

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

JUNIPER NETWORKS, INC.,
Petitioner,

v.

PORTSMOUTH NETWORK CORP.,
Patent Owner

IPR2024-00893
Patent 6,917,986 B2

Record of Oral Hearing
Held: September 12, 2025

Before ST. JOHN COURTENAY III, JUSTIN T. ARBES, and CHARLES
J. BOUDREAU, *Administrative Patent Judges*.

IPR2024-00893
Patent 6,917,986 B2

APPEARANCES:

ON BEHALF OF THE PETITIONER:

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The above-entitled matter came on for hearing on September 12, 2025, commencing at 1:00 p.m., at the USPTO headquarters in Alexandria, Virginia and via video teleconference.

P R O C E E D I N G S

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JUDGE ARBES: Good afternoon. This is the oral hearing in Case IPR2024-00893 involving Patent 6,917,986. Can Counsel please state your names for the record? Petitioner?

MR. RADER: Yes. Thank you, Your Honor. My name is Michael Rader from Wolf Greenfield on behalf of the Petitioner.

JUDGE ARBES: Patent Owner?

MS. CAPPAERT: Kate Cappaert from Steptoe on behalf of the Patent Owner.

JUDGE ARBES: Thank you. Per the Trial Hearing Order in this case, the parties each have 60 minutes of total time to present arguments. And the order of presentation will be first, Petitioner will present its case regarding the challenged claims and may reserve time for rebuttal. Patent Owner then will respond to Petitioner's presentation and may reserve time for surrebuttal. Petitioner then may use any remaining time to respond to Patent Owner's presentation.

Finally, Patent Owner may use any of its remaining time for a brief surrebuttal responding to Petitioner's rebuttal arguments only. One reminder before we begin, we are able to view the parties' demonstratives on our screens. To ensure that the transcript is clear and everyone can follow along, please try to refer to your demonstratives by slide number. Any questions before we begin?

MR. RADER: No, Your Honor.

JUDGE ARBES: Okay. Counsel for Petitioner, you may proceed.

1 And would you like to reserve time for rebuttal?

2 MR. RADER: Yes, Your Honor. I'd like to reserve 10 minutes,
3 please. And actually, Your Honor, I do have one question. I know you have
4 indicated, of course, the panel has the demonstratives available. Is it helpful
5 to you for me to share my screen as I move through or should I just
6 reference them by number?

7 JUDGE ARBES: I think if you just refer to them by number, that
8 should be fine.

9 MR. RADER: Okay. Well, thank you very much, Your Honor.
10 So I will start. If I could call your attention to Petitioner's demonstrative
11 number 3. I'll just provide a little bit of context for where we are with this.
12 We've highlighted the independent claims of the patent here in red. And just
13 for context, we snipped the sort of final outcome from the final written
14 decision in the Cisco IPR about this same patent. So there's a little bit of a
15 difference here.

16 There are two respects in which our petition took what I guess I
17 would call a little bit more conservative approach with regard to the '986
18 Patent, one is that we treated all of the independent claims together. So
19 Claims 1 and 13, which the Board found in the Cisco IPR did not actually
20 require downstream directionality for the dummy messages.

21 We treated those as well as 12 and 24 as if they do. And we used
22 the IEEE-1999 reference as you know as a motivation for sending the
23 dummy messages downstream. And secondly, with regard to Claims 4, 5,
24 16, and 17, which pertain to updating the filtering database and in particular
25 Claims 5 and 17 that require updating the filtering database before new
26 messages come in on the newly active port that we saw particularly strong

1 disclosure in Jain.

2 And so we made an additional combination there. Although, the
3 Board has already found those claims unpatentable over Gai alone. So I'll
4 address those only at the end of my presentation and only in -- only if there's
5 time.

6 On Slide 4 from Petitioner's, we just quickly broke out Claim 1 as
7 a representative claim to show, really, the dispute of course is about this last
8 limitation that's been denominated as 1E. And in Claim 1, it simply requires
9 sending the dummy traffic from the edge switch right to the access switches.
10 And that's why in the Cisco IPR, the Board found that didn't actually require
11 downstream directionality. But here, we're essentially assuming that it does
12 for purposes of our analysis.

13 And then on Slide 5, we have representative Claim 12, which does
14 use the word downstream, and that's also representative of Claim 24. Okay.
15 If I could call your attention now to Demonstrative 7 from Petitioner's.
16 Here, we're just -- we've taken some snippets both from the '986 Patent and
17 from all three references, the IEEE-1999 reference, the Gai reference, and
18 the Jain reference just to call attention to the fact that all of these concern the
19 exact same technology, the spanning tree algorithm of 802.1D. And in
20 particular, they're all oriented toward finding ways of improving the speed of
21 reconstituting a spanning tree network in the case of some type of a link
22 failure or other fault. So they all pertain to the same technology.

23 Petitioner's Demonstrative 8 just quotes from the '986 Patent,
24 which I'm sure Your Honors are very familiar with that it discusses Gai,
25 which is the '194 Patent and specifically talks about the fact that, you know,
26 Gai transmits dummy multicast messages. In the case of Gai, it transmits

1 them upstream toward the root. But those dummy messages then are used
2 and claimed in the '986 Patent, and they're the same messages. So the
3 dummy traffic is the same in the prior art as is in the patent, and there's no
4 dispute about that.

5 On Petitioner's Demonstrative number 9. So for purposes of our
6 analysis, given that some of the claims require the dummy messages to be
7 sent from an edge switch. An edge switch, you know, being defined as a
8 switch that directly connects to an access switch. So we point out here that
9 the Gai reference first of all discusses in column 12 how the dummy
10 messages are generated.

11 There's a module on, for example, switch 114, which is an access
12 switch called the rapid reconfiguration entity 234. And that's the module
13 that creates the dummy messages in Gai. But Gai also says, at the bottom of
14 column 8 onto column 9, that that same module, rapid reconfiguration entity
15 234 is present, for example, in backbone switch 120. So as we pointed out
16 in the petition and our expert, Mr. McNair, pointed out, the modules and the
17 rapid reconfiguration entity are the same with the backbone switches.

18 So it's just kind of a prerequisite to our analysis that in fact, yes, an
19 edge -- a backbone switch, which is the edge switch in the case of Gai in fact
20 has the capability to send these dummy messages. The institution decision
21 recognized that. And the Patent Owner's expert, Dr. Olivier, does not
22 dispute that, does not address that at all. So Mr. McNair's testimony on that
23 is un rebutted.

24 The Patent Owner response does attempt to dispute it but does not
25 cite any evidence and doesn't discuss this language, at the bottom of column
26 8 to the top of column 9 of Gai, that expressly says the backbone switch

1 contains this rapid reconfiguration entity 234.

2 JUDGE ARBES: But Counsel, that -- the rapid reconfiguration
3 entity is what creates the dummy messages, but it only sends them upstream,
4 right? You agree with that?

5 MR. RADER: Yes. In Gai, they're sent upstream.

6 JUDGE ARBES: So even if it is in another switch, as you point
7 out from column 8, at least in Gai, it would be sending them upstream?

8 MR. RADER: That's correct. In our analysis, the downstream
9 aspect comes from the motivation provided by the IEEE-1999 paper, which
10 I'm about to get to. But Your Honor, you're correct.

11 At Slide 10, this is just a quick overview of the teachings of Gai,
12 which I won't spend time on. It provides at least for the initial stage of
13 switching between an active port and a previously blocked port. It's exactly
14 the same as the way the '986 Patent works after detecting a failure on the
15 link from the active port.

16 And now, on Slide 11, this is where we get to IEEE-1999. So you
17 can see already in the abstract, right, this article is about the spanning tree
18 protocol -- the spanning tree topology of IEEE 802.1D. And it's all about
19 trying to make recovery from a fault or a broken link faster. And there are a
20 number of different strategies that IEEE-1999 describes as part of its system.

21 And it's a multistep process. As you can see here in the middle
22 under fault recovery, you know, the first step of the process is to terminate
23 the connections that go through the faulty link, right? And then you
24 reconstitute them, you reconfigure the spanning tree. And part of the overall
25 process in the termination is to send these teardown messages to do the first
26 step of that reconfiguration process.

1 And IEEE-1999 is very clear. It says you send the teardown
2 messages to the upstream and downstream directions. And there's no
3 dispute about that. In other words, there's no dispute that IEEE-1999
4 describes sending these teardown messages in both directions.

5 JUDGE COURTENAY: Mr. Rader, this is Judge Courtenay.

6 MR. RADER: Yes.

7 JUDGE COURTENAY: I'm looking at your slide, page 11 and the
8 left abstract, which you have in purple, the combined delay corresponds to a
9 minor jitter in real time audio/video communications, and is a significant
10 improvement over the standard IEEE 802.1D implementation, which takes
11 on the order of 30 seconds.

