

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CISCO SYSTEMS, INC., DELL TECHNOLOGIES INC.,
DELL INC., AND ARISTA NETWORKS, INC.,
Petitioner,

v.

CORRIGENT CORPORATION,
Patent Owner.

IPR2023-00169
IPR2023-00515
Patent 7,330,431 B2

Record of Oral Hearing
Held: April 10, 2024

BEFORE: NATHAN A. ENGELS, CHRISTOPHER L. OGDEN, and
BRENT M. DOUGAL, *Administrative Patent Judges*.

IPR2023-00169 (Patent 7,330,431 B2)

IPR2023-00515 (Patent 7,330,431 B2)

APPEARANCES:

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For Patent Owner - Heather Hildreth, Yehuda Binder, Rich
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commencing at 12:00 p.m., via video teleconference.

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

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3 JUDGE OGDEN: Hello, everybody. Welcome to the Patent Trial
4 and Appeal Board. This is the consolidated oral hearing in IPR2023-00169,
5 to which it's been joined IPR2023-00515 with Petitioner's Cisco Systems,
6 Inc., Dell Technologies, Inc., Dell Inc., and Arista Networks, Inc. vs. Patent
7 Owner Corrigent Corporation, and the challenged patent is U.S. Patent
8 Number 7,330,431 B2. I'm Judge Ogden. With me today are Judges Engels
9 and Dougal.

10 Let's start with counsel introductions. Who is appearing for the Cisco
11 and Dell Petitioners?

12 MR. FOSTER: Yes. Hello, Judge Ogden. My name is Theo Foster
13 with Haynes and Boone. With me are my colleagues, Adam Fowles and
14 Eugene Goryunov, all representing Cisco Systems and the Dell entities.
15 We're also joined by counsel for Arista. I'll let Mr. Williams introduce his
16 team.

17 JUDGE OGDEN: Okay. Thank you, Mr. Foster.

18 MR. WILLIAMS: Good afternoon, Your Honor. This is Eliot
19 Williams for Arista Petitioner in the 515 matter and I'll be presenting on our
20 behalf today. We've got I think several folks listening in on the public line
21 but won't introduce them all because I'm not sure who wound up joining.

22 JUDGE OGDEN: Okay. Thank you, Mr. Williams. And who is
23 appearing on behalf of Patent Owner Corrigent?

24 MS. CAPPAERT: Good afternoon. This is Kate Cappaert from
25 Steptoe on behalf of Patent Owner Corrigent. With me are Heather Hildreth,

1 Yehuda Binder, Rich Baker, and it is possible that Jay Nuttall will also be
2 joining.

3 JUDGE OGDEN: Okay. Thank you, Ms. Cappaert. Welcome,
4 counsel. Before we begin, I'd like to go over a few preliminary matters.
5 First, we want to make sure that all the parties will be able to hear and
6 observe what's happening in the hearing, so if there are any technical
7 difficulties, please let us know or call the Board's staff as soon as possible so
8 that we can pause if we need to, to make sure things are fixed. Second, we
9 ask everybody to keep their microphones on mute unless you're actually
10 speaking so that we can limit the amount of background noise. And then
11 also, please do not interrupt opposing counsel with any objections. If there
12 are objections you can make those during your allotted time or after the
13 conclusion of arguments.

14 According to the terms of the order setting oral argument, each side
15 will have a total of 60 minutes to present their arguments. Counsel for Cisco
16 and Dell is the leader of the Petitioner group and can allocate time to Arista
17 to make arguments specific to the consolidated IPR2023-00515 case. And
18 Petitioner will go first having the burden of proof, followed by Patent
19 Owner, and then each of the parties can reserve rebuttal or sur-rebuttal time
20 respectively. I'll keep track of the time with a stopwatch and I'll try to let
21 you know if your time is -- when your time is drawing to a close.

22 With that in mind, we'll start with Petitioner. Who will be arguing
23 first on behalf of Petitioner?

24 MR. FOSTER: Arguing first will be Mr. Fowles.

1 JUDGE OGDEN: Mr. Fowles. Okay. And feel free to turn the time
2 over to other counsel or counselors for Arista at any time. Mr. Fowles, how
3 much would you like to reserve, if any, for rebuttal of your time?

4 MR. FOWLES: For Cisco and Dell, we'd like to reserve
5 approximately 10 minutes. Counsel for Arista will reserve their own time
6 for rebuttal for their part of the presentation. But we expect Cisco and Dell
7 to use about 40 minutes total of the 60-minute allotment. If you could set
8 your timer for 30 minutes for me. I guess that's what I'm getting to.

9 JUDGE OGDEN: Okay. You're saying that Cisco and Dell parties
10 would use 40 minutes and then you expect that Arista would have 20
11 minutes of the total time. Okay. Great. All right. I'll start with 30 minutes
12 of initial time when you begin speaking. Go ahead.

13 MR. FOWLES: Thank you. I'd like to start just by jumping straight
14 to slide four and addressing the first issue between the parties, and that's the
15 construction of the term "in response to" in the independent claims.

16 If we go to slide five, Petitioners maintain that no construction is
17 necessary to resolve the controversy between the parties given just how
18 close the prior art is to the claims. And that's also because the prior art
19 renders the claims obvious with or without the proposed constructions. But
20 that aside, if the panel does believe a construction is necessary, we note that
21 the parties agree that "in response to" at least means using. For example,
22 Patent Owner has put forward two constructions for the same term using
23 information from or based on information from. But when arguing what and
24 why the construction was appropriate, Patent Owner's briefing argued that
25 basically the bandwidth requirements are used for determining the what and
26 the mapping is used for determining the where.

1 And so, even in Patent Owner's own argument the focus is on just
2 using the bandwidth requirements and the mapping for the allocation.
3 Petitioner has also pointed out that allocating bandwidth uses the bandwidth
4 requirements and the logical to physical mapping. In fact, even in the
5 original Petition at page 38, that's the conclusion, is that the prior art shows
6 using the bandwidth requirements that were determined and the mapping.
7 While construing the response to does not seem necessary to resolve any
8 controversy, if this Board finds it necessary, it should mean just using. And
9 unless there are any questions about that construction issue, we can move on
10 to slide six and the next issue.

11 Since the claimed allocating is in response to both bandwidth
12 requirements and mapping, we'll discuss, first, why the prior art teaches the
13 mapping and then we'll get to why allocating is obvious as well.

14 Moving to slide seven. Baker teaches the claimed mapping.
15 Independent claim one, which is exemplary, recites mapping the logical
16 connection topology to the physical topology. The limitation then goes on to
17 explain what results from the mapping so that each of the logical
18 connections is associated with one or more links of the physical topology.
19 Because of that, the question is whether the prior art demonstrates mapping
20 where each of the logical connections as a result is associated with one or
21 more physical links from mapping. Baker answers that question with a
22 resounding yes.

23 Baker teaches performing a star overlay procedure that includes an
24 administer ring routine. That administer ring routine assigns virtual paths
25 between the physical nodes based on the underlying physical links. The
26 routine overlays the start topology, which you can see here in figure five's

1 logical illustration of the star topology, onto the physical ring network,
2 which you can see here on the righthand side in figure four.

3 JUDGE OGDEN: Mr. Fowles, is this association that you're referring
4 to between the logical map and the physical, the logical structure, the
5 physical structure, is that a conceptual association, or is that an association
6 that somewhere in Baker is done by the processor that, you know, or may be
7 stored in some sort of a data structure? Or is it alternatively something that
8 conceptually may be true but is not, you know -- what I'm getting at is, is it
9 clear that Baker actually does this, or is this just something that exists only
10 in theory?

