 MR. KRUSIEWICZ: Good afternoon, Your Honors. Peter
3 Krusiewicz on behalf of Patent Owner, Network System Technologies. I'm
4 here to discuss the prior art issue.

5 So specifically, Petitioner failed to meet its burden of proving
6 that both Radulescu2004 and OCP qualifies prior art. So here on Slide 94, I
7 reproduced the Petition's only argument with respect to public accessibility.
8 For Radulescu2004, the Petition merely cites to Exhibit 1018 and Exhibit
9 1012.

10 For OCP, the Petition merely cites Exhibit 1013 and Exhibit
11 1019. The Petition provides no further argument or explanation as to the
12 relevance of these exhibits. Instead, the exhibits are merely incorporated by
13 reference. Just looking at --

14 JUDGE AMUNDSON: This is Judge Amundson. Now, I had
15 a question about this argument. Why are you arguing about the alleged
16 deficiencies in the Petition when our Institution Decision indicated that
17 Petitioner has satisfied the reasonable likelihood standard? Why are we
18 revisiting -- or why would you have the Board revisit that question?

19 MR. KRUSIEWICZ: Well, Your Honor, Institution -- there's
20 different standard than in the final written decision. So while the Board may
21 have found, and did find, that Petitioner met the reasonable likelihood
22 standard, here at Institution, the Petitioner needs to meet its burden by a
23 preponderance of the evidence. So it is a different standard, and we still
24 argue and maintain that the Petitioner's evidence is improper.

1 JUDGE AMUNDSON: But we're beyond that. That's what I
2 don't understand. We're beyond that, I think. Do you want to preserve a --
3 an argument for appeal, or what?

4 MR. KRUSIEWICZ: Well, I still think the Petition is relevant
5 to the Board's final written decision and the Board's findings on public
6 accessibility. And we also will address the evidence submitted with their
7 Reply, which we hold is -- and maintain is improper, and it's a new
8 evidence, new argument but just to give the Board a little bit of a
9 background on how the Petition was structured, I think it's -- I think it's
10 relevant here.

11 JUDGE AMUNDSON: All right, go ahead. I think I
12 understand your position.

13 MR. KRUSIEWICZ: Yeah. So just looking at the Petition,
14 there's a lot of questions that remain unanswered. So how are these
15 references available? To whom are they available? And where were they
16 available?

17 So if you turn to Slide 96, in the MediVis case, there, the Board
18 refused to consider a witness declaration relating to this exact inquiry.
19 Whether certain references were publicly accessible prior art, because the
20 Petitioner merely cited to the declarations without discussion. The Board
21 held that a terse citation of this type improperly attempts to incorporate
22 arguments by reference, and arguments and information not presented or
23 developed in a brief, which are instead incorporated by reference, are not
24 entitled to consideration.

25 So turning to the Slide 97 to address the evidence that Petitioner
26 incorporated by reference, which is Exhibits 1013 and 1019. Both of these

1 declarations -- or both of these exhibits are declarations from a declarant of
2 the Internet Archive. So in Slide 98, the Board held that an Internet Archive
3 declaration, standing alone, is insufficient to show that a reference publicly
4 accessible prior art. The Board also found previously that an Internet
5 Archive declaration amounts to no more than a reference was available on
6 the internet at some point in time, but it's insufficient to prove that a
7 reference was publicly accessible.

8 Turning to Exhibit -- or turning to Slide 99, Exhibit 1013 is
9 merely a URL, which -- from a random professor in Italy's website, which
10 reproduces Exhibit 1006. There's no evidence in this proceeding that a
11 POSITA, exercising reasonable diligence, would be able to find this website.
12 There's no evidence that this website was indexed. There's no evidence that
13 this website was searchable. And Petitioner also fails to explain why a
14 person of ordinary skill in the art, who is looking for this OCP specification,
15 would look for it on this professor's website.