12 Just for comparison, I'm looking at the '986 Patent. And in column
13 4, lines 29 through 31, the entire process is again transparent to the access
14 switches and can typically be completed in less than one second. So I'm just
15 looking at that for a basis of comparison.

16 MR. RADER: Right.

17 JUDGE COURTENAY: So the tear down where you have to
18 reconstitute the network, I mean that doesn't take more time in this IEEE
19 reference?

20 MR. RADER: Well --

21 JUDGE COURTENAY: I mean, it seems like if you're going to
22 tear down the network and rebuild it, reconstitute it, that would take more
23 time.

24 MR. RADER: Yeah. So --

25 JUDGE COURTENAY: That's not the case as you understand it?

26 MR. RADER: Right. That's not the case. So a couple of things

1 -- it's a good observation. So first of all, the '986 Patent focuses on the -- I
2 guess the second piece of the reconfiguration process, which would be, like,
3 in IEEE-1999 part 2 here, reconfiguring the spanning tree. It's not to the
4 exclusion of tearing down the existing connection.

5 So there's no suggestion that the '986 Patent wouldn't also do that.
6 That would be a standard part of the process. But it focuses in terms of the
7 strategy that it's teaching and claiming on the second part of the process.
8 And if you look in the abstract of IEEE-1999 actually, it's the sentence just
9 before the purple part, right, it says that measurements on the prototype that
10 they had show that the fault detection and recovery time on a network whose
11 diameter is 10 hops, obviously it will matter how big the, you know, how
12 big the network is.

13 But for that size network, it's 220 milliseconds for the fault
14 detection and 31 milliseconds for the recovery time. So that's a total of 251
15 milliseconds, which is about a quarter of a second. So I don't know what the
16 '986 Patent said when it said, I believe, the sentence is considerably less than
17 one second. Obviously, this is considerably less than one second because it's
18 only about a quarter of a second.

19 But with respect to Gai, it would seem clear that the IEEE-1999
20 strategy is going to be quite a bit faster. Obviously, there are different
21 pieces of the process, each of which can be improved. But when you talk
22 about the part of the process where you're sending these teardown messages
23 to get ready for the reconfiguration, where you're then reconstituting the
24 network, right, if you imagine like two switches with a faulty link in
25 between them and you want to get the message to the downstream switch.

26 So in the standard spanning tree protocol, you first send a message

1 all the way up to the root bridge at the very top. And then the root bridge
2 sends a message all the way back down. So depending on how many hops,
3 it could be 1, 2, 3 hops and then 1, 2, 3, 4 hops back before you get the
4 message to the immediate downstream switch.

5 Whereas in IEEE-1999, there's only one hop, you go directly
6 downstream because you're sending the message in both directions. So how
7 each component of the process, how much it contributes to the overall
8 improvement is a separate issue. But there's no doubt that sending these
9 messages both upstream and downstream will be considerably faster than
10 one direction only.

11 JUDGE COURTENAY: Thank you very much.

12 MR. RADER: Okay.

13 JUDGE ARBES: Counsel, that improvement that you're talking
14 about, in terms of -- on Slide 11, you show page 167 of the IEEE reference.
15 That improvement is only in the step one that it lists there, right?

16 MR. RADER: So I guess --

17 JUDGE ARBES: If we're breaking these up into parts, so you
18 have -- there's step one there of terminating connections going through the
19 faulty link switch.

20 MR. RADER: Yup.

21 JUDGE ARBES: And two, reconfiguring the spanning tree. I
22 believe you said that the '986 is more concerned with part two there, right?

23 MR. RADER: Yes. The '986 is more focused on part two, that's
24 right.

25 JUDGE ARBES: And so is Gai, right?

26 MR. RADER: Right. That doesn't mean that you're -- you

1 wouldn't have to do part one. But in terms of what they describe, they're
2 focused on part two.

3 JUDGE ARBES: Okay. So is it your position that in the '986
4 Patent and Gai, there would be something akin to what is shown or what is
5 described as part one there? It's just that's not what those references are
6 focused on.

7 MR. RADER: That's right.

8 JUDGE ARBES: Okay. So my question is why would a person of
9 ordinary skill in the art, knowing that Gai is about, let's say, part two there --
10 why would a person of ordinary skill in the art look to the description of
11 what's described as part one, which incorporates sending the teardown
12 message both upstream and downstream, why would they transplant that
13 from part one to part two?

14 MR. RADER: Sure. Because both of them -- what they have in
15 common is that they're both involve sending messages as part of the
16 reconfiguration process in the event of a faulty link, right? There are
17 different parts of the process, but they're both part of that process. And so
18 once you have the teaching that if you're going to send messages to whether
19 it's to teardown existing connections or to add on or, you know, to substitute
20 with new connections, that if it's faster and better to send those messages in
21 both directions, a person of ordinary skill in the art, as Mr. McNair testified,
22 would learn from that, that okay. Then if we want to go faster, we should
23 send both types of messages in both directions.

24 JUDGE ARBES: So the improvement in speed that takes place in
25 the IEEE reference in part one, a person of ordinary skill in the art would
26 have appreciated that that could apply to something that takes place in part

1 two and applied it there? That's your -- that's your position?

2 MR. RADER: Absolutely. Because like I said before, right, if you
3 need to inform, let's say a down a switch that's downstream of you of
4 something, whether you're going to tear down its connection or whether
5 you're going to inform it and invite it to rejoin the spanning tree, right, the
6 question is, you know, how quickly can you do that, right?

7 And in the default arrangement, you have to first send a message
8 all the way up to the root bridge which sends a message all the way back
9 down. That's the general, you know, default of spanning tree protocol. And
10 so here, we're teaching that, okay, to get everything torn down, which is
11 -- it's sort of like we're going to do demo on the house and then we're going
12 to rebuild it. Well, to do the demo, let's do that more quickly. And then
13 when we rebuild the house, let's do that quickly in the same way. And that's
14 what Mr. McNair explained in his declaration.

15 But your question actually raises another interesting and related
16 point, Your Honor, which is if you look at Slide 12 from the Petitioner's. So
17 the Patent Owners expert, Dr. Olivier, actually made a good point, which I
18 think is relevant to your question as well in his declaration at paragraph 43
19 on the right hand side, that in the next phase of the process where they're
20 rebuilding the network, the IEEE-1999 reference describes -- and this is on
21 page 165 of the reference, it describes that the switches transmit the
22 reconfiguration messages through all of their ports. All of their ports, right,
23 that means upstream and downstream.

24 So the truth of the matter is that IEEE-1999 actually just -- and
25 actually, I'm going to share my screen just so you can see it inside what he's
26 referring to. It'd Just take me one moment. So this is what he's citing. It's

1 this paragraph here on 165 that starts with "let us assume," can Your Honors
2 see this?

3 JUDGE ARBES: It's very small, but we can see it on our screens

4 --

5 MR. RADER: I'm going to --

6 JUDGE ARBES: -- to know what you're referring to.

7 MR. RADER: Okay. I made it bigger. It says, let us assume that
8 some switch in the network spontaneously initiates the startup phase and
9 becomes the root of the spanning tree, it -- which is part of the process of,
10 you know, reconstituting. It transmits a message on all of its ports asking
11 neighbors to join the spanning tree. That's the language that the Patent
12 Owner's expert is quoting here.

13 And then it says, each node accepts the first offer it receives to join
14 the spanning tree and reject subsequent ones. Then when a node accepts an
15 offer to join the spanning tree, it asks its neighbors to join the spanning tree
16 and starts a reply timer. So this is the key language on all of its ports. So
17 even in the second step of the process, IEEE-1999 actually does describe
18 transmitting those messages upstream and downstream as well.

19 I'll stop sharing. We focused on the teardown messages mostly
20 because they actually use the words upstream and downstream. They're, you
21 know, so clear in that respect. Whereas this just says on all its ports, which
22 does ultimately mean the same thing. So I just wanted to point that out as
23 well. This idea of increasing the speed of the reconfiguration process by
24 sending messages upstream and downstream, it really permeates the entirety
25 of the IEEE-1999 reference. And with the teardown messages, it's just
26 particularly clear because it actually expressly says -- uses the words

1 upstream and downstream.

2 This slide on 13, I think you kind of anticipated this with your
3 question, Your Honor. But, you know, these two references are really spot
4 on with respect to one another. But it's the same technical field spanning
5 tree networks, right? It's the same standard, the 802.1D. It's the same
6 problem. All the references we're talking about here are all about reducing
7 the link failure recovery time.