11 MR. FOWLES: Baker actually does this. Baker, if you look at
12 paragraphs, I believe, 51 and 52 -- one moment -- yes, 51 and 52 says that a
13 head node actually performs the overlay procedure. Then when you get to
14 the tables two and three in Baker around paragraphs 81 to 83, that's showing
15 that for any logical connection there are one or more physical paths that
16 traffic has to traverse in order to effectuate that logical connection. And you
17 can see those tables on slide eight if you go there. But fundamentally, as
18 Patent Owner actually points out in their response, after the mapping is
19 completed in Baker, Baker describes how to manage traffic. For example, at
20 nodes where the packet is not terminating, those nodes know to pass on
21 traffic that do not terminate there. And to do that there would have to be
22 something stored in those nodes.

23 JUDGE OGDEN: The thing that's stored in those nodes, is that just
24 the terminating node, the identity of the terminating node so that it knows
25 whether to pass it on or to be the terminating node? Or would it have to

1 store more information than that in the form of a topology, a logical
2 topology?

3 MR. FOWLES: I don't know that Baker gets into that level of detail
4 about how it's stored at the respective nodes. I think both are possible. But
5 I don't think that either expert has opined on how Baker stores it. Happy to
6 provide supplemental briefing on that if the Board is interested in that after
7 this hearing. But I don't think that was teed up specifically about how Baker
8 stores it in each of the nodes or in just the head node.

9 JUDGE OGDEN: Well, I think it's important though because the
10 claims require defining logical connections, and so somewhere that
11 definition has to be made. I'm just wondering if it's enough to say that
12 defining that logical topology, it's just sufficient to have each node know
13 whether or not to pass along the data to the next node or whether to be the
14 terminating node, whether that's enough to define a topology. Or do you
15 actually have to have some data structure that includes the topology -- that
16 describes the topology itself and not just rules that would result in the
17 conceptual idea of the topology that we're talking about?

18 MR. FOWLES: First off, the claim doesn't recite how this is
19 effectuated, so there is no recitation of storing any data structures within any
20 physical hardware. What the claim cites is that there is that defining of the
21 logical connections that you mentioned, and Baker has that when it talks
22 about creating virtual paths between nodes. And then the claim talks about
23 mapping those to physical links, and Baker describes that as well. Whether
24 or not it's stored in a physical structure, you know, I think a POSITA would
25 understand that that would be have to be accessible and known during
26 regular communication.

1 Baker in fact says that there is a mapping between those logical
2 connections and the physical links. That's not just something that is a
3 conceptual description. Baker goes so far as to show in tables two and three
4 what links logically, what exists between different nodes, and specifically,
5 what physical links the traffic would have to traverse when, say, traveling
6 over logical link L2. This shows here on slide eight that traffic would
7 traverse link S0, the physical link, as well as S1 in order to reach its
8 destination. There absolutely would be some kind of physical storage of
9 that, but again, that's not something the claim requires.

10 Whether or not that's a data structure like you mentioned or it's just at
11 the nodes themselves, I think either would be encompassed within the scope
12 of the claim. Because what we need is a defining and we need a mapping,
13 and that's what Baker shows.

14 JUDGE OGDEN: Okay. Thank you.

15 MR. FOWLES: If we move to slide nine, despite these express
16 teachings in Baker, Patent Owner's expert, Dr. Hernandez, asserts that
17 mapping in Baker isn't actually mapping. And I think this is kind of what
18 you're alluding to, Your Honor, with the prior questions. But Dr.
19 Hernandez's assertion came with no supporting evidence or any even
20 discussion to justify that position. It was just saying, well, it says mappings,
21 but it's not really mapping. But I think the rest of Baker belies that because
22 Baker explains what results from that mapping. And we see that in the
23 tables I just showed on slide eight and in the description, such as in
24 paragraphs 80 through 84 where it describes how traffic travels physical
25 links in order to achieve logical connections. Having discussed mapping,

1 unless there are any further questions on that topic, we can move on to why
2 the prior art renders obvious the claimed allocating in the '431 Patent.

3 Let's go to slide 11. The allocating limitation is for bandwidth on
4 each of the links in response to the bandwidth requirements of the logical
5 connections and to the mapping. There's several reasons why this limitation
6 is obvious. Here on slide 11, we first talk about why allocating is obvious
7 based on Baker alone. Baker itself describes allocating network resources of
8 which bandwidth is an example. Further, Baker also renders obvious
9 determining bandwidth requirements for logical connections to ensure
10 sufficient bandwidth is available as the Petition demonstrated with respect to
11 limitations 1.2 and 1.4. Baker's network resource allocations would use the
12 bandwidth needed for the physical links, as well as which physical links
13 correspond to which logical connections. This wasn't the only reason that
14 allocating is obvious.

15 Let's move to slide 12. Allocating for the claim is rendered obvious
16 also by the combination of Baker's and Wright's teachings. Wright teaches
17 reserving bandwidth that is actually required on physical links within the
18 restricted topology. Well, how do we know what bandwidth is actually
19 required? Wright teaches that the amount of bandwidth required comes
20 from the associated logical connections of the restricted topology which had
21 been determined previously. Under the plain and ordinary meaning of the
22 term "in response to," coming back to that, which encompasses using the
23 results from the prior art combination's bandwidth determination and
24 mapping, and I quote here from our Petition, "would be used in allocating
25 bandwidth in Wright's step 510, which is reserving bandwidth."

1 Petitioners have been consistent from the beginning that the prior art
2 teaches using the results of the bandwidth determination and the mapping.
3 And because of that, the Petition also demonstrated the obviousness of the
4 limitation with Patent Owner's using information from construction. And
5 frankly, also based on information from construction. That's because
6 POSITA would have found it obvious for the prior art allocations to be
7 based on the bandwidth requirements and the mapping to even know how
8 much to allocate and where to allocate.

9 Looking now at slide 13. It's worth emphasizing, again, that it's the
10 combined teachings of Baker and Wright that render obvious allocating in
11 the claims, not just Wright alone. A POSITA would've implemented
12 Wright's allocation teachings as part of Baker's star overlay procedure after
13 mapping was completed. Because of this, whether or not Wright alone
14 teaches mapping, it's irrelevant to the combination actually presented in the
15 Petition.

16 That said, moving to slide 14 now. Petitioner's expert, Dr. Hough,
17 demonstrated that it would've been obvious to a POSITA for mapping to
18 have occurred in Wright before the allocating so that mapping would be in
19 place between the logical connections and the physical links. Dr. Hough's
20 testimony was based on the teachings of Wright itself with ample citations to
21 the record. In contrast, Patent Owner attacked Wright as allegedly not
22 teaching the mapping. Well, aside from the fact that that's not actually the
23 combination, Patent Owner's argument is based again on the unsupported
24 testimony of Dr. Hernandez who opined based on nothing else but just his
25 blanket opinion that if Wright includes mapping, it would be at step 512.

1 We've got figure five here from Wright. If you see there, step 512
2 occurs after allocation. Just wouldn't make any sense if that were the
3 mapping. Instead, Wright's reserving is on the physical links based on the
4 logical bandwidth requirements. Without mapping Wright would be unable
5 to make the required reservations. Frankly, the fact that Wright has that
6 mapping before allocating isn't the teaching we're pointing to. It's rather
7 just showing that a POSITA, when combining with Baker's mapping, would
8 have had a reasonable expectation of success that they mesh well. With that,
9 unless there are any questions with respect to allocating, we can move on to
10 the next issue which is the motivation to combine Baker and Wright.

11 Let's go to slide 16. The Board was correct at institution that a
12 POSITA would've been motivated to combine Baker and Wright. Patent
13 Owner's arguments challenging the motivation to combine seemed to all be
14 based on the faulty premise that a POSITA would not be able to combine a
15 connectionist network like Wright has with its VPN teachings with a
16 connection-oriented supporting layer like ATM. For example, Patent
17 Owner's expert in this snippet here argues that the nonobvious changes
18 would involve combining the VPN or VPLS model teachings of Wright with
19 the ATM-related teachings of Baker's ATM model.

20 The problem with this argument is that Wright expressly refutes it.
21 Wright itself teaches that a POSITA would build a connectionist network,
22 like a VPN service, on top of an ATM network like what Baker teaches.
23 The prior art itself suggests and confirms that combining of the types of
24 services taught in Wright, like VPN and VPLS on top of an ATM network,
25 were known and was not a difficult thing to do. Notably, Dr. Hernandez
26 didn't address these teachings from Wright at all.