16 Exhibit 1019 is also similarly deficient. While Exhibit 1019 is
17 a reference to OCP's website, Exhibit 1019 does not reproduce Exhibit 1006.
18 Instead, Exhibit 19 merely states that if the user were to click through a
19 licensing agreement, the user would be emailed an OCP specification, but
20 there is no evidence that any user who performed these steps actually
21 received the OCP specification. And there's no evidence that even if a user
22 did receive a document from OCP, that the document they received is what
23 is Exhibit 1006, the document that Petitioner is relying on in this proceeding.

24 So turning to Slide 100. In its Reply, Petitioner introduces a
25 new declaration from Dr. Dutt, to support its theory that OCP was publicly
26 accessible prior art. However, Dr. Dutt merely relies on the same evidence

1 that's included in the Petition, specifically Exhibits 1013 and 1019. Dr. Dutt
2 admits that these exhibits were provided to him by Counsel, and Dr. Dutt
3 admits that he didn't even access the links to see if they worked or if they
4 were legitimate.

5 Dr. Dutt introduces a new exhibit, which is Exhibit 1039 in the
6 proceeding. This exhibit is a copy of one of -- one of Dr. Dutt's conference
7 papers, and it cites to an OCP data sheet. It does not cite to Exhibit 1006
8 and Dr. Dutt confirmed that an OCP data sheet is different than Exhibit
9 1006. OCP data sheet is different than an OCP specification. Dr. Dutt also
10 described the data sheet as an -- I -- as -- and I quote here, "the definitive
11 working document," end quote, that chip designers use.

12 So in Petitioner's opening argument, Petitioner argues that
13 because Exhibit 1001, the 052 patent itself, talks about the OCP protocol,
14 that somehow Exhibit 1006 is therefore publicly accessible prior art. But
15 Patent Owner is not contesting in this proceeding that the OCP protocol
16 existed. That's not the inquiry.

17 Here, we're tasked with determining whether Exhibit 1006, the
18 document itself, was publicly accessible prior art. And Petitioner's reliance
19 on the 052 patent citation to the OCP product, that's insufficient. It doesn't
20 prove that the document itself was publicly accessible.

21 Now Petitioner, in his papers, also relied on Exhibit 1005's
22 discussion. That's Radulescu2004's discussion, of backward compatibility
23 with OCP. But Exhibit 1005 similarly does not show that Exhibit 1006 is
24 publicly accessible -- publicly accessible. It cites to a different version, the
25 OCP specification, a version not relied on by Petitioner in this proceeding.

1 And it cites to the OCP product, which doesn't show that the reference itself
2 was publicly available.

3 JUDGE BOUDREAU: And just to clarify, when you when you
4 say that it cites to a different version, it was an even later version; is that
5 correct?

6 MR. KRUSIEWICZ: Yes, that's correct. That's my
7 understanding.

8 JUDGE BOUDREAU: And is Patent Owner taking the
9 position that OCP wasn't a -- wasn't a standard that was known to those of
10 ordinary skill in the art at the time of the -- at the critical date?

11 MR. KRUSIEWICZ: OCP -- sorry, go ahead. I didn't mean to
12 cut Your Honor off.

13 JUDGE BOUDREAU: No. I said is Patent Owner taking the
14 position that OCP wasn't a well-known standard at the time of the critical
15 date?

16 MR. KRUSIEWICZ: No. Patent Owner is not taking that
17 position. Obviously Exhibit 1001, the 052 patent, provides that OCP is one
18 of the protocols that may be used. Exhibit 1005 provides the same. But
19 Patent Owner is taking the position that there's not enough evidence in this
20 proceeding to show that the paper specification itself was publicly
21 accessible.

22 Dr. Dutt testified and showed that the data sheets -- he relied
23 on the data sheet, so POSITA may be able to find the data sheet. But there's
24 no evidence of the actual version of Exhibit 1006, the OCP specification,
25 being accessible anywhere, except for this random Italian professor's
26 website. That's the only evidence that we have on the record. But --

1 JUDGE BOUDREAU: Well --

2 MR. KRUSIEWICZ: -- I would argue that --

3 JUDGE BOUDREAU: But I -- I'm trying to understand how a
4 person of ordinary skill in the art could use the standard, if the standard
5 wasn't publicly accessible.