8 And then it's the same technical approach. Even if you just focus
9 on the teardown messages for a moment and ignore, you know, the requests
10 on all the ports during the reconfiguration process that I talked about a
11 minute ago, it's just -- it's talking about sending messages to switches for the
12 process of rebuilding the spanning tree. So we think it's a very strong
13 motivation to look at what IEEE-1999 is doing if you're -- if you start with
14 Gai. Again, the --

15 JUDGE BOUDREAU: This is Judge Boudreau. Patent Owner
16 argues -- and I'm looking at page 8 of the Patent Owner response -- they
17 argue that the transmission of IEEE-1999's teardown messages happens
18 before the spanning tree is reconfigured and before each switch begins
19 forwarding traffic along new routes, whereas Gai's dummy multicast
20 messages are transmitted as part of the reconfiguration process and are only
21 transmitted once a device is already successfully transitioned to a new
22 forwarding port.

23 And there's a similar abbreviated version of that argument in the
24 sur-reply as well, where Patent Owner argues that Petitioner didn't really
25 address that point in the reply. And I'm wondering what your response is to
26 that and why that difference doesn't undermine the combinability of the

1 references.

2 MR. RADER: Sure. So first of all, I mean, I would refer back to
3 -- for example, the portion we snipped on Petitioner's Demonstrative 11 in
4 the middle. So both of -- both portions of the process, tearing down, you
5 know, the demo, like I described in my analogy to the house, and then
6 rebuilding, they're both integral parts of the process of fault recovery, right.
7 So, like, 4.2 is labeled fault recovery.

8 So it's artificial to say that they are -- to harp on the difference
9 between the messages that are sent in one part of the fault recovery process
10 versus another part, right? They're both part of the same process. So you
11 can draw the box really small and say, you know, the messages that you're
12 relying on in your petition pertain to the first part of the process.

13 But they're both part of the overall process of reconfiguring the
14 spanning tree. That's our point that it's perhaps very obvious already that
15 -- for the reason I explained before about the number of hops up and down
16 versus just sending it immediately down, that it's going -- the process,
17 whichever part you're in is going to go faster if you send the messages in
18 both directions. But it's artificial to draw that box so small when what we're
19 really talking about is the overall process of reconfiguration which has, you
20 know, multiple steps.

21 And I do think that the Patent Owner's expert's, you know, own
22 discussion of the second part of the process in which the switches that are
23 participating send the reconfiguration messages out on all their ports just
24 reinforces that IEEE-1999, this is what it's all about. It's do it faster, each
25 message that is needed to ultimately affect the reconfiguration, send it up
26 and down. That's what it's about. I hope that answered your question.

1 JUDGE BOUDREAU: Yes, thank you.

2 MR. RADER: Okay.

3 JUDGE ARBES: And Counsel, can you explain a bit why the
4 modification to Gai to send both upstream and downstream is faster
5 comparatively to what Gai already does in just sending upstream? Why is it
6 faster to do both than what Gai already does?

7 MR. RADER: Sure. So actually, let me share my screen with the
8 figure from Gai. I think that'll be -- it might make it just a little bit easier.
9 Okay. So in Gai, if, for example, backbone switch 122 were to detect a
10 failure on one of its -- were to detect a failure of a link. In order to notify
11 switch 114 that's down here, what it has to do is it has to send a message up
12 to whatever the root bridge is.

13 This is how this -- the standard spanning tree protocol works,
14 which Gai in this respect does not change. So it sends a message up to 120.
15 And then the root bridge, if this is the root bridge, then sends messages back
16 down. So in order to get the message down to here, you go up one hop and
17 then you have to go down two hops.

18 So if you imagine, for example, that each step in that process takes
19 10 milliseconds, it's 10 then back down 20 and then down again 30
20 milliseconds. Whereas if Gai were to send a dummy message downstream
21 to 114, it would just be a single hop, 10 milliseconds so that the -- and that's
22 for a small network. This could obviously be much more exaggerated for a
23 larger network. So, you know, it's very clear to a person of ordinary skill in
24 the art that that's a good thing to do, send it directly down. Don't rely on the
25 default to go all the way up and then all the way back down.

26 JUDGE COURTENAY: Mr. Rader, just to be clear for the

1 transcript, we were looking at Figure 1 of Gai.

2 MR. RADER: Yes, I apologize.

3 JUDGE COURTENAY: Right.

4 MR. RADER: That's right, Figure 1 of Gai.

5 JUDGE COURTENAY: Thank you.

6 JUDGE ARBES: Counsel, as a -- we have noted in the other
7 proceeding that Gai appears to be concerned with failure on an upstream
8 root port, right?

9 MR. RADER: That's correct.

10 JUDGE ARBES: So even though Gai has that focus of accounting
11 for those types of failures, it's your position that it would also be
12 advantageous, faster, to send messages downstream as well?

13 MR. RADER: Oh yes, absolutely. Because ultimately, whether
14 you detect the failure on your upstream port or you detect the failure on your
15 downstream port, ultimately, to reconstitute the spanning tree you have to
16 send messages, and it's really two sets of messages, the teardowns and then
17 the messages that reconfigure the spanning tree, to all of the switches, right?

18 So it doesn't matter, you know, whether you're detecting the failure
19 on an upstream port or downstream port. The same -- the problem that I just
20 described exists either way. And you're much better off correcting it faster
21 by sending messages upstream and downstream, which probably is the
22 reason why IEEE-1999, in the portion that we did not emphasize but that the
23 Patent Owner's expert did on page 165 describes sending that second set of
24 messages through all -- quote "all of the ports of the switch," rather than just,
25 you know, the upstream or just downstream, it does both.

26 JUDGE ARBES: And Counsel, does Gai say anything about that

1 teardown process, or is it solely concerned with rebuilding the tree? Is there
2 anything you could point us to?

3 MR. RADER: I think it's primarily concerned with the rebuilding
4 portion of the process. But I will consider that. And if I find something
5 specific to point you to that at least anticipates that, I'll -- if it's okay, I'll let
6 you know during the rebuttal time.

7 JUDGE ARBES: I think you can see my question as why a person
8 of ordinary skill in the art would have taken a teaching in a slightly different
9 context in that teardown scenario and applied it to rebuilding the tree, which
10 Gai appears to be perhaps solely focused on.

11 MR. RADER: Right. So what we explained in the petition and
12 what Mr. McNair explained in his declaration is that -- I mean, maybe in a
13 way it's almost challenging because it's so simple and you might wonder,
14 well, why didn't Gai already do it? These changes do seem to be
15 incremental. For example, right, Gai teaches sending the dummy messages
16 upstream. And the '986 Patent says, well, let's send them downstream, that
17 does in and of itself seem pretty incremental.

18 But again, the analysis and the petition and -- by Mr. McNair, it's
19 really very simple. You have messages that need to reach switches or nodes
20 in the network. They need to reach them, right, whether you're tearing
21 down, which you have to do first or rebuilding, you have messages that need
22 to reach the nodes and -- need to reach all of the nodes.

23 And that process will happen much faster if you send the messages
24 both upstream and downstream. So that's a -- it's a general concept. It's a
25 general motivation. It's described expressly using the terms upstream and
26 downstream with regard to the teardown messages, which is why we

1 emphasized that over the reconfiguration messages that it says you send out
2 on all your ports.

3 And a person of ordinary skill in the art would credit that. If
4 there's another message that also needs to reach all of the nodes, I would
5 take the teaching from one message that needs to reach all the nodes and
6 apply it to a different message that needs to reach all the nodes. It's really
7 that simple. And further, I'll just --

8 JUDGE ARBES: Did --

9 MR. RADER: Yeah, sorry.

10 JUDGE ARBES: Does that also relate to the concern in Gai of
11 avoiding the loops, when there is a faulty link that it creates the loops? Can
12 you describe how that applies?

13 MR. RADER: Yes. I would say yes. Because the entire process
14 of reconstituting the spanning tree -- the whole purpose of the spanning tree
15 protocol is to avoid the problems that are inherent in having the -- having
16 loops.

17 JUDGE ARBES: Okay.

18 MR. RADER: So the whole concept of the tree, the word tree, is
19 that it's got a root and branches and it doesn't have any loops. So what you
20 don't want to have happen is that you -- is to have loops in the network that
21 cause these what they call message storms. And so the entire process of
22 reconfiguration is aimed at avoiding those loops, both -- you know,
23 necessarily both parts of it.

24 So I think that would reinforce the motivation because, you know,
25 one of the reasons you're tearing down is to avoid a situation where because
26 of something that happens in the network, you may end up with a loop. So

1 you do what the spanning tree protocol always does, which is you start over
2 and reconstitute the spanning tree.