1 If we move to slide 17, Patent Owner also argued that a POSITA
2 would require undue experimentation to combine an OSI layer protocol, like
3 VPLS, like in Wright again, with an ATM model such as Baker. Well, as
4 we just saw, Wright itself already contradicts this assertion. And beyond
5 that, Patent Owner's own additional evidence confirms that combining the
6 ATM model with the OSI layer model was known and possible. Exhibit
7 2010 is an exhibit that Patent Owner's expert, Dr. Hernandez, relied upon in
8 his declaration.

9 In there it explains that switched virtual circuits of ATM networks can
10 support applications that would otherwise not work on connection-oriented
11 networks. VPN is an example, again, of such a connection with service.
12 And Exhibit 2010 explicitly states that the ATM layers can communicate
13 directly with the layers of an OSI model. In other words, Patent Owner's
14 own evidence confirms that a POSITA would've had, again, a reasonable
15 expectation of success combining the teachings of Wright and Baker.

16 For the next issue, unless there are any questions there, is with respect
17 to summing in the prior art. Moving to slide 18. There are two distinct
18 reasons why the claim summing in the independent claims is obvious. The
19 first is based on Wright's teachings and the second is based on Holender
20 '699's teachings. Each separately is sufficient to render obvious the
21 summing limitations of the claims. We'll cover Wright first. Now on slide
22 19. The claim limitation requires summing the first and second bandwidths
23 to determine a total allocation for each of the links. The first bandwidth
24 relates to the bandwidth requirements from a first set of logical connections,
25 and the second bandwidth relates to the bandwidth requirements from a
26 second set of logical connections. Wright teaches that the concept of

1 summing bandwidths to determine a total allocation for a physical link is
2 known. Figure three in Wright provides an illustrative example.

3 Figure three, a first logical connection between nodes A and C
4 traverses physical links 304 and 302. In an example that Wright describes
5 there's a bandwidth requirement of X. I just froze for a moment. Am I still
6 coming through? Okay. Thank you. There's a second logical connection
7 between nodes A and B which traverses links 304 and 306, and in the
8 example in Wright, has a bandwidth requirement of Y. Both logical
9 connections traverse the same physical link 304 which is what Wright
10 teaches here in paragraph 17.

11 Wright teaches that one of the ways to determine total bandwidth
12 required to reserve in this example on physical link 304 is to sum the
13 different bandwidth requirements that rely upon that link. Here, X plus Y.
14 As a result, Wright teaches the concept of summing multiple bandwidths.
15 And in combination with Holender '699's teachings of multiple logical
16 topologies overlayed onto a single physical topology, it would've been
17 obvious for the sum to be of whatever logical links are mapped for that
18 physical link.

19 Now, slide 20. Holender '699 separately teaches the summing
20 multiple bandwidths with respect to a given physical link as well. Holender
21 '699 teaches summing the logical link capacities on the same physical link
22 to ensure that the sum total does not exceed the overall capacity of the
23 physical link itself. This was further borne out by Holender '699 when it
24 discusses normalizing the logical link capacities to satisfy the physical
25 constraints of the system. We see this normalizing function here on the
26 bottom right, specifically in the denominator. For K physical links, looking

1 at the K physical link, Holender '699 sums the logical links end, so end
2 logical links that exist on that K physical link, which is an explicit act of
3 summing logical link bandwidths from different networks, logical networks,
4 over a given physical link.

5 Moving to slide 21. Patent Owner's arguments do not refute this
6 direct evidence from Wright and Holender '699. For example, Patent Owner
7 tried to distinguish Wright by arguing that Wright's X plus Y teaching is not
8 a sum to calculate at bandwidth for physical link 304. Thus, that's exactly
9 what Wright teaches. The system calculates the required bandwidth for
10 physical link 304 by summing the logical link capacities X and Y together.

11 Patent Owner raised some additional arguments for a few dependent
12 claims, and unless there are any questions about them, we're happy to stand
13 on our briefing for those issues.

14 JUDGE OGDEN: I'd like to ask you a question about claims 11
15 and 23. I understand from the briefs that your position is that -- these claims
16 have a comparing step in them. In claim 11 the comparing step is part of the
17 allocating the bandwidth step from claim one. And then in claim 23 this
18 comparing step is part of the process of summing the first and second
19 bandwidths. I was wondering if you could speak a little bit about how those
20 comparing steps are part of the step in which claims 11 and 23 says that
21 they're supposed to be.

22 MR. FOWLES: Certainly. What Wright teaches is that it contrasts or
23 compares the restricted bandwidth that it talks about with the full bandwidth.
24 What we explained in our Petition is that it would've been obvious for a
25 POSITA looking at Wright to compare the approaches as part of the
26 reserving step. First, because comparing in Wright could not occur until

1 after the bandwidth requirements are calculated to begin with, and only the
2 reserving step follows the calculating bandwidth step in Wright.

3 Further, the question isn't what Wright states in a vacuum. It's what
4 a POSITA would've understood when reading Wright. Wright does teach
5 comparing the full mesh approach to the restricted topology. To answer
6 your question, why would it be part of the allocating step? Because before
7 that we don't know what the bandwidths are. For example, we don't know
8 what the required bandwidths are and physical links within that restricted
9 topology in Wright until we've done a calculation.

10 And therefore, further, we wouldn't even know what the bandwidth
11 requirements are on which links until we've done the mapping. We know
12 that from the combined teachings of Baker and Wright. Where does that
13 leave us? Dr. Hough explained and testified that that would mean that a
14 POSITA would have known to do that contrasting that Wright talks about.
15 It's part of the reserving or allocating step.

16 JUDGE OGDEN: I'm wondering if it's begging the question a little
17 bit how you're arguing this, because it seems like Wright describes some
18 sort of, you know, a comparison. But, you know, what is there -- I mean, it
19 seems like you're assuming that, you know, that without really necessarily
20 showing me where in Wright this is done as part of either the allocating step
21 or the summing step, claims 11 and 23 specifically. You seem to be
22 assuming that it is. But, you know, how do we know that just from what
23 Wright discloses, or teaches?

24 MR. FOWLES: What Dr. Hough explained was that a POSITA
25 reading these disclosures in Wright would understand that, first, when we're
26 talking about that comparison, that contrasting in Wright, it's contrasting the

1 restricted topology to a full mesh topology. When does the restricted
2 topology even exist in Wright? Well, we know from Wright's teaching that
3 it only exists after it's performed several steps with respect to figure five.
4 That's not necessarily begging the question.

5 Rather, it's saying Wright has this comparing teaching and it knows
6 what the bandwidth requirements for the restricted topology when it
7 compares it to what bandwidth would be for a full topology. When would a
8 POSITA know that that is even available to compare? Well, a POSITA
9 would recognize that's after the restricted topology has been created and the
10 bandwidth requirements calculated. That's not saying that we have the
11 conclusion, we're coming to it with the art. We're saying the only way that
12 a POSITA would understand that that contrasting would make any sense, in
13 terms of are we having any advantages with bandwidth, would be once we
14 know what that bandwidth is.

15 JUDGE OGDEN: Well, you seem to be describing what's going on
16 in the mind of a person of ordinary skill in the art reading Wright's
17 disclosure. But just because it goes on in the mind of somebody reading that
18 doesn't necessarily tell me that it goes on in the process, the calculation
19 process that Wright discloses. I'm wondering if you could speak to that.

20 MR. FOWLES: Well, if you're looking for Wright explicitly saying,
21 do this as part of the calculating step, no, it doesn't say that. Rather, this is a
22 position based on obviousness where we're looking at how a POSITA would
23 understand these teachings in total as a whole. And so, it is using the regular
24 knowledge of a POSITA, the regular skill, and specifically, the fact that a
25 POSITA is not automaton. They don't have to see it explicitly written on

1 the page to understand that that's what this is teaching from the document as
2 a whole.