6 MR. KRUSIEWICZ: So I would -- I understand Your Honor's
7 point, but I would argue that using the standard, it's different than using --
8 than finding the specification that describes the standard. So there is a data
9 sheet out there, that we have evidence that there -- the only evidence in this
10 proceeding is that the OCP data sheet was the document that was actually
11 relied on by a person of ordinary skill in the art.

12 There's no evidence that a person of ordinary skill in the art
13 would rely on the specification, but the specification is what we have before
14 us as a --

15 JUDGE BOUDREAU: Yeah.

16 MR. KRUSIEWICZ: -- a potential invalidity reference.

17 And I would also like to close out the OCP discussion with --
18 again, the only version of Exhibit 1006 that we know was published online
19 before the critical date was the version that's available on this Italian
20 professor's website. But that only shows technical accessibility, and there's
21 no evidence that a person of ordinary skill in the art would have found
22 Exhibit 1006 on this website.

23 Now before I move on to Petitioner's evidence with respect to
24 Radulescu2004, do Your Honors have any questions with respect to the
25 public accessibility of OCP?

1 JUDGE AHMED: Counsel, what about Dr. Dutt's testimony
2 that this Italian professor was well-known, had published extensively, and
3 persons of skill knew about his website?

4 MR. KRUSIEWICZ: Yes. Well, Dr. Dutt did testify this. It
5 doesn't end the inquiry of whether a person of ordinary skill in the art would
6 look to this website, especially in, like, the 2003-2004 time frame, to find the
7 OCP specification. Like, while there is evidence, and Dr. Dutt testified that
8 Dr. Hassoun -- or that the Italian professor is well-known, I don't think he's a
9 well-known publisher of OCP specifications. There's definitely no evidence
10 of that. And there's no evidence in this proceeding that the OCP
11 specification itself was available on the OCP website. So again, I would
12 argue that there's no evidence in this proceeding that OCP -- that a person of
13 ordinary skill in the art would find OCP on this professor's website.

14 Now moving on to Radulescu2004. I'll -- again, Slide 1001
15 now --

16 JUDGE BOUDREAU: Just letting you know, you're starting to
17 get into the rebuttal time, so -- but you can --

18 MR. KRUSIEWICZ: Okay --

19 JUDGE BOUDREAU: Okay.

20 MR. KRUSIEWICZ: -- I'll wrap this up quickly and then we
21 can save the remaining time for rebuttal.

22 So Slide 1001, the Petition baldly asserts that Radulescu2004
23 was available to the public, but is silent as to how Radulescu2004 was
24 disseminated or otherwise made available. Now as our papers explained,
25 none of these -- neither of these exhibits prove that Radulescu2004 was
26 publicly available. And in its Reply Brief, Petitioner submitted a lot of new

1 evidence and new arguments, new theories as to how Radulescu2004 was
2 publicly accessible.

3 Patent Owner addresses each of these exhibits in its -- in its
4 Reply, and directs the Board to those pages of the Sur-reply. And unless
5 Your Honors have any questions regarding Radulescu2004, Patent Owner
6 reserves its remaining time for its rebuttal.

7 JUDGE BOUDREAU: All right. Thank you, Mr. Krusiewicz.

8 MR. KRUSIEWICZ: Thank you, Your Honors.

9 JUDGE BOUDREAU: I don't think we have any other
10 questions.

11 All right. Now we'll hear again from Mr. Vandenburg.

12 MR. VANDENBURGH: Thank you, Your Honor.

13 JUDGE BOUDREAU: I believe you have ten minutes.

14 MR. VANDENBURGH: Great. Thank you.

15 I have a number of issues I'd like to cover, but I would like to
16 start by asking, does the Board have any particular issues you'd like me to
17 hit?

18 JUDGE BOUDREAU: Yeah. I -- actually, I'd like to hear your
19 response to Patent Owner's argument that Radulescu and OCP, that both of
20 them don't disclose mapping according to an address range. That's the first
21 question. And the second question is if you could respond to Patent Owner's
22 argument that the connections in OCP are in a different layer than the
23 connections in Radulescu.