3 JUDGE COURTENAY: Mr. Rader, this is Judge Courtenay again.
4 I'm looking at paragraph 135 of Mr. McNair's declaration about sending
5 responsive to detecting a failure upstream or downstream. It sends messages
6 both upstream and downstream to cause other switches to update their
7 respective filtering databases. Does this upstream and downstream happen
8 sequentially or simultaneously? My question is does one happen before the
9 other or do they happen essentially at the same time, upstream and
10 downstream?

11 MR. RADER: Well, I think what I would say to that, Your Honor,
12 is if I look at IEEE-1999 -- just a moment. And actually, let me just go back
13 to the slide that talks about it. So we snipped that portion on Slide 11, that's
14 from page 167. I can't tell you that it uses the term simultaneous or
15 sequential. All I can do is point you to the language that it uses, and it says,
16 send a tear down message to the upstream/downstream sources of outgoing
17 connection. So it appears to me to be simultaneous, I'm not sure that it
18 would matter too much as long as you're doing it quickly. But it appears to
19 me that you're doing it at the same time.

20 JUDGE COURTENAY: Thank you.

21 MR. RADER: Okay.

22 JUDGE COURTENAY: I understand the whole basis for the
23 motivation of adding IEEE is to do it faster?

24 MR. RADER: Correct.

25 JUDGE COURTENAY: Okay.

26 MR. RADER: And that basically takes us to I guess our

1 demonstrative, Slide 14, just snips from the petition, all the places -- or at
2 least some of the places where we specifically, you know, explain the
3 motivation is to make it go faster by going upstream and downstream.

4 Demonstrative Slide 15 just describes -- so what does this
5 modification look like? Well, the modification is that you send the dummy
6 traffic both upstream and downstream, as shown in the right-hand side of
7 Slide 15, again, regardless of whether the link failure is detected upstream or
8 downstream of the switch. And IEEE-1999 talks about that, it makes the
9 perhaps simple and obvious observation that failures can and are detected by
10 switches, both upstream and downstream, of the failure.

11 So if you turn to Slide 17, I'm just going to go into a quick
12 summary of what some of the arguments were that we saw in the papers,
13 right? So first, in response to the petition, the first thing we saw was that the
14 idea from the Patent Owner that, well, what we're trying to do is to say that
15 you should use the teardown messages -- the specific teardown messages of
16 IEEE-1999 in Gai, and that's not the case. Again, not to say that Gai
17 wouldn't have a tear down process. I believe that it would, but it doesn't
18 focus on that. But the point was it's just a simple motivation to say,
19 messages that have to reach all of the nodes as part of a reconfiguration
20 process should be sent upstream and downstream because it's faster. And
21 therefore you would send Gai's dummy messages upstream and downstream.
22 And that's what the Board understood in the institution decision.

23 But in the Patent Owner response, you know, once again, we saw
24 the straw man, the argument that we were trying to suggest that the petition
25 was arguing that teardown -- that the teardown messages should be, quote,
26 "the appropriate messages to modify filtering databases." And that's not the

1 case.

2 On the next slide, right, this is where we get into the motivation
3 that we actually provided, right? The speed benefits that you get from
4 sending messages that are needed for reconfiguration, whichever portion
5 upstream and downstream. We repeatedly discussed that in the petition at
6 pages 5, 25, 26, 27, 29. Mr. McNair discussed it at paragraphs 137, 144,
7 173.

8 And in response -- in the Patent Owner's response and the expert
9 declaration, the Patent Owner's expert said, in my opinion, a person of
10 ordinary skill in the art would not have been motivated to combine the
11 teachings. But then he goes on and his entire discussion is about how well,
12 you know, these messages are different. They're different messages.
13 They're a different part of the process.

14 There was never any response to the simple and straightforward
15 motivation that, well, it's faster to go up and down than it is, you know, just
16 to go in one direction, simple motivation. And there were lots of things
17 discussed in the response but not that.

18 If you turn to Petitioner Slide 20, right, not only did the Patent
19 Owner and the Patent Owner response fail to address the motivation of
20 reducing the time that's necessary to reconfigure the network. In the sur-
21 reply, the Patent Owner even tried to suggest that we failed to provide a
22 reason for why a POSA would be motivated to do this, but we did. It's
23 faster. IEEE-1999 is focused on speed, and we repeatedly explained that
24 that was the motivation. And the institution decision apprehended it. So
25 we're kind of in a situation where not only has the motivation not been
26 addressed, it's, I guess, been denied, but it's there.

1 And then similarly, if you turn to Petitioner Slide, you know, 22,
2 then the question is, well, how would this work? And we explained in the
3 petition exactly how it would work by discussing the mechanism in Gai for
4 sending the dummy messages, which can be sent from any switch. And that
5 mechanism would be used to send the dummy messages both upstream and
6 downstream. That's how it would work. And again, there's basically in
7 response in the sur-reply denial that we didn't provide any explanation of
8 how this would work. But actually, the petition was very explicit about it.

9 JUDGE ARBES: Counsel, going -- just to make sure I understand
10 your position, going back to Figure 1 of Gai, we're talking about switch 122
11 as sending the dummy messages, right?

12 MR. RADER: That's right.

13 JUDGE ARBES: Where would the link failure take place in that
14 scenario? Could it be both an upstream link or a downstream link, in which
15 case I'm going to send the dummy messages both upstream and downstream,
16 regardless? Or, what type of link failure are you asserting in your
17 combination?

18 MR. RADER: Either one, right, as -- again, as IEEE-1999
19 discusses -- so it's correct, I'll just start out by saying that Gai is focused on
20 link failures that are detected on the upstream port. And by the way, Gai
21 discusses that this figure is not exhaustive. In other words, it's somewhat
22 schematic. Like, you only see -- from switch 122, you only see one link,
23 128.

24 But Gai discusses that there would be multiple pathways, just as
25 there are, for example, for switch 114. So I just want to point that out. But
26 although Gai focuses on detecting failures at the upstream port, first of all,

1 IEEE-1999 says the obvious, which is that switches can detect failures on
2 both. But even if you talk about a link failure that's detected on the upstream
3 port, the same thing would obviously be true.

4 First of all, there are additional links, they're just not shown here,
5 as Gai discusses. And so you would have the ability to send the messages
6 both upstream and downstream in the event of detecting that failure and
7 similarly detecting a failure on the downstream port also.

8 JUDGE ARBES: So if we're talking about switch 122, let's
9 assume for the moment that the link failure does take place on an upstream
10 port. There would have to be two connections, right? It cannot just be one
11 port going to switch 120 in this scenario. If I am going to send dummy
12 messages both upstream and downstream, there needs to be another way of
13 getting to the root, right?

14 MR. RADER: That's correct. And I believe -- and Gai explains
15 that this is schematic and, you know, not all of the connections are shown
16 here. So yes, you would need another pathway up, just as you have -- for
17 example, you know, if you look at backbone switch 115, for example, in the
18 bottom middle, right? So it's got, right, multiple pathways toward the route
19 and then, you know, multiple downstream ports as well. That would be true,
20 you know, of all of these backbone switches.

21 JUDGE BOUDREAU: Mr. Rader, this is Judge Boudreau. In the
22 scenario that Judge Arbes was just mentioning, where the failure is in an
23 upstream direction from 122 to 120, would 122 still be sending the messages
24 or would it be 120 that would be sending the messages in that instance?

25 MR. RADER: Well, I think it could be either one or both. So
26 again, IEEE-1999 says expressly that switch can detect a link failure on both

1 an upstream port and a downstream port. So, right, if they -- in the
2 combination, so to speak, if they both detect the failure, right, they would
3 both send messages. And so in the combination with Gai, where Gai is
4 sending dummy messages, right, I think whoever detects the failure would
5 send dummy messages.

6 JUDGE BOUDREAU: So your understanding is that in the
7 combination they would both send a message?

8 MR. RADER: Yes.

9 JUDGE BOUDREAU: Okay. Thank you. Is that supported by
10 anything that's in your petition?

11 MR. RADER: Yes. In our petition, we talk about the fact that we
12 specifically cite that IEEE-1999 explains that the switches detect a failure
13 both -- the switches both upstream and downstream of the failure detect it,
14 right? And then it discusses sending, for example, the teardown messages,
15 right, for that first part of the process. And then also, in the second part of
16 the process, the part focused on by the Patent Owner's expert, you know,
17 those same switches would also send reconfiguration messages on all their
18 ports.