3 JUDGE OGDEN: Okay. Thank you. Yeah, I don't think we have
4 any further questions. Used about 28-and-a-half minutes of your time. So,
5 now I understand that you want to turn it over to Mr. Williams for Arista?

6 MR. FOWLES: Yes. Thank you.

7 JUDGE OGDEN: Okay. Mr. Williams, I understand you're
8 expecting to use about -- well, why don't you tell me. Would you like to
9 reserve time for Arista for rebuttal?

10 MR. WILLIAMS: Sure. By the way, can you hear me okay? I
11 changed my microphone levels a little bit.

12 JUDGE OGDEN: I can hear you, yes.

13 MR. WILLIAMS: Okay. Great. Yes. If we collectively use 30
14 minutes -- why don't you just let me know when I use 10 minutes here and
15 then I'll hopefully be done by then. That should reserve us the time we need
16 for rebuttal.

17 JUDGE OGDEN: Okay. That sounds good. Thank you, all. I'll start
18 the timer when you begin.

19 MR. WILLIAMS: Okay. Great. I don't have a lot new to say. I just
20 want to comment on the differences between the grounds a bit and how that
21 may implicate the Board's analysis. In particular, I think it's useful to point
22 out that our Arista is ground one, which I believe we've recast as ground
23 five in the combined Petitions, involves the use of Holender for independent
24 claim one. And so, by that change we do affect the claim analysis slightly
25 for that claim.

1 In particular, the Petition does rely on Holender in the combination.
2 That's going to percolate through the combination in different ways related
3 to how the claims then map on to that combination. Mainly it has to do with
4 the allocating step, because Holender does have some additional teachings
5 regarding bandwidth allocation that become relevant. That may also
6 implicate slightly what the mapping looks like in this combination, so I'll
7 come around to that in a second. But the main thrust of Patent Owner's
8 arguments with respect to the combination I think largely turn on this
9 distinction between allocating and mapping.

10 And so, that's what I wanted to sort of talk about. Well, I guess
11 actually two different things. One has to do with distinction between
12 defining the logical connections and the mapping of those logical
13 connections to the physical network. I just want to talk through that issue
14 for a moment and then how allocation is done in response to mapping even
15 under the Patent Owner's proposed construction of that claim term.

16 With respect to that first issue, the sort of defining the connections
17 and the mapping and how those are distinct steps, I mean, our Petition -- and
18 here I'm going to be referring to Arista's Petition, which I think now is
19 Paper 17 in the combined matter. Unless I say otherwise, that's the Petition
20 I'm going to be talking about, just in case there's any confusion about the
21 two different Petitions pending in this proceeding. We at Petition eight
22 begin by explaining -- this, by the way, borrows from the Cisco Petition, so
23 this is not unique necessarily to Arista's Petition.

24 But we begin by talking about how, the defining of the logical
25 connections in the mappings are done in the Baker-Wright combination,
26 which is the ground you just heard about. Don't disagree with anything that

1 Cisco's counsel just said, but just want to point out that's how we start this
2 discussion, by pointing out that in Baker it already has this notion of
3 receiving logical information about what the logical network is going to look
4 like. I'm connecting my New York office to my Cairo office, is the logical
5 connection. That information is provided.

6 And then that is mapped onto some physical infrastructure, because
7 presumably there's not an actual connection between New York and Cairo.
8 You're going to have to jump through some other physical connections to
9 get there. That's sort of the idea that's going on in Baker and Wright
10 together.

11 Where we rely on Wright is to be a little more specific about how that
12 logical topology is conveyed into the network, because Baker is a little bit --
13 Baker is not very specific about how that happens, whereas Wright does say
14 that you're going to receive this logical topology that you were then going to
15 overlay.

16 So, that's part of the combination that involves borrowing that step
17 from Wright into Baker. Both of them obviously do have a logical network
18 and they do have a physical network that they're going to work. But that's
19 sort of how the combination is working in so far as to jog in your question
20 about whether the association is conceptual or not. I think even with Baker
21 and Wright it's very explicit that, you know, Baker has this notion of a
22 logical path. He calls them logical paths because this logical network is
23 configured as a logical path. That logical path is then sort of put into the
24 physical network somewhere.

25 And again, as counsel Cisco pointed out, it's not clear where, but very
26 likely, given the way that this is described in Baker, and certainly our expert

1 agrees this is what Baker means, the routing information that corresponds
2 the logical paths to the physical layer shows up actually in the physical
3 device itself. Each physical node is going to have a routing table that tells
4 you this virtual path. If you're not terminating it, you pass it along. That
5 information is not just abstract. It's not conceptual. It actually is in that
6 physical layer somewhere. So, that's clear.

7 Then when we get to the actual distinction that's drawn in the Petition
8 between that defining connection and the mapping, I think it's worth
9 pointing out that when we get to Holender in our ground -- this is at our
10 Petition page 21. Yeah. Actually, maybe it's better to talk about Petition
11 page 21 in connection with the Baker-Wright combination, because there we
12 point out that, again, Wright is going to receive the logical topology that's
13 overlaid onto the physical topology. That disclosure in Wright is
14 incorporated into the Baker combination.

15 Just want to make clear that is still part of the Holender ground.
16 When we actually get into Holender, what the Petition then describes is
17 using the notion of overlaying multiple logical networks onto that same
18 physical network. The point largely Holender is addressing is the situation
19 where you may have -- you may want to have multiple logical networks that
20 are going into that same physical network, and that's because maybe some
21 of them have different quantity of service requirements. Your email
22 network is probably less important than your voice over IP network, for
23 instance, and so you want to associate those two different types of traffic
24 with two different networks.

25 And Holender explains how you would do that. You would create
26 different logical networks in those different classifications of traffic and then

1 put them onto the same physical network then with allocations. All that's to
2 say there are two very distinct pieces here. I think Patent Owner's
3 arguments are trying to conflate them. But they're distinct. You do have the
4 notion of these logical network information. There's a logical topology. In
5 the case of Holender, there's multiple logical topologies that you may care
6 about, because you might have multiple logical networks you're trying to
7 operate. All of those get mapped onto one physical network. Those are two
8 very different things.

9 With respect to allocation now, which is the main thing I wanted to
10 talk about, if you turn to our slide 30, demonstrative slide 30, this is where
11 we talk about -- basically 30 and 31 will be the two slides I'll talk about.
12 Here's where we get into the information about how Holender itself is doing
13 this bandwidth allocation. I just want to talk through what's shown on this
14 slide for a moment of two. The one thing that's important to note is what's
15 in the top box, is describing the sort of step of taking all of the information
16 you have about your logical links, and those are referenced here as just the C
17 without the physical, without the PHSY.

18 Those Cs are your logical link capacity. That's in some sense how
19 much bandwidth you're going to want to use for that link, whatever it is. In
20 this case CJ is one of the links you're going to be looking at as part of your
21 one logical network. Of course, recognizing there's going to be multiple of
22 these logical networks you're going to have to consider in Holender.

23 But the point is he's going to first determine, what are the logical
24 capacities that we're going to need? And then he's going to look in
25 particular at whether that capacity -- and this is the sentence in the box I'm
26 going to read you -- if the capacity of the physical link K, which he defines

1 as CK with a superscript PHSY, and the capacities of the logical link that
2 need capacities on the K physical link are -- then he gives you those terms.
3 Then he gives you the formula for calculating the normalized logical link
4 capacities associated with the physical link. The point here is this is the
5 allocation process. It's in a formula. It's very explicit.

6 And it explicitly depends on the physical link that we're looking at
7 here that's associated with the logical link. That means that when we're
8 doing the allocation, number one, we've obviously already done the
9 mapping because we already know what physical link is going to be
10 associated with a particular logical link so that mapping is already done.
11 And the allocation is explicitly based on that mapping. It's very clear that
12 you have to know what the K physical link is so the mapping is done, and
13 you need to know what the capacity of that is in order to determine the
14 capacity you're going to allocate to that logical link.