24 MR. VANDENBURGH: Right. So starting with the first one,
25 and I -- let's talk about just Radulescu first in our anticipation ground. One
26 thing I really expected to hear, having kind of laid down the gauntlet, is

1 some description of where the 052 patent teaches that the master transmits
2 an address range. I don't believe we ever heard it. What we said is correct.
3 All it discloses is transmitting addresses, which are then mapped using the
4 map with address ranges that are in the network interface as I've talked about
5 already, that's already what is disclosed in Radulescu2004.

6 Now the combination in addition, using either MAddrSpace or
7 a thread as is taught by OCP, similarly -- well, fits with, relative to
8 MAddrSpace, the address range. They're not disputing that MAddrSpace is
9 an address range. That it is a location of memory or a register of memory.
10 That's what is described it, as the OCP.

11 And I don't think they disagree that if you are using that
12 desirable feature, that you need to use that MAddrSpace signal to route the
13 data. If you're going to -- if you've got a Radulescu system that maps to a
14 connection via information from the master, if you're using MAddrSpace,
15 you need to use that signal as part of your mapping. Because that's what
16 tells you where the data is. It's in this register, not in this other memory.

17 And again, I think relative to threads, then, I'll just -- I just
18 repeat what I said before, which is Radulescu is teaching -- I'm sorry. OCP
19 teaches to use threads to provide the same sort of connection of properties
20 that Radulescu2004 does with its connections. The claim, it doesn't require
21 that it be in the particular, you know, OCI network layer. The -- it -- as Dr.
22 Hassoun says, it is very obvious to a person of skill in the art, that if you're --
23 you have -- can provide threads from a master to provide things like ordering
24 and priority, that that would fit right into the mapping teaching contained in
25 the Radulescu reference.

1 JUDGE BOUDREAU: And how would you respond to the
2 argument that Radulescu already teaches the advantages that MaddrSpace
3 signals would provide?

4 MR. VANDENBURGH: Thanks for reminding me. One is,
5 again, the case that we cite that I reproduced in our brief from the Federal
6 Circuit where they very clearly say you don't have to show, if you have two
7 alternative -- known alternatives, that one is superior to the other. The fact
8 that there are two known ways to do something makes them both obvious.

9 And in addition to that, from a technical standpoint, there are
10 advantages to both threads and address ranges. They exist in OCP because
11 they provide advantages and therefore you'd be motivated to use them and
12 map with them within Radulescu2004.

13 Okay. I do want to hit a couple of other points, specifically
14 relative to the Weber grounds and this issue of network interfaces being
15 nodes or not. First of all, again, it doesn't matter at the end of the day
16 because they're not disputing that the bridge shown in Weber is a network
17 node and it provides multiple hops, but, I mean --

18 JUDGE AMUNDSON: But -- this is Judge Amundson. But I
19 think, wouldn't you agree they do dispute that in that Weber embodiment,
20 there are no packets?

21 MR. VANDENBURGH: They certainly do dispute that there
22 are packets. Our expert corrected his testimony and did testify that packets
23 are transmitted. But our number one point on packets is, where is that in the
24 claims? What is our basis for reading in a requirement for packets into the
25 claims?

1 I want -- they made a -- at one point they tried to work that into
2 the definition of a hop. That a hop is only a thing that a packet does. And I
3 just want to direct the Board's attention to our Slide 55, describes the
4 ordinary meaning of hop, is not limited to packets hopping. It's data. The
5 journey a data makes through a network. No basis again, to limit to
6 packetized data.

7 So we don't -- we don't need network interfaces to be nodes for
8 Weber to anticipate. But this question -- I think they admitted that a network
9 interface is part of the network. What they dispute is that it can be a network
10 node and it really comes down to Figure 4 that we show on Slide 48.
11 Counsel did it -- today, take that on. And he said two things. One is he said,
12 well, the network interfaces can't be hops because the first hop would then
13 come from the module to the network interface.