19 JUDGE BOUDREAU: Can you just point me to the portion of the
20 petition that you're referring to?

21 MR. RADER: Yes. If you just give me one moment. Actually,
22 the easiest place for me to find it is if you give me just one moment, Your
23 Honor. Apologies. So if you look in our petition, Your Honor, at page 37, it
24 discusses -- on page 37, we discuss that both access switches and backbone
25 switches, even in Gai, can detect the failure. And that's pointing to column
26 4, lines 1 through 3 of Gai and --

1 JUDGE BOUDREAU: Isn't that relating to detecting the failure?
2 What about sending a message in response to the failure?

3 MR. RADER: So then on page 42 of our petition, we talk about
4 that the dummy multicast messages can be sent by any switch in Gai. So if a
5 switch, either a backbone switch or an access switch, can detect a failure, as
6 Gai explains, which we cite on page 37 of the petition. And then on page 42
7 of the petition, we explain that Gai also discloses that any of those switches
8 can then send the dummy multicast messages. The only piece that remains
9 is whether they would send them both upstream and downstream. And that
10 comes from IEEE-1999.

11 JUDGE COURTENAY: Mr. Rader, this is Judge Courtenay again.
12 I'm looking at the brief description of the drawings in Gai. And you
13 mentioned the term schematic, and it does say in the brief description.
14 Figure 1 is a highly schematic diagram of a computer network in accordance
15 with the present invention. And then I'm looking at the description of Figure
16 1, which is found in the beginning of column 7 of Gai. And around line 40,
17 we have a description -- or 41, perhaps it is -- it should be understood that
18 the network 100 of Figure 1 is meant for illustrative purposes only and that
19 the present invention will operate with other network designs having
20 possibly far more complex topologies. So --

21 MR. RADER: That's right.

22 JUDGE COURTENAY: Okay. So from that description, there's
23 no concern that combining Gai with IEEE, as you have posited, would
24 destroy the principle of operation of Gai or maybe render it inoperative?

25 MR. RADER: No.

26 JUDGE COURTENAY: There's no issue there as you see it, as

1 you see the case?

2 MR. RADER: No. And that's the language I was thinking of, just
3 to point out that the backbone switches in Gai that are shown in the highly,
4 you know, schematic version of having only one upstream connection would
5 in fact have more. But no, I mean, you know, all these networks are of
6 course quite complex. Some of the references talk about how many hops, et
7 cetera, to go from top to bottom. But all the technology we're talking about
8 is for spanning tree reconfiguration, which is of course designed for
9 networks of significant complexity.

10 JUDGE COURTENAY: Thank you.

11 MR. RADER: And just following up on the previous question if I
12 could direct Your Honors to page 43 of the petition as well before we move
13 on. And I realize I may be running short on time too. Toward the bottom of
14 page 43, the --

15 JUDGE ARBES: I think you've -- you have a little more than nine
16 minutes remaining.

17 MR. RADER: Okay. So before you get to the last paragraph on
18 page 43, the last sentence of the previous paragraph, we specifically
19 articulated, therefore, POSAs would have understood that both access
20 switches and backbone switches in Gai can generate and transmit dummy
21 multicast messages. I just wanted to point that out as well.

22 JUDGE ARBES: Thank you.

23 MR. RADER: So Your Honor, with only nine minutes left, I'm
24 into my rebuttal time. Unless there are other questions, I think I will stop
25 there and reserve the rest of my time. Unless you have more questions for
26 me.

1 JUDGE COURTENAY: No further questions.

2 MR. RADER: Thank you.

3 JUDGE ARBES: Counsel for Patent Owner, you may proceed.

4 MS. CAPPAERT: Good afternoon. I realize I have a lot of slides
5 that go over the background list. I'm going to skip ahead fairly significantly
6 in view of some of that conversation that you just had with the Petitioner and
7 I think focus and start really on Slide 39 of the demonstratives. I think the
8 main point -- and I think Petitioner recognized it -- is Petitioners cherry-
9 picking language from IEEE-1999.

10 They like the fact that it says teardown messages can be sent
11 upstream/downstream and have incorporated that specific just
12 upstream/downstream as the basis for completely changing Gai and saying,
13 well, a person of ordinary skill would be motivated to have Gai, which is
14 directed solely to upstream communication go downstream as well.

15 I think as was discussed with counsel for Petitioner, IEEE-1999
16 and that upstream/downstream discussion relates to teardown messages.
17 And teardown messages are a different part. They're part one of the overall
18 operational process, tearing down of links. And then the second piece is the
19 reconfiguring. And that's what the '986 Patent is focused on and that is what
20 Gai is focused on, the reconfiguring process.

21 And Gai does it in a very specific way. It does it by sending the
22 reconfiguration messages upstream. And so I think that kind of the
23 argument that a person of ordinary skill in the art would be motivated to
24 look to a separate part of the disclosure, look from part 2 to part 1, simply
25 because it says upstream/downstream, we would submit is not sufficient
26 rationale to modify Gai's disclosures.

1 JUDGE ARBES: Counsel, does Gai say anything about that
2 aspect of the overall process, the tear down, or is it solely focused on the
3 reconfiguration?

4 MS. CAPPAERT: I believe, Your Honor, that it is solely focused
5 on the reconfiguration aspects.

6 JUDGE ARBES: Is it your position that that teardown process
7 would take place before everything that's happening in Gai, or later? How
8 would that happen in Gai's process?

9 MS. CAPPAERT: I think that it could happen -- it would be
10 before. So it would be -- that teardown would occur before any
11 reconfiguration would occur.

12 JUDGE ARBES: It's just not concerned with what takes place as
13 part of the -- as part of that process.

14 MS. CAPPAERT: Gai is more concerned with how do you -- once
15 you have a failure and it's been identified how do you reconfigure as quickly
16 as possible? And in Gai, it does that by sending the messages upstream and
17 then updating the filtering databases. And I think Petitioner's counsel talked
18 a lot about how it's just a very straightforward and simple reason to combine.

19 And I think that that alone is not enough. I think in ActiveVideo
20 Networks Inc. versus Verizon, 694 F 1312, Federal Circuit case from 2012,
21 just putting forward a -- an obviousness rationale such as Petitioner has done
22 that it would be faster isn't enough without substantiating why a person of
23 ordinary skill would have looked to that other reference to make the change.
24 Just saying that it could be faster doesn't really support how or why a person
25 of ordinary skill would have been motivated to do that. And I think --

26 JUDGE ARBES: Even though the IEEE reference says that

1 sending upstream and downstream as part of that teardown process does
2 make it faster? There's an explicit disclosure that that makes it faster, right?

3 MS. CAPPAERT: I mean, it may make the teardown process
4 faster, but I think that it's still talking about a different process. It's talking
5 -- the fact that sending upstream and downstream in a teardown process
6 could make the actual what happens after the failure faster doesn't mean that
7 the reconfiguration step would also be faster.

8 The IEEE-'99 sets forth a completely different reconfiguration
9 step. It has a startup phase, it has a startup completion phase, and then a
10 topology discovery complete phase. And that is not what Petitioner's
11 counsel -- or Petitioner is relying on for this motivation. It's relying on the
12 teardown message disclosure related to the upstream and downstream and
13 saying that just because one aspect of a process is faster, it means that you'd
14 be motivated to implement it in another part of the process.

15 JUDGE ARBES: And can you respond to Petitioner's argument
16 that this is really all one overall process -- these are individual parts of one
17 overall process?

18 MS. CAPPAERT: I mean, I think they are individual parts of an
19 entire overall process. But I think that they are still discrete parts of that
20 process if that makes sense. And a person of ordinary skill -- I'm trying to
21 think of a way of doing like if you're baking a cake, you have to take all of
22 your dry ingredients and all of your wet ingredients and mix them and then
23 put it in the oven.

24 And all of that is part of the overall process of baking a cake. But
25 you wouldn't do it all in the oven necessarily just because it may be faster to
26 do it that way. Like, you can't mix and match pieces of an overall process.

1 You need to -- they are -- look at them in their discrete disclosures for what
2 they are. And in this case, that the tear down process is just a separate and
3 distinct process.

4 And I think it's the fact that Gai is focused on the reconfiguration
5 process is telling, I think the fact that IEEE-1999 addresses them as separate
6 portions and it talks about teardown and it talks about the reconfiguration as
7 separate steps. So I mean, in terms of fault recovery, while there may be an
8 overall fault recovery process, I think if you look at page 167 of IEEE-1999,
9 which is exhibit 1009, it -- one, is terminating the connections; then two,
10 reconfiguring; and then three, reestablishing the connections that are turned
11 down. So it's really three discrete buckets.

12 We would argue, Your Honor, that it isn't obvious to take a
13 disclosure from one bucket and implement it in another. And I think in
14 addition to that, it's also this aspect that there's nothing really more behind
15 the disclosure. It just says you can send tear down messages upstream and
16 downstream without any other indication as to how that would occur, when
17 that would occur, why that would occur.

