

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CISCO SYSTEMS, INC.,
Petitioner,

v.

PORTSMOUTH NETWORK CORP.,
Patent Owner.

IPR2024-00505
Patent 6,917,986 B2

Record of Oral Hearing
Held: May 5, 2025

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

APPEARANCES:

ON BEHALF OF THE PETITIONER:

MICHAEL R. RHODES, ESQ.
YUNG-HOON (SAM) HA, Ph.D.
Desmarais LLP
230 Park Avenue
26th Floor
New York, New York 10169
212-351-3400
mrhodes@desmaraisllp.com
yha@desmaraisllp.com

ON BEHALF OF THE PATENT OWNER:

JAMES R. NUTTALL, ESQ.
KATHERINE D. CAPPAERT, ESQ.
HEATHER P. HILDRETH, ESQ.
STEPTOE LLP
1330 Connecticut Avenue, Northwest
Washington, District of Columbia 20036
202-429-3000
jnuttall@steptoe.com
kcappaert@steptoe.com

The above-entitled matter came on for hearing Monday, May 5, 2025
commencing at 1:00 p.m. EST, via Video-conference.

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

JUDGE BOUDREAU: All right. I think we can go back on the record now. And just to be clear, we're going to want to have separate transcripts for the two cases.

I can't tell from my end whether or not the parties are back on the line yet.

MR. RHODES: Yes, Your Honor, we're --

JUDGE BOUDREAU: It's -- pardon me. Okay. Thank you. All right. We'll begin.

We're here for the oral arguments in case IPR2024-00505, Cisco Systems, Incorporated v. Portsmouth Network Corporation. And although