14 Well, the definition here is multi-hop interconnection between
15 modules. The network can certainly include the link from the module to the
16 network interface. That is the first hop. Second hop across the network,
17 third hop at the far end. His second answer is, well, don't take Figure 4 on
18 face value. That's just a diagrammatic figure that doesn't really mean what it
19 shows. Well, there's no basis for that assertion. And of course they told the
20 Patent Office during prosecution that Figure 4 is an embodiment of the
21 claimed invention.

22 So network interfaces are hops. I need to talk about mapping
23 means. I'm sorry. I -- I'll answer --

24 JUDGE BOUDREAU: Sorry. Just as the technical matter,
25 how can you have hops without packets? How do you get across network
26 interfaces without -- network interfaces without packets?

1 MR. VANDENBURGH: Again, take Weber's Figure 1 for an
2 example. It has a bus, a point to point bus, that data travels from a module
3 to a network -- to a separate network interface. There's then a different
4 protocol used when it goes out over the shared bus. So the data has to hop to
5 the network interface where it is then converted to a different protocol
6 before it is sent out on the shared bus. There's no requirement for that to be
7 packetized data for that to be a hop.

8 I also want to talk about the mapping means limitation that
9 applies only to the -- to the other independent claims, the claims that -- the
10 product claims that specify a mapping means. The parties are largely in
11 agreement that that is a 112-6 limitation, and that the corresponding
12 structure disclosed in the specification or a corresponding structure is the
13 adapter shown, for example, in Figure 2A, that has a sequential and a
14 desequentializer.

15 Their argument is, well, Dr. Hassoun in his opening declaration
16 only talked about sequentialization. He didn't talk about desequentialization.
17 This is one of those instances that you sometimes just don't recognize, you
18 know, how focused the opposing party's going to be. I think it was clear to
19 Dr. Hassoun, it was certainly clear to us, that when you're saying data is
20 sequentialized when it goes one way, it's got to be desequentialized when it
21 comes back.

22 And that's what Dr. Hassoun said in his reply brief. We've got
23 it on Slide 59 on Paragraph 62. He explained that if you're -- if you're -- the
24 term used in Weber is multiplexing. If you're taking separate signal wires
25 and multiplexing them onto one line on the way out, when that data comes
26 back to that same module, the module's expecting it in the same form it got -

1 - it sent out the data. So it's going to have to be desequentialized at the far
2 end.

3 I see that I am at ten minutes. If the Board, again, has any other
4 questions, I'm happy to answer them. Otherwise, thank you very much for
5 your time today.

6 JUDGE BOUDREAU: Thank you. I don't think we have any
7 other questions. So we'll hear from you, Mr. Christopher. Again, you also
8 have 10 minutes.

9 MR. CHRISTOPHER: Thank you, Your Honor. This is
10 Angelo Christopher for Patent Owner.

11 I'd like to first address Petitioner's arguments about Dr.
12 Hassoun's testimony and Weber and packets. And in my presentation, I
13 showed you an instance in which Dr. Hassoun admitted that Weber does not
14 disclose packets. Counsel argued that during his deposition, Dr. Hassoun
15 corrected his testimony. And I want to walk you through this because it's
16 not -- it's not credible.

17 So if -- I'm going to share my screen again, this is our
18 Demonstrative Slide 33. And you can see Dr. Hassoun's first deposition
19 testimony on the lower left. You could see his second declaration on the
20 right. He's saying the complete opposite of what he said in his first
21 deposition in the declaration. And so when he was confronted in his second
22 deposition --

23 JUDGE BOUDREAU: Sorry, we seemed to have a little bit of
24 a lag there. Okay. It just appeared now. Thank you.

25 MR. CHRISTOPHER: Apologies for that. Hopefully you can
26 now see the testimony.

1 And so when we confronted Dr. Hassoun with this inconsistent
2 testimony in his second deposition, his counsel argues, he says he corrected
3 it. That -- that's not true. If you turn to Slide 34, Petitioner did redirect Dr.
4 Hassoun on this point, but they didn't ask him whether Weber disclosed the
5 packets. In fact, they ask him, Weber does not talk about packets, right?
6 And he says, yes. And then they ask, does Weber contain any language that
7 suggests -- key word being suggests, the use of packets? He says, yes. And
8 he goes on to provide an explanation.