18 And in view of the fact that Gai is very focused on this very
19 specific, you send it upstream, this is how you have your forwarding, you
20 have blocking ports, you have forwarding ports. Simply saying, well, now
21 you can do it downstream too isn't enough to say how and why a person of
22 ordinary skill would have been motivated to make this or that they would
23 have had a reasonable expectation of success in the combination and just
24 applying Gai to now also work downstream.

25 JUDGE COURTENAY: Ms. Cappart --

26 MS. CAPPAERT: Yes.

1 JUDGE COURTENAY: Cappaert, do I finally have it correct?
2 Okay. My apologies. That was my concern in part, I mean, whether the
3 sending upstream and downstream happens sequentially or simultaneously.
4 And I find on the present record I sort of have to engage in some degree of
5 speculation on that. And if it happens sequentially, that would take more
6 time. Just looking at the big picture here.

7 MS. CAPPAERT: Yeah. I --

8 JUDGE COURTENAY: Can you comment on that?

9 MS. CAPPAERT: I think it isn't clear from the teardown message
10 disclosure whether the upstream/downstream happens at the same time or
11 happens sequentially. So I think that there isn't evidence in the record that
12 Petitioner has set forth in how it would be implemented in Gai and whether
13 in Gai the messages would be sent upstream first, whether they would be
14 sent downstream first.

15 I think it leaves a lot for speculation as to how it would actually be
16 implemented. And I think that that goes to a lot of Patent Owner's point that
17 this -- a person of ordinary skill looking at these two -- looking at Gai
18 wouldn't have been motivated to implement the upstream/downstream
19 disclosure of the teardown messages in Gai.

20 And I think that also relates -- and I know that Petitioner's counsel
21 mentioned the reconfiguration steps in IEEE-1999 and again -- and
22 specifically to the disclosure on page 165. And I think what's important
23 there is that it is -- that disclosure is talking about how the network
24 spontaneously initiates the startup phase and becomes the root of the
25 spanning tree. And it says it transmit a message on all of its ports asking its
26 neighbors to join the spanning tree.

1 But if you look above at the steps 1, 2, and 3 with respect to the
2 startup phase, the startup phase goes from the root of the tree to the leaves.
3 The startup completion phase goes from the leaves of the tree to the root. So
4 to the extent there is -- directionality, there is still -- it's not going in both
5 directions at the same time. It is processing it one way and another.

6 And I think that even then -- well, first off, Petitioner is not
7 pointing to that disclosure in IEEE-1999. And I still think that in Gai there's
8 no disclosure as to how the upstream and downstream teardown messages
9 would be implemented in terms of timing and procedure in Gai.

10 JUDGE COURTENAY: You cited a case, Verizon, I didn't get the
11 particular point cite you had.

12 MS. CAPPAERT: Sure.

13 JUDGE COURTENAY: But I pulled up a case from 2006, the
14 Federal Circuit, which you probably recall, Dystar versus C.H. Patrick
15 Company?

16 MS. CAPPAERT: Okay.

17 JUDGE COURTENAY: And in that case, the Federal Circuit held
18 that an implicit motivation to combine exists not only when a suggestion
19 may be gleaned from the prior art as a whole, but when the improvement is a
20 technology independent -- but when the improvement is technology
21 independent and the combination of references results in a product or
22 process that is more desirable, for example, because it's stronger, cheaper,
23 cleaner, faster -- I'm focusing on the word faster -- lighter, smaller, more
24 durable, or more efficient.

25 In such situations, the proper question is whether the ordinary
26 artisan possesses knowledge and skills rendering him capable of combining

1 the prior art references. And I just found that case because it mentions the
2 word "faster." And that's what we're considering here as a motivation. And
3 in IEEE, I'm not sure that I clearly understand faster compared to what? So
4 anyway, you can basically clarify that for me, maybe the panel as well?

5 MS. CAPPAERT: Respectfully, Your Honor, I don't know that I
6 can clarify it to you because I think that I'm similarly in the dark with
7 respect to how it would be faster when combined with Gai. I think that --

8 JUDGE COURTENAY: So you find you have to speculate?

9 MS. CAPPAERT: Yes. I believe the Patent Owner also believes
10 there's some level of speculation with respect to the motivation to combine.
11 And I think that there's this -- again, I think it goes back to one of the first
12 points that I had made with respect to -- as Petitioner said, they're relying on
13 the fact that it says upstream/downstream and the fact that they say
14 upstream/downstream is faster.

15 But it's faster as compared to what and in what context? And
16 again, it's talking about a completely different part than what Gai is talking
17 about, the teardown versus the reconfiguration. So I think there's multiple
18 levels of what is it faster in comparison to not just within -- the fact that
19 IEEE-1999 doesn't expressly disclose that but also in view of the fact that
20 you're talking about teardown messages versus dummy messages for
21 reconfiguration.

22 JUDGE COURTENAY: Thank you.

23 JUDGE ARBES: Because I think the question is whether it would
24 be faster than Gai as it already exists, right? I mean, the position of
25 Petitioner, as I understand it, is that a person of ordinary skill in the art
26 would have looked to improve on Gai by taking into account the teachings

1 of the IEEE reference to make Gai faster. So sending upstream and
2 downstream is faster than just sending upstream.

3 MS. CAPPAERT: I think that it's not clear with Gai whether that
4 actually would be faster or whether it would create more problems than
5 -- more issues than not in view of Gai's disclosures that it has this very
6 specific "you're going upstream" process and it doesn't talk about going
7 downstream. And so I think that if you say, okay, well now you're going to
8 go upstream and downstream at the same time, in essence, you're breaking
9 an aspect of Gai because you're taking some of that certainty and that
10 stability of its process for reconfiguration out of the picture.

11 JUDGE ARBES: Do you disagree, I guess, with Petitioner's
12 hypothetical that it would reduce the number of hops with going upstream?
13 I have to go up and then back down, and if I'm sending in both directions, I
14 can reduce the number of hops that -- I don't recall exactly the hypothetical
15 that they gave in terms of Figure 1. But do you disagree with that?

16 MS. CAPPAERT: I don't necessarily disagree with the fact that if
17 Gai's system were capable and designed to work that way, you would
18 decrease the number of hops if you were at switch 122 and send both
19 upwards and downstream. I think the question is, but would Gai's system be
20 able to accommodate that in view of its disclosures for how it does its
21 overall reconfiguration?

22 JUDGE ARBES: Is there any expert testimony on that point as to
23 additional complications it might introduce or --

24 MS. CAPPAERT: Not that I am aware of, Your Honor. I think
25 -- but I can confirm. I think that in general, most of what Patent Owner's
26 expert was talking about was the fact that a person of ordinary skill wouldn't

1 even get to the part of, like, this step of whether you would have a
2 reasonable expectation of success. Because a person of ordinary skill in the
3 art would not be motivated to look to IEEE-1999 in the first place in view of
4 the fact that they relate to such different disclosures. I think --

5 JUDGE COURTENAY: Ms. Cappaert, I mean, Gai was filed in
6 -- on December 24th, 1997. And I guess the IEEE reference is 1998, right?
7 So it came after Gai?

8 MS. CAPPAERT: It did -- it came while Gai was pending. I
9 believe that Gai issued --

10 JUDGE COURTENAY: While it was pending, I see. Yes. Gai
11 issued on February 29th, 2000.

12 MS. CAPPAERT: Okay. 2000. So IEEE came out in 1999. So
13 while it was pending, the IEEE in 1999 came out.

14 JUDGE COURTENAY: Okay. But after it was filed.

15 MS. CAPPAERT: After it was filed.

16 JUDGE COURTENAY: Okay. Thank you for that clarification.

17 MS. CAPPAERT: One moment.

18 JUDGE COURTENAY: I'm just thinking to myself, you know, if
19 this is so obvious, why didn't Gai incorporate it?

20 MS. CAPPAERT: And I think --

21 JUDGE COURTENAY: I mean, upstream/downstream, it's a
22 binary choice, almost obvious to try, perhaps?

23 MS. CAPPAERT: And I think you said it far more eloquently than
24 I have. But I think that that is one of -- it is kind of this point with respect to
25 Gai, like Gai is a very specific reconfiguration process. If a Gai had wanted
26 to go upstream and downstream -- I mean, upstream and downstream -- and

1 the idea of going upstream and downstream in a network, I would argue is
2 not necessarily a new concept. But implementing it and how it's
3 implemented is something that I think is important.