15 I think that's the main point I wanted to make sure we addressed,
16 because obviously Patent Owner's arguments I think sort of conflate that
17 issue. They somehow suggest that these are not distinct steps, that it's not
18 based -- that Holender isn't based on mapping, that it clearly is and it has to
19 be in order for Holender's technique to work. That's really all I was going
20 to cover. Although, Your Honor, I know you had some questions about
21 dependent claims. Were those going to be relevant to the Arista grounds as
22 well? If so, I can talk about those.

23 JUDGE OGDEN: If you think that they're relevant to the particular
24 Arista grounds, you can go ahead.

25 MR. WILLIAMS: I'll just say one thing. You were talking about the
26 act of comparing bandwidths in I think claims 11 and 23. Claim 11 is

1 addressed in our ground one. We rely primarily for that element on the
2 Holender mapping in ground one for element 1.5 that's on the screen here. I
3 would say, you know, here you can explicitly see the comparison being
4 made between the logical link capacity, which is the C without the physical,
5 and the physical link capacity, which is the C with the physical superscript
6 here. There's a direct comparison Holender is doing when performing
7 allocation. That's also true for ground two, which is dependent from
8 claim 23, which I think depends from claim 12.

9 JUDGE OGDEN: Sorry. The audio cut out for a second. Did
10 anybody else -- do we have a gap there that we'll need to fill in for the
11 record?

12 MR. WILLIAMS: I'm not sure what part dropped out, where I was,
13 Your Honor.

14 JUDGE OGDEN: Okay. Yeah, if you could just repeat. It was
15 maybe just a matter of 10 seconds or something, so if you could just repeat
16 your last point.

17 MR. WILLIAMS: Yeah. I was making the point that with respect to
18 claim 11, you know, that's treated in our ground, ground five, that attacks
19 the claim one ground, independent claim one, which is where claim 11
20 depends from. With respect to the comparison step that's in claim 11 I
21 would point you to this allocation process that we just talked about for claim
22 one, because it's that allocation where you see the comparison done in
23 Holender directly. And then what I said for claim 23, since that depends, I
24 believe, from claim 12 ultimately, or just directly, that's addressed by our
25 ground six. But the argument is largely the same. It relies on Holender's --

1 it relies at least in part on Holender's allocation step for the comparison as
2 well.

3 JUDGE OGDEN: Okay. Thank you, Mr. Williams. I believe that
4 you used about 11 minutes. The total time Petitioners have used is 39-and-
5 a-half minutes. Let's go to Patent Owner then. Ms. Cappart, would you
6 like to reserve time for rebuttal?

7 MS. CAPPAERT: Yes, please. I think if I can reserve let's say 10
8 minutes. And if I have additional time, I would request the Board's leeway
9 in using that time as well.

10 JUDGE OGDEN: Okay. Sounds good. You can begin when you're
11 ready.

12 MS. CAPPAERT: I want to take a step back and talk a little bit more
13 about the overall claims as a whole, starting with if you look at slide four.
14 Just taking a step back at what the '431 Patent is really directed to. The goal
15 of the '431 Patent was to enable more efficient bandwidth utilization within
16 a network. Now, how did it do that? Well, speaking with respect to claim
17 one for now, if you look at slide five, you see independent claim one. You
18 start with your physical network, and your physical network is shown on the
19 side. You have your physical connections A through D going clockwise and
20 counterclockwise.

21 Going then to slide six. You're assigning of bandwidth first considers
22 defining your logical connections. That's shown on the left in that figure on
23 the side of slide six, your logical connections as it relates to your physical
24 connections. Slide seven shows the second step, determining the respective
25 bandwidth requirements for the logical connections based on the parameters

1 of the service. Now, on slide seven that is shown by the Rs. Those are your
2 different bandwidth requirements.

3 Slide eight is where we get to the mapping limitation, which I know is
4 different from the determining limitation. I think that -- and we'll talk about
5 this a little bit more later -- a lot of Petitioner's arguments conflate the
6 defining and determining steps with the mapping step and rely on the same
7 disclosures in the prior art references for both of those. The mapping step,
8 it's an active mapping step. It is taking your logical connection and it is
9 actively mapping them to your physical, which can be seen on the right.

10 You're plotting out how you get from A to C on your physical, taking
11 into consideration your logical connections. Then you can see as an
12 example that's shown in table one of the '431 Patent where you have your
13 logical connections on the side under the hub and spoke connections. That's
14 your logical topology. And then you have that being mapped to your actual
15 physical connections and plotting that out.

16 The purpose of the mapping is very specific, and it's to be used in
17 allocating the bandwidth, which is on slide nine, the next limitation and the
18 final limitation of claim one. Now, the allocating of bandwidth is allocating
19 bandwidth on the physical links. And as I mentioned before, the goal of the
20 '431 Patent is to be more efficient. It's to do more efficient allocation of
21 bandwidth and make sure that you're using bandwidth efficiently and
22 effectively. Your allocating a bandwidth takes into consideration two
23 distinct things.

24 One is the bandwidth requirements for the logical connections, so
25 those Rs circled in blue on slide nine. And the second is the mapping, and
26 the mapping is used in a few different ways. It's used to, as I said, define

1 how that connection is going to relate to the physical links and to create a
2 mapping bandwidth. That mapping bandwidth is used in consideration of
3 comparing your mapping bandwidth to the total bandwidth on your physical
4 links, and then from that, figuring out what your actual bandwidth is going
5 to be. Because there may be some instances where you don't need to use the
6 full bandwidth amount because your mapping bandwidth is less. You don't
7 need to -- so you can more effectively allocate your bandwidth.

8 Going ahead to slide 12. I think that the claim construction that Mr.
9 Fowles spoke of, the "in response to," first, I would submit that there is a
10 controversy with respect to "in response to" that does require that this term
11 be construed. While Petitioners say that there isn't, they're ignoring that
12 while the portion of the Patent Owner response that Petitioners point to is
13 based on the argument that the Board agrees with Patent Owner, that neither
14 Wright nor Baker disclose a mapping.

15 But if the Board disagrees or finds separately that Holender '699
16 discloses a mapping for the independent claims 12, 24 and 28, construing
17 this term does resolve a dispute. Because there's a difference between "in
18 response to" as an active you're taking into consideration the logical
19 connections, bandwidth requirements and the mapping, and the just it
20 happens after the fact, which is what Petitioners point to with respect to
21 Wright in terms of the steps occurring. I think that with respect to "in
22 response to" Petitioners seem to agree that it can be using Petitioners -- as
23 Mr. Fowles recognized, Petitioners agree that the allocating of service in
24 response to is using information from the bandwidth requirements and the
25 mapping but take issue with the "based on."

1 If you look at slide 14, first, I would submit that “using” and “based
2 on” are synonymous. And second, “based on” is seen in the actual
3 specification of the ’431 Patent. If you look on slide 14 there’s a call-out of
4 it. In the ’431 Patent, column two, lines 25 to 26, when the patent is
5 discussing generating an actual bandwidth requirement, it says that it is
6 doing the generation of the actual bandwidth requirement based on the
7 mapping. We would submit, Your Honor, that “in response to” should be
8 construed as using information from or based on information from the
9 bandwidth requirements of the logical connections and the mapping. The
10 main points in dispute, as Petitioner has acknowledged, do relate to the
11 mapping and allocating limitations, so I’ll focus most on those.

12 And I think what is important, and as I mentioned previously, and if
13 you look at slide 20, is that Petitioners used duplicate disclosures for these
14 limitations which often affects and should be considered, because there is a
15 difference between just defining the nodes and defining kind of the map or
16 the path and actually doing a mapping of what that logical connections look
17 like to the physical network. And again, this is an active step. If you look at
18 claim 25, claim 25 expressly recites that a controller is doing that mapping.
19 Claim 25 is the apparatus equivalent to claim one.