9 On Slide 34, we recross-examine Dr. Hassoun after his
10 testimony that Weber somehow suggests packets and recall, Ground 3 is an
11 anticipation ground. It has to be expressly or inherently disclosed in the
12 reference. And so even on recross-examination in this first deposition, he
13 said -- he was asked, you would still agree, wouldn't you, that Weber does
14 not disclose packet packets, correct? And his answer was, yes.

15 And so the idea that he somehow corrected his original answer,
16 which I think is the most credible answer, that it doesn't disclose packets, it -
17 - I don't think is correct. He never offered that opinion during the redirect.
18 He only said it suggested, and then he reaffirmed it in the recross-
19 examination. And I think the Board should take this into account when
20 evaluating Dr. Hassoun's credibility and his opinions in this case.

21 And there's one other reason quickly, Your Honors, on Slide 36,
22 why the Board should discount that redirect testimony where he attempted to
23 correct himself. Which is that it occurred after a lengthy recess, almost 40
24 minutes, in which he admitted to rehearsing the questions and answers. And
25 so as the Board found, for example, in the FLIR case, this is the kind of

1 testimony that should be afforded little or no weight, given the discussion
2 about the testimony during the recess.

3 I'd like to turn back to the Figure 4 figure, and just touch on that
4 very briefly and respond to Petitioner. Petitioner had argued that there's no
5 basis for us to say that the Network N in Figure 4 is the same as the network
6 in Figure 1. But our expert expressly testified that a person of ordinary skill
7 in the art would understand, and they don't have any evidence to the
8 contrary.

9 It makes sense. The patent specification is simply showing the
10 simplified schematic for purpose of that embodiment. It's not repeating the
11 details. It isn't meant to show a direct connection between two network
12 interfaces. That's not how a PHOSITA would understand it. It's still a
13 network.

14 If I could turn back to some of the Ground 1 and Ground 2
15 issues that Petitioner addressed. Petitioner pointed again to the *Intel v. Pact*
16 *XPP* case from the federal circuit --

17 JUDGE AHMED: Just a -- before you do that, could you --
18 could you address the argument that all we need to look at is movement of
19 data, for example, in Figure 1 of Weber, any movement of data across the
20 bus would satisfy the plain and ordinary meaning of hop?

21 MR. CHRISTOPHER: Yeah. So to that point, Your Honor,
22 Petitioner is trying to show you different segments of a bus architecture and
23 arguing that those create hops. But as we've discussed, they're not hops
24 because they're not packets. It's not a network. So take a step back. If that
25 means in the patent, there's a network. And when we say multi-hop
26 interconnection, we're talking about what a network means.

1 Connecting two buses together or three buses together or
2 whatever the case may be, it is not a network. And I think there's a good
3 example, hopefully to answer your question, on Slide 29 of our presentation.
4 And this --

5 JUDGE AHMED: I --

6 MR. CHRISTOPHER: -- it's extrinsic evidence, but I think it
7 illustrates the point well about how a POSITA would understand this. You
8 see on the left, there's an example of buses. There's three buses connected
9 together with functional blocks and colors, but that's not a network. The
10 network is shown on the right. This is describing, you know, these bridged
11 buses where you see data going between different buses and different
12 modules. It's not describing that as a network. It's describing the network as
13 a paradigm shift, relative to that bus space -- architecture.

14 And so part of the reason we've been discussing why a hop
15 entails a packet, is to get at the fundamental nature of a network, and why a
16 person that's skilled in the art, looking at buses connected together, wouldn't
17 think that that's an interconnect means as we've claimed, a network that's
18 multi-hop. It's just buses connected together, not unlike the conventional
19 interconnects described in the background of the specification.

20 Unless Your Honors have any other questions on, you know,
21 Ground 3 and the claim construction, I do want to address the *Intel* case.

22 So the facts of the *Intel* case are distinguishable from this case.
23 First, because in that case, a federal circuit found that any need or problem
24 in the field of the endeavor at the time of the invention, and addressed by the
25 patent, can provide a reason for combining the elements.