4 JUDGE COURTENAY: And they -- Gai just implemented
5 upstream --

6 MS. CAPPAERT: Correct.

7 JUDGE COURTENAY: -- not downstream. You were -- okay.

8 MS. CAPPAERT: I was very specific that it was only doing
9 upstream. There's no --

10 JUDGE COURTENAY: But why didn't it do both? I mean, I'm
11 sitting here thinking, you know, pondering why didn't it do both?

12 MS. CAPPAERT: I think it goes to the fact that you're trying to
13 avoid loops and you're trying to ensure that you have a very clear system in
14 terms of how you handle failures in a network in an effective, quick fashion,
15 and that the more uncertainties that you put into that process, the more likely
16 it is that you may end up with some sort of complication or error. So if you
17 go both upstream and downstream, is it possible that if there's another
18 failure, what happens in the process if you don't have a systematic approach?

19 JUDGE COURTENAY: Thank you.

20 MS. CAPPAERT: I think, with respect -- I can just touch -- I
21 know the Petitioner didn't touch on the Ground 2 with respect to Dependent
22 Claims 4, 5, 6, and 17. But just very briefly, I think that for that ground,
23 Petitioner adds in the Jain reference in addition to Gai and IEEE-1999 with
24 the argument that it would basically risk or losing or misdirecting messages
25 and that that would be the reason to add Jain.

26 And I think that Patent Owner's position is Gai has already

1 implemented a process to avoid that outcome. So there would be no reason
2 to look outside of Gai to any other references for -- to modify Gai's system
3 as Gai has already implemented a system that solves that.

4 If the -- Your Honors do not have any further questions, I will
5 reserve the rest of my time.

6 JUDGE ARBES: Just one more question. Do you have any case
7 law that would address an analogous situation where you have, let's say, one
8 overall process with different parts and something is applied in one part, and
9 that might not make it obvious to apply that to a different part? Do you have
10 any case you can point us to that dealt with that type of situation?

11 MS. CAPPAERT: I do not know if it is directly in our briefing,
12 Your Honor, but I can -- if I can look and then I can get back to you. Thank
13 you, Your Honor.

14 MR. RADER: May I proceed with rebuttal, Your Honors?

15 JUDGE ARBES: Just one minute.

16 MR. RADER: Oh, sure.

17 JUDGE ARBES: Yes, please proceed.

18 MR. RADER: Okay. Just a couple of clarifications and then a
19 couple of points I wanted to share as well. First, in terms of, you know, one
20 of Your Honors - and I apologize partially because I am on Webex, it's hard
21 for me to see who said what. But one of Your Honors had asked a question
22 about whether the upstream and downstream messages described in IEEE-
23 1999 are simultaneous or sequential.

24 And I did want to just point out, you know, although I mentioned
25 that it doesn't use the word simultaneous nor does it use the word sequential,
26 you know. The expert testimony in the case from Mr. McNair reviewing the

1 disclosure, which I said in response to an earlier question, looks to me like
2 they're at the same time. I mean, he does say that it's in parallel, this is
3 paragraph 173 of Mr. McNair's declaration. So that's the undisputed expert
4 testimony. There's no contrary view in the case to -- besides Mr. McNair's
5 testimony that those happen sequentially. That was one clarification I
6 wanted to make.

7 Second, the -- one question that came up was in comparison to
8 what -- would it be faster, you know, going upstream and downstream. And
9 one of Your Honors -- and again, I apologize, I'm not sure who, but said
10 -- and I agree that the comparison is to sending the dummy messages in one
11 direction only in Gai. And that's exactly what Mr. McNair testified in his
12 declaration paragraphs 144, 173, 174.

13 And here's the key point on that, they don't dispute that. I mean,
14 Counsel just now didn't disagree. And perhaps more importantly, Patent
15 Owner's expert doesn't dispute that in fact adopting the motivation that we
16 articulated in the petition in Gai would in fact result in much faster -- in
17 faster speed. There's no dispute about that point.

18 So, you know, when you sort of summarize this, you see, there's no
19 dispute that we're talking about messages, whether you -- whether teardown
20 messages or reconfiguration messages need to get to all the nodes. There's
21 no dispute that it's faster to send messages upstream and downstream to get
22 to all the nodes. And there's no dispute that IEEE-1999 says that. They
23 don't -- that Mr. McNair says that's what it says, and their expert doesn't
24 disagree with that. So the only question -

25 JUDGE ARBES: Counsel?

26 MR. RADER: Yeah.

1 JUDGE ARBES: Counsel, I'm sorry, just to make sure I
2 understand your position. You're saying there is no factual dispute about
3 whether if you did both upstream and downstream, it would be faster than
4 Gai's just upstream. There's no factual dispute to that. But they -- the
5 dispute still exists as to whether a person of ordinary skill in the art would
6 have been motivated to combine the references because of that --

7 MR. RADER: Exactly.

8 JUDGE ARBES: Do I understand that correctly? Okay.

9 MR. RADER: That's correct. And that's what I was about to say.
10 The only question or the only dispute is whether a person of ordinary skill in
11 the art would learn from IEEE-1999 disclosure to do the same technique in
12 the second part of the process. And, you know, per KSR, a POSA is not an
13 automaton. A POSA is a person of ordinary creativity and thinking who's
14 bright, understands the references and thinks about them.

15 So respectfully, you know, it is a very basic and simple change.
16 And one of Your Honors asked the question, why did Gai not focus on that?
17 And I would suggest just reading Gai, I think there's an answer to that,
18 which is there are two pieces to this whole thing and really the bigger one in
19 terms of the amount of time saved, although all time saved is very important
20 in a network.

21 But Gai's first -- the first thing Gai did that was different from the
22 prior art is to say when we switch ports from block to active, we're not going
23 to go through the listening mode. There's a couple of periods that take 10 or
24 15 seconds. We're going to skip that. And we're going to move them over
25 right away. That was kind of the first big innovation.

26 And then the second one was let's send dummy messages. And

1 then the '986 Patent adopts both, right? It adopts exactly what Gai said
2 about, you know, immediately changing the ports and not going into
3 listening mode and saving a lot of time that way. And then it adopts, you
4 know, the use of dummy messages. And the only difference, the only
5 change it makes is sending them in the other direction.

6 So I think because Gai was heavily focused on what I guess was
7 considered a novel idea doesn't seem very novel but to, hey, let's not do the
8 listening, right? Let's just move our ports -- you know, transition our ports
9 immediately, right? That's part of the answer as to why -- perhaps as to why
10 it didn't, you know, anticipate what we're seeing.

11 Then the last thing I just want to say is the Patent Owner's expert
12 never -- as I said before, never addresses the speed motivation, right? He
13 only argues and Patent Owner only argues that hey, there are different parts
14 of the process. But the basic motivation of -- if we send upstream and
15 downstream, we can do it faster.

16 Again, as a factual matter, there's no dispute that it would be faster.
17 And there's no response to the idea that that would -- the speed motivation
18 itself would have motivated a POSA who, again, is a person of ordinary
19 creativity and thinking. And as one of Your Honors said, I mean, there's
20 really only three ways of doing this, two or three, maybe three, I guess. You
21 can send messages upstream, you can send messages downstream, or you
22 can do both. And IEEE-1999 says let's do both.

23 JUDGE COURTENAY: Mr. Rader, this is "one of the judges,"
24 Mr. Courtenay here. But I'm looking at the McNair declaration, your expert
25 --

26 MR. RADER: Yup.

1 JUDGE COURTENAY: -- Exhibit 1003, I believe you referred to
2 paragraph 173. That's the only paragraph where I find the word "parallel."
3 And your expert said, "It talks about the benefit of reducing the total link
4 failure recovery time because the link failure can be addressed by upstream
5 and downstream switches in parallel," quote, unquote.

6 But there's no citation to objective evidence to support that. It's
7 just the statement of Mr. McNair. Are you aware of any objective evidence
8 in the record that supports this idea of parallel sending upstream and
9 downstream or doing it simultaneous?

10 MR. RADER: So I -- elsewhere in his declaration, he does of
11 course cite and quote, right, the language of IEEE-1999, where it
12 specifically talks about sending the upstream/downstream. And it's not
13 cited, you're right, in this paragraph. But that's the fundamental
14 underpinning of his entire opinion. That's sort of the key language that we're
15 pointing to.

16 And so respectfully, we -- I would submit that that that language,
17 as I said before, does lend itself to that and, you know, Mr. McNair is saying
18 that. I mean the language says send a teardown message to the
19 upstream/downstream sources of outgoing connections. There's no
20 suggestion that it would be done, like, at two separate times or, you know,
21 after some period of time.