20 Focusing, first, if you to slide 21, on Baker, with respect to Baker, you
21 heard Petitioners talk about the overlaying and administering ring that is
22 used by Petitioners, both, for the defining elements, defining the logical
23 connections and for the mapping element. We would submit, Your Honor,
24 that it at most discloses the defining, the fact that there are is a virtual path.
25 But it does not disclose the mapping, which requires more than just a passive
26 situation where you have a path that goes into effect.

1 Looking at slide 22 with respect to Wright, again, there are multiple
2 situations where Petitioners are pointing to the same limitation for multiple
3 different steps. Again, with respect to determining their respective
4 bandwidth requirements and mapping, while Petitioners say that they are not
5 relying on Wright for mapping, by way of the allocating analysis which
6 requires based on a mapping, Petitioners are attempting to force a reading
7 where they are saying that Wright does inherently have some sort of
8 mapping that occurs. We'll talk a little bit more about that in a few minutes.

9 And then on slide 23 with Holender, again, there is multiple situations
10 where Petitioners are using the same analysis here, particularly, the logical
11 link capacities being determined. That shows up with respect to determining
12 the respective connections. It then also shows up in the allocating analysis.
13 And I think something to note is that Petitioners do not rely on Holender for
14 the mapping limitation in ground five. Holender is used by Petitioners in the
15 mapping limitations with respect to the multiple mapping, your claims 12
16 and 24, I believe, but not for claims one or 25.

17 As is shown on slide 24, which is kind of an overall summary slide of
18 what we'll talk about in a little bit more detail, Patent Owner submits that
19 Petitioners have failed to show that any of the prior art combinations
20 disclose the recited mapping limitation or the allocating of bandwidth in
21 response to the bandwidth requirements of the logical connections and the
22 mapping as recited in claim one.

23 Starting first with Baker and going ahead to slide 29, Petitioner argues
24 that the mapping connection relates to the overlay. Now, something to note
25 is Petitioner's briefing often uses overlay as an active analysis. You'll see
26 that Petitioners say, well, Baker discloses overlaying, or the process of

1 overlaying. That isn't what is actually recited in Baker. Baker states that
2 there is an overlay. That is just done by software that is already preset that is
3 run through the head node and then creates your defining connections.
4 Again, at most it would relate to limitation 1.1, the defining between the
5 nodes, the logical connections. But it does not establish the mapping, the
6 actual active requirement of mapping those logical connections to one or
7 more links of the physical topology as is required by the claims.

8 JUDGE OGDEN: Ms. Cappaert, I'd like you, if you could, to explain
9 what you think, what your position is as to what would need to be done
10 beyond what Baker does, for example, in order to perform a mapping step.
11 What exactly would you have to do? Would you have to store a one-to-one
12 correspondence between the logical topology and the physical topology in
13 some sort of a data structure, or could you do less than that?

14 MS. CAPPAERT: I think that you would need to -- I guess backing
15 up. I think that Baker's disclosures relate to kind of just you run a software
16 and it figures out what your virtual paths can be on the topology. The
17 mapping step would require taking that analysis and that connection and
18 then actively having a component within the system that actively looks at
19 and then figures out what those paths are, what those bandwidth
20 determinations are, and stores that so that that information can be utilized in
21 order to calculate your actual bandwidth down the road.

22 JUDGE OGDEN: You say "stores that." What do you mean by
23 "that?"

24 MS. CAPPAERT: Sure. Once you have -- if you're trying to get,
25 let's say, from point A to point D and your logical connection says, okay,
26 you're going to go straight from A to D, but in the physical mapping that

1 requires that you go from A to B to D, the storage would be the analysis of
2 A to B to D of that actual storing what the connection would look like, so
3 that total result of the mapping. And I think it's shown.

4 And I think what the '431 Patent is envisioning is similar to what is
5 seen if you look on slide eight, for example, looking back just at the claim
6 limitations, Baker would need to include a mapping that does the -- slide
7 eight and then slide nine. Baker would need to include the mapping that
8 actually outlines, if you have A to C, these are the physical links that you're
9 going to go across, storing those physical paths in a table. And then as is
10 seen on slide nine, including that the reason for that is so that you can
11 calculate that mapping bandwidth, which in the '431 Patent is essential to
12 determining your allocation of bandwidth.

13 JUDGE OGDEN: So, you're saying that it's not enough just to store
14 some sort of rules in a node so that in effect you have something that is
15 conceptually a mapping between the physical and logical topologies. It's not
16 enough to just have some sort of rules that would bring that into effect. You
17 need to actually -- you actually need to somehow indicate the various paths
18 that are available in the logical topology and the association with the
19 physical topology.

20 MS. CAPPAERT: That's correct, Judge Ogden. I would say that
21 simply having the nodes that can say either you are or aren't passing it along
22 isn't enough. There needs to be stored somewhere in the system an actual
23 detailed mapping of what that process looks like, some sort of table. The
24 conceptual path isn't enough. The conceptual path I would submit relates to
25 really just defining your logical connections within this system, not the
26 mapping of the connections.

1 JUDGE OGDEN: Would you be able to -- would a person of
2 ordinary skill in the art have been able to infer -- assuming, you know, that
3 it's valid to combine Baker with Wright, and Wright teaches that you need
4 to have some knowledge with respect to bandwidth requirements, could you
5 infer that based on that combination that there would need to be some sort of
6 way to store this data so that you could use it to figure out the bandwidth
7 with respect to the various links?

8 MS. CAPPAERT: I don't believe so. I think that Wright -- and if you
9 look ahead at slide -- we can look at slide 51 and 52. I think that the
10 reserving bandwidth in Wright is still related to reserving the logical
11 topology, the logical connectivity bandwidth in Wright. It isn't disclosing
12 how you reserve the actual bandwidth. If any bandwidth is being reserved it
13 does not relate to bandwidth allocations that are taking into consideration a
14 mapping and the logical connections. It's just the logical connections. A
15 person of ordinary skill looking at a combination of Baker and Wright, if it
16 was found that those were obvious to combine, would not have found it that
17 combination would disclose it, or that Baker would have enough for a
18 mapping for Wright to go off of.

19 JUDGE OGDEN: What about the later steps, 508 and 512? These
20 come after. And I understand your arguments with respect to Wright. But
21 assuming that we were to say that Wright teaches creating some sort of a
22 logical topology, that Baker describes a physical topology and something
23 which may be at least conceptually a logical topology, and then Wright
24 discloses actually creating a logical topology of some sort, then the later
25 steps, you know, in Wright's figure five require calculating bandwidth
26 requirements and reserving a bandwidth. So, at that point don't we already

1 sort of know that there's some sort of storage of a logical topology that
2 somewhere in the system that you would use to calculate and reserve the
3 bandwidth?

4 MS. CAPPAERT: I think that you understand that there is a storage
5 of a logical topology in the system. I would submit that that does not mean
6 that there was a storage of a mapping of that logical topology to a physical
7 topology which would be required by the claims.

8 JUDGE OGDEN: Thank you.

9 JUDGE ENGELS: This is Judge Engels. Are you asking that we
10 construe mapping?

11 MS. CAPPAERT: We are not, Your Honor. We believe that
12 mapping and the use of mapping in the claim is its plain and ordinary
13 meaning as is would be understood by a person of ordinary skill in the art
14 reading the specification.

15 Going to slide -- I think we can go to slide, around 38 we can start.
16 Switch gears a little bit and talk about mapping with respect to Holender.
17 The Arista Petitions and all of the grounds related to the multiple mapping
18 claims, as I'll call them, include Holender with respect to the mapping. I
19 would submit that Holender still does not disclose the active mapping the
20 allocating of resources based on kind of that stored comparison of your
21 logical to physical connections.

22 Moving ahead to allocating. Allocating, as we discussed before, relies
23 on two things, taking two things into consideration. You're allocating your
24 bandwidth on your physical links in response to your logical bandwidth
25 requirements, or the bandwidth requirements for the logical connections, and

1 to the mapping. And I think that first looking at slide 46, you heard Mr.
2 Fowles talk about how Baker alone renders obvious allocating a bandwidth.