1 Unlike in *Intel*, Petitioner hadn't identified a need for a problem
2 known in the field with respect to Radulescu2004, that would motivate
3 someone to go look at OCP and insert those optional signals. Intel
4 distinguish -- on the facts as well, because the obviousness combination in
5 the *Intel* case was taking the existing component in the primary reference,
6 and the Petitioner pointed to another component in a secondary reference,
7 provided evidence that the second component was a suitable substitute, and
8 therefore, it would've been obvious.

9 That's not the case here, because Petitioner isn't proposing to
10 take an element of Radulescu2004 and substitute it with a suitable substitute
11 from OCP. It's taking the signals from OCP that are entirely absent from
12 Radulescu2004 and adding them in. And so for at least those reasons, the
13 Intel case is distinguishable from our facts. It does not apply to the rationale
14 presented in Ground 2 of the Petition.

15 JUDGE BOUDREAU: Well, is there anything in the *Intel* case
16 to suggest that it's limited to substitution, as opposed to combination?

17 MR. CHRISTOPHER: Well, it is a combination that they're
18 talking about there, in the sense that it's two (Audio Interference.) but the
19 specific thing they're talking about was talking about how there was a show -
20 - a showing of a need or a known problem with respect to the first reference,
21 which would make you look to the second reference, which has a suitable
22 substitute addressing that problem and substituting that end.

23 We just don't have any of that in this case. It's something that's
24 entirely missing from the first reference. They haven't said a person of skill
25 in the art, looking at Radulescu, would see this problem, and therefore,

1 they're going to go out and they're going to go search for something to solve
2 the problem. It's just a completely different set of facts in this case.

3 Very briefly, just to touch on some of the points Counsel made
4 about Radulescu and Ground 1. He repeated their argument that the 052
5 patent doesn't teach the content of the requests that are sent from the master
6 module to the network interface in that Figure 4 embodiment. But as I had
7 explained in my earlier presentation, our expert -- actually, both experts
8 agreed during their depositions, I cited the transcript earlier, agreed that one
9 of skill in the art would understand that those requests could include the
10 address range.

11 And of course, the parties agreed that if the request includes the
12 address range, it is at least based on the address range. And I'll note, that
13 written description, it's not an issue in this IPR, and it's well settled under
14 federal circuit law that the specification doesn't have to spell out every detail
15 to the person of skill in the art. And we have evidence from people skilled
16 in the art in this case that that's precisely how they would understand the
17 Figure 4 embodiment.

18 And then one final point, Your Honors. Petitioner argued that
19 we don't dispute -- that if an address range signal or a thread ID signal were
20 used, that we somehow don't dispute the notion that if they're present, you
21 must map according to those. That is not correct. We have -- we have
22 disputed that in our Patent Owner response, in our Sur-reply, we've argued
23 that Radulescu doesn't disclose the communication service identifications.
24 We've argued that OCP, the person skilled in the art, wouldn't be motivated
25 to add them to Radulescu2004. And then we've also argued, to Counsel's
26 point, that even if you did have those as communication to serve as

1 identification, that it wouldn't have been obvious to one of skill in the art to
2 perform the mapping according to those signals.

3 And so in this case, we submit that it is only with the benefit of
4 hindsight, having looked at the 052 patent, that you would consider using
5 those particular signals among all the potential signals that you could
6 possibly use, to perform this particular mapping step that's claimed to the
7 invention, and which differentiates it from the prior interconnects described
8 in the background and what differentiated from the Radulescu2004.

9 JUDGE BOUDREAU: Okay. Thank you, Counsel.

10 MR. CHRISTOPHER: Thank you, Your Honors.

11 JUDGE BOUDREAU: It's time now. So this concludes our
12 hearing in IPR2024-00343. I want to thank all of the counsel in this case for
13 the helpful discussion.

14 We'll go off the record now, and we'll reconvene -- why don't
15 we say 30 minutes, so we'll start at ten minutes to the hour, for the oral
16 arguments in IPR2024-00338.

17 (Whereupon, the above-entitled matter went off the record at
18 1:20 p.m.)

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