22 JUDGE COURTENAY: Thank you.

23 JUDGE ARBES: Counsel, going back to the point about two parts
24 of an overall process, what are we to take from the fact that Gai is -- appears
25 to be solely concerned with the reconfiguration aspect? If we have a
26 reference that says nothing about the other processes that are done, such as

1 the teardown process that we've discussed, again, why would a person of
2 ordinary skill in the art look to that process, when Gai is really not
3 concerned with that at all?

4 MR. RADER: So Gai is very concerned about speed, right? Gai
5 wants the reconfiguration process to go faster. And IEEE-1999 is also very
6 concerned about speed. That's the fundamental concern actually of all our
7 prior art references and the '986 Patent. So I think it's fair to say that
8 anything that's going to increase that speed is going to be of interest.

9 As I said before, you know, Gai, really -- the initial focus of Gai
10 when you read the beginning of it is -- he starts out by saying, well, let's not
11 bother with the listening mode. Let's transition blocked to active ports
12 immediately without going through all of that. And then the dummy
13 messages are sort of an add on to that to help, you know, improve the
14 reconfiguration process. So both of the things that Gai is more concerned
15 about, right, I mean, patents don't necessarily address just like papers.

16 But patents don't necessarily address every aspect of whatever it is
17 that they're talking about. They sometimes are focused on one particular
18 part of the thing or the process, you know. He's more in his particular
19 disclosure is focusing on the second portion of the reconfiguration process.
20 But that doesn't mean a person of ordinary skill in the art wouldn't
21 immediately -- again, as a person of ordinary creativity put two and two
22 together when -- aha, I see what you're talking about when IEEE-1999 says
23 let's send them in both directions.

24 I mean, the fact is that one could argue -- and in their sur-reply, the
25 Patent Owner, you know, cited a case, a Federal Circuit case, talking about
26 the common sense doctrine. And what's interesting is that that case that they

1 cite actually reinforces that the common sense doctrine does exist. Common
2 sense and common knowledge and common wisdom, as the Federal Circuit
3 said, are relevant considerations in an obviousness analysis.

4 It's just that it -- actually, as the Federal Circuit said in that case,
5 the common sense is usually more relevant to a motivation to do something
6 than it is to like filling in a limitation. And here we are talking about a
7 motivation. But what we decided to do in the petition is we're not relying on
8 common sense, although, frankly, I think we could have. Instead, there's a
9 reference out there, IEEE-1999, that makes the point explicitly.

10 JUDGE ARBES: Counsel, I believe you've used all of your time.

11 MR. RADER: Thank you, Your Honors.

12 JUDGE ARBES: Counsel for Patent Owner?

13 MS. CAPPAERT: Just very briefly, Your Honors, something to
14 note, I think, just with respect to the upstream and downstream in happening
15 at the same time. I just wanted to draw attention to the '986 Patent and
16 really talking about how it differentiates itself from Gai. Because the '986
17 Patent does talk about Gai. And the '986 Patent in column 4 says, the bridge
18 is modified as described above so as to manage its redundant downstream
19 ports in a novel way.

20 This modification is in contrast to the methods described in U.S.
21 Patent Number 6,032,194, which is Gai, which require network entities to be
22 aware of and manage redundancies in their upstream ports. So I mean, I
23 think that just goes to kind of support the point that I was trying to make and
24 that Patent Owner has been making is that the references and the
25 reconfiguration is focused in this field in one way or the other way. It's not
26 doing both sequentially.

1 And I think the '986 Patent, which was filed in 2002, like, is also
2 going to that point. It is focused on downstream management of ports. Gai
3 is focused on upstream. It wouldn't be obvious and a person of ordinary
4 skill in the art wouldn't have had a reasonable expectation of success in
5 saying, for Gai, well, we're going to do both at the same time.

6 JUDGE COURTENAY: Well, presumably the person of ordinary
7 skill in the art would have no knowledge of your patent.

8 MS. CAPPAERT: Correct. But I think -- and I think that that goes
9 to the point that I think is --

10 JUDGE COURTENAY: Otherwise, it's hindsight, right?

11 MS. CAPPAERT: Which we've also made in our briefing is that
12 the argument the Petitioner is making that Gai would be modified to do both
13 upstream and downstream is based on hindsight. It is based on taking the
14 phrase upstream/downstream in IEEE-1999 and then retroactively applying
15 it to Gai in attempt to build a downstream component to Gai that just isn't
16 there.

17 JUDGE ARBES: Counsel, can you respond to Petitioner's
18 argument that the overall concern is speed in Gai, and so looking to a related
19 reference like the IEEE reference that is concerned about speed and gives
20 improvements to speed, that's a natural combination that a person of
21 ordinary skill in the art would have done?

22 MS. CAPPAERT: I think that the case law and including the
23 common sense case law is clear that while common sense and maybe the
24 motivation to have speed may be there, there needs to be more that would
25 show to a person of ordinary skill in the art that you would have an
26 expectation of success in making that combination to achieve that speed, that

1 by itself speed is not sufficient, or saying that it would be common sense is
2 not sufficient to supply an obviousness rationale.

3 JUDGE ARBES: But I guess I perhaps understand the point a
4 little bit differently that Gai is a reference that's very concerned with speed.
5 IEEE reference is another reference that's also very concerned with speed
6 improvements. So it's not as much of a leap to take the speed improvement
7 related to the teardown messages and apply it to the reconfiguration process.

8 MS. CAPPAERT: I think that goes back to kind of the earlier
9 points and some of the points with Patent Owner's position is that there are
10 two different aspects of the process. So the speed associated with teardown
11 is not commensurate with any potential important -- does not implicate that
12 it would also result in speed in Gai because of the two differences between
13 the two.

14 So you're saying just because one thing is faster with respect to
15 teardown messages, it would be faster when applied in a different way. So
16 upstream/downstream with teardown would be applied similarly or would
17 result in a similar speed with upstream and downstream in Gai. And I think
18 that you wouldn't be motivated to look to that upstream/downstream speed
19 aspect in IEEE-1999 in the first place.

20 JUDGE COURTENAY: Ms. Cappaert, you know, common sense
21 was articulated in KSR. When was that, 2007? And when the Board relies
22 on common sense, we get lots of pushback from the Federal Circuit. And
23 you could argue we're back to teaching, suggestion, motivation, TSM. And
24 we can't rely on common sense to teach a missing limitation; there's a case
25 about that. So how does common sense come into play here from your point
26 of view representing the Patent Owner?

1 MS. CAPPAERT: I think from Patent Owner's point of view, we
2 would argue that Petitioner is putting too much weight on common sense
3 and putting their argument with respect to speed and the fact that it would
4 just be obvious to make Gai faster as just a common sense rationale to
5 support their motivation to combine argument and their proposed ground.
6 And that that alone isn't enough, there needs to be more behind it, substantial
7 evidence to support their arguments and that that is lacking in any of the
8 references that Petitioner relies on.

9 JUDGE COURTENAY: Well, I mean we deal with
10 preponderance of the evidence here in this proceeding, but the Federal
11 Circuit reviews agency factfinding by -- for substantial evidence. So there's
12 a distinction between the standards. Here, we're just concerned about
13 preponderance.

14 MS. CAPPAERT: And I think even under a preponderance, we
15 would argue that there still isn't enough based on what Petitioner has put
16 forth to supply -- support for a common sense rationale for the proposed
17 obviousness combination.

18 JUDGE COURTENAY: Thank you.

19 MS. CAPPAERT: And Judge Arbes, with respect to the case, I
20 don't have one directly on point, but I think there is case law and we cite at
21 least one case in our sur-reply, Apple Inc. versus INVT SPE, which is a
22 Federal Circuit case from 2021. It's on page 1 to 2 of our sur-reply. That
23 just because references may be directed to the same thing if they are doing
24 their aspects for different reasons or on different time scales or compare the
25 results to different thresholds, it wouldn't have been obvious to combine the
26 references.

1 So I realize it's not directly on point to Your Honor's earlier
2 question about kind of the part one, part two issue. But it -- I think that it
3 goes to the fact that even if their references are related to the same overall
4 process or the same subject matter, if they're related to different aspects of
5 that process, it doesn't -- it may mean that they're not obvious to combine.

6 JUDGE ARBES: The references can be different but not so
7 different that a person of ordinary skill in the art would not combine them.

8 MS. CAPPAERT: And unless Your Honors have any additional
9 questions, I will rest the rest on my papers.

10 JUDGE COURTENAY: No further questions. Thank you very
11 much.

12 MS. CAPPAERT: Thank you.

13 JUDGE ARBES: We thank both parties. And that concludes the
14 hearing for today.

15 MS. CAPPAERT: Thank you.

16 MR. RADER: Thank you, Your Honors.

17 (Whereupon, the above-entitled matter went off the record at 2:28
18 p.m.)

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