3 But Patent Owner would submit, Your Honors, that the Petition does
4 not explain how Baker assigns resources using any sort of mapping or using
5 the bandwidth requirements, and that the portions of the Petition that
6 Petitioners point to in their reply related to this argument relate to separate
7 limitations. They relate to the determining the bandwidth and relate to the
8 mapping and not to the actual allocating limitation.

9 Looking at slide 47, Baker does not describe how to determine the
10 allocated bandwidth or what any bandwidth allocation is based on. Baker
11 alone does not disclose the entire allocating limitation as recited in claim one
12 and claim 25. We would submit that Wright also does not cure Baker's
13 deficiencies, that Wright bandwidth reservation occurs after the creating of
14 the restricted topology that's emphasized by Petitioner's.

15 If you look at slide 49 it's emphasized in the Petition that the
16 bandwidth reservation occurs after step five of six of creating the restricted
17 topology. Again, Petitioners don't implicitly rely on Wright for the mapping
18 limitation, but it heavily relies on the assumption that mapping in Wright has
19 occurred. Patent Owners asked Petitioner's expert, Dr. Hough, about the
20 different steps that are identified in slide 51. In figure five you have that
21 flowchart going from 502 to 512. Dr. Hough asserted that steps 502 to 506
22 created a logical to physical mapping. But in his deposition starting at
23 slide 52, Dr. Hough admitted that there isn't actually a mapping that occurs
24 at slide 502, step 502. By step 504 you wouldn't have anything doing the
25 mapping.

1 If you look at slide 54, that by this point of step 506, the creating a
2 restricted topology, you would not have done the mapping. For 508, the
3 Petition relates 508 to determining bandwidth requirements for the logical
4 connections except for the separate and apart from the mapping limitation.
5 So, calculating that bandwidth requirements, according to Petitioners
6 themselves, relates to the determining the bandwidth requirements, not the
7 actual mapping step. There's a disconnect in Wright in terms of that.

8 And so, by logical flow, if the bandwidth requirements for that virtual
9 restricted topology relate to step 508, the reserved bandwidth that's
10 discussed in 510 relates to reserving bandwidth based on those logical
11 connections, which is why Patent Owner asserts that to the extent Wright
12 does disclose any form of mapping, it would occur at step 512 which is after
13 the reservation of bandwidth step that Petitioners rely on for allocation.

14 JUDGE OGDEN: Ms. Cappaert, could we also interpret the evidence
15 to suggest that by step 512 there would've been a mapping prior to that, but
16 it wouldn't necessarily have to occur at 512, sometime prior? And most
17 logically maybe that would be during the time that in step 506 that you
18 created a restricted topology to provide the logical connections?

19 MS. CAPPAERT: I would submit that step 512, as it discusses setting
20 up the routing, is related to that actual, that actual mapping occurring. It's
21 actually setting up that routing path that's going to go through the restricted
22 topology. And up until then Wright is really just discussing everything in
23 terms of the logical connections.

24 JUDGE OGDEN: Okay. Thank you.

25 MS. CAPPAERT: With respect to Holender, looking ahead to
26 slide 61, the Baker–Wright–Holender combination also does not disclose the

1 entire allocating limitation. With respect to Holender, Petitioners rely on
2 allocating transmission resources according to the logical link capacities.
3 Again, we would submit that that at most relates to only one aspect, the
4 bandwidth requirements of the logical connections, and doesn't incorporate
5 that active mapping requirement that's required by the '431 Patent.

6 I want to talk a little bit about dependent claims 11 and 23.
7 Dependent claim 11, if you look at slide 66 -- sorry, 67, you can see that
8 dependent claim 11 has the allocating of the bandwidth includes this
9 comparing step. And what is compared is what's shown in purple, your
10 mapping bandwidth. You can see that in table two circled in purple. And
11 that's compared to the full bandwidth of all of the connections on the
12 physical links within that network. What happens with that is that the actual
13 bandwidth is calculated.

14 The system determines, how does your mapping bandwidth relate to
15 your full bandwidth, and do you need to allocate the full amount of
16 bandwidth for those links, or is it possible to allocate some amount less?
17 And in this case, you may have some sort of parameter that you apply to it to
18 just make sure you have enough. A buffer parameter, let's say. In their
19 Petitions, Petitioners point to Wright's full logical mesh approach. We
20 would submit, Your Honors, that Wright does not actually have any sort of
21 comparison, that when Wright talks about contrasting it is talking about just
22 a different approach overall.

23 It is not saying that within Wright's system you're doing an actual
24 comparative analysis. It's just Wright is more saying that its own invention
25 is different from this alternative full mesh approach, and that Petitioners are

1 spinning that incorrectly in an attempt to show the comparing limitation is
2 present when it's not.

3 Were there any other questions on dependent claim 11 that I could
4 answer?

5 JUDGE OGDEN: I was wondering if you could respond to Mr.
6 Williams' statements in this regard that Holender '669 explicitly discloses a
7 comparison. In one of the formulas, I think it had a less than or equal sign in
8 it. And so, that was an explicit comparison.

9 MS. CAPPAERT: I believe that you're referring to the comparison
10 that was discussed in Petitioner's slide 30. I believe that that's shown on our
11 slide 79. I believe that that relates to not really a comparison of the total
12 physical connections, the full bandwidth requirements to the mapping
13 bandwidth requirements, and it's just a comparison of what that specific
14 physical link looks like. It's not looking to kind of come up with your actual
15 bandwidth and doing the analysis that would get you to that requirement. It
16 doesn't have kind of that I guess initial step of creating that mapping
17 bandwidth that is required by claim 11.

18 JUDGE OGDEN: Okay. Thank you.

19 MS. CAPPAERT: The other set of claims relate to this summing.
20 The summing requirements show up in grounds two, four, six, and eight.
21 Those grounds relate to claims that have multiple mappings. So, where you
22 have a first logical mapping and a second logical connection mapping. And
23 those claims are similar as can be seen, if you look, for example, at slide 74.
24 They're similar in the sense that they look at your first bandwidth, your first
25 mapping, generate a first mapping and then allocate based on that first
26 mapping, and then also generate a second mapping and allocate based on the

1 second mapping, and then sum that first and second allocated bandwidth to
2 determine your total allocation for each of the lengths.

3 I think that the main point of disagreement between the parties relates
4 to what is actually being summed. Patent Owner would submit that
5 summing the first and second bandwidths is summing the allocated first and
6 second bandwidths, so those bandwidths that take into account both your
7 logical connections and the mapping as is required in the allocation
8 limitations in these multiple mapping claims. And that is similar to what
9 were just talking about with respect to claim 11.

10 Again, looking in slide 79, while Holender is looked at for that
11 summing limitation, Holender is not summing the allocated bandwidths in
12 response to a mapping. Holender is just summing your logical link
13 capacities, which is different from your allocated bandwidths. It only takes
14 into account one of the aspects that's required in your allocation, which
15 requires both looking at your logical connections and your actual mapping.

16 Similarly in Wright, looking at slide 83, Petitioners, and you heard
17 Mr. Fowles refer to Wright's X plus Y disclosure and argue that that would
18 be obvious for the summing for each logical topology. Again though, the
19 claims do not just sum the logical topologies. They sum the allocated
20 bandwidths that include in one consideration the logical topologies but also
21 take into consideration that mapping requirement. Additionally, Wright
22 doesn't disclose summing across multiple different mappings. Petitioners
23 only looked to Holender for the multiple mapping requirement.

24 And unless Your Honors have any further questions, I can reserve the
25 rest of my time for rebuttal.

1 JUDGE OGDEN: I have one question. Patent Owner is not
2 requesting that we construe the term summing, right?

3 MS. CAPPAERT: That is correct.

4 JUDGE OGDEN: You'd agree that the term has its ordinary
5 and customary meaning in the art as it appears in the challenged claims?

6 MS. CAPPAERT: Yeah. As it appears in the challenged claims in
7 view of the specification, Your Honor.

8 JUDGE OGDEN: Okay. It sort of seems though that you're maybe
9 adding some additional requirements to what it means to, you know, to do
10 summing. Or am I misunderstanding what you're saying?

11 MS. CAPPAERT: I didn't intend to include adding any additional
12 limitations for summing. I think that for summing it is just adding together
13 the different bandwidths. But I think what is important to look at is not just
14 the addition aspect of summing, but it's really a dispute about what's being
15 added together.

16 JUDGE OGDEN: For example, you're saying, for example, in
17 claim 12 that the less limitation -- it says summing the first and second
18 bandwidths to determine the total allocation for each of the lengths. You're
19 not focusing on the word summing, but you're focusing on that phrase as a
20 whole and what the first and second bandwidths are and what it means to
21 determine a total allocation.

22 MS. CAPPAERT: That's correct, Your Honor.

23 JUDGE OGDEN: Okay. I've got it. Thank you.

24 MS. CAPPAERT: Thank you, Your Honors.

25 JUDGE OGDEN: Sorry, I was muted. Let's go back to Mr. Fowles.
26 I believe that the Petitioners used 39-and-a-half minutes, so you can use the

1 remainder of your time however you'd like divided between counsel. But I
2 believe that means that you have a total of 20-and-a-half-minutes left. You
3 can begin when you're ready.

4 MR. FOWLES: Okay. Thank you. Just a couple points we'd like to
5 raise in rebuttal. And first, with respect to the construction of "in response
6 to," using information from and based on information from are not
7 synonymous. I would encourage the Board to revisit *Sisvel International v.*
8 *Sierra Wireless*, Federal Circuit decision from September 2023, that looked
9 into how using and based on can be different from each other. We would
10 encourage the Board, again, if you decide that a construction is necessary to
11 construe it to be using.

12 The second point is that of with respect to mapping and whether
13 storing is required for that. I'd just like to reiterate that the claim itself does
14 not recite storing of anything. And notably, the specification itself of the
15 '431 Patent actually doesn't talk about storing any mapping either. There is
16 one mention, one paragraph that talks about storing a map when it's
17 received. That's the logical topology. But that happens before mapping is
18 even performed in the description of the '431 specification. And so, looking
19 just at the claim itself, is there a mapping as claimed? And the answer is
20 yes. Baker shows a mapping as it's claimed.

21 Finally, I'd just like to note with respect to allocating, the allocating
22 summary slide from Patent Owner's demonstratives omits much of the
23 evidence that Petitioners presented, suggesting specifically with many Xs
24 that there is no evidence or argument presented. That's just inaccurate, and
25 we rely on the papers for that.

1 With that, unless there are any other questions, I will hand over the
2 rest of my time to my colleague, Mr. Williams.

3 JUDGE ENGELS: This is Judge Engels. I have a question. If we
4 look to Patent Owner's slide 13, as I understand it, Petitioner would have us
5 construe, if it's necessary to construe it, the words "in response to" to mean
6 using. One of Patent Owner's proposed constructions is using information
7 from. Do you have a problem with using information from? Is that different
8 from just using?

9 MR. FOWLES: I believe you're saying Petitioner's proposed
10 construction is using, and whether we have a problem with Patent Owner's
11 construction of using information from. The challenge with that is that
12 Patent Owner's construction, even though it's still short, by looking just at
13 the number of words, it adds unnecessary limitations. For example,
14 requiring that it be information from the actions could preclude the m
15 mapping itself and instead require it to be something manipulated from the
16 mapping. In a way, consonant or analogous to what the Federal Circuit was
17 looking at with respect to the difference between using and based on itself.
18 And so, using we submit encompasses both scenarios where the mapping
19 itself is used and other scenarios where something is derived from the
20 mapping and that is used. Whereas Patent Owner's construction could
21 potentially only be limited to that latter scenario I just gave.

22 JUDGE ENGELS: Thank you.

23 MR. FOWLES: If no other questions, I hand over to Mr. Williams.

24 JUDGE OGDEN: Okay. Go ahead, Mr. Williams.

25 MR. WILLIAMS: Okay. Just a follow-up on the discussion
26 regarding Holender. The main thrust, one of the main thrusts of Patent

1 Owner's argument is that what's shown in Holender does not satisfy this
2 construction, whatever it is, of in response to based on the mapping. And I
3 think even if you were to accept this construction -- Patent Owner is arguing
4 even the most narrow one -- Holender clearly would need it. We talked
5 about last time, slide 30, but I'll turn for a second to slide 31 which is the
6 next slide. I don't know if I touched on this during my opening remarks.

7 But the point is if you look in the bottom righthand box on slide 31
8 you'll see the beginning of how Holender allocation works. It says the first
9 thing you do is you create a set of logical networks established on top of a
10 physical network, and then how do you do that? By associating different
11 parts of the traffic with different parts of the physical transmission and
12 switching resources, which of course makes sense. If you're going to
13 allocate bandwidth to logical networks, you have to understand what the
14 physical links are that are in play. Those physical links of course have
15 bandwidth constraints on them. These are not -- these are physical
16 structures, whether they're wires or wireless or this is some sort of optical
17 connection. It's going to have a physical bandwidth constraint.

18 And Holender is clear that the first thing you do is you establish those
19 associations between your logical network configuration and the actual
20 physical topology. And that is the mapping. That's why as we got --
21 remember when we talked about slide 30, the slide before this, when we
22 talked about this important section in column six, line 48 of Holender,
23 Holender is explicit about this, that in doing this calculation and doing the
24 allocation calculation you are expressly using and basing your calculation on
25 the physical capacity of the physical link over which this logical link is
26 writing.

1 Because you have to have this association built right into Holender.
2 You have to understand what physical link are we talking about when we're
3 talking about particular logical link in this analysis. The mapping is right
4 there in that equation, so it certainly does that. And of course, it also has the
5 bandwidth limitations of the logical network, which is just the CKI without
6 the physical, the PHY subscripts. Those are the logical capacities. Both are
7 there. It clearly satisfies even Patent Owner's narrow construction, which is
8 why I think the claim construction issue should probably be moved here.

9 That's really all I wanted to cover, unless the Board had any further
10 questions.

11 JUDGE OGDEN: I don't think we have any further questions. Thank
12 you, Mr. Williams. Let's go back to Ms. Cappaert. I believe that you have
13 24 minutes left to use for sur-rebuttal.

14 MS. CAPPAERT: Thank you. I just have a few very brief follow-up
15 points. I think, first, with respect to the storage argument that Mr. Fowles
16 just made, the claim requires that you're allocating the bandwidth in
17 response to both the bandwidth requirements of the logical connections and
18 the mapping. As the allocating step requires consideration of the mapping,
19 the mapping by definition has to be stored in some capacity for at least some
20 period of time in order to be used for the allocating step. It can't just be
21 conceptual.

22 With respect to the claim construction, I would submit that "in
23 response to" does mean, as used in the claim and as discussed in the overall
24 '431 Patent specification, does relate to more than just using the logical
25 connections and the mapping. It requires that you're using information from
26 it. You're taking the steps as shown in slide 13 that mapping bandwidth and

1 that comparison, that's going into your allocating step. It isn't just
2 something that happens in sequence after the fact as I think Petitioner would
3 like it to be.

4 I believe, Your Honors, that those were the only two points that I
5 wanted to address, unless Your Honors had any questions.

6 JUDGE OGDEN: Okay. I don't think we have any further questions.
7 Thank you, Ms. Cappaert. Thank all the parties for your very helpful
8 presentations. This will conclude the hearing for IPR2023-00169 in
9 consolidating case 2023-00515. We'll consider the issues and issue a final
10 written decision in due course. Thank you. We are adjourned.

11 (Whereupon, the above-entitled matter went off the record at 1:36
12 p.m.)

IPR2023-00169 (Patent 7,330,431 B2)

IPR2023-00515 (Patent 7,330,431 B2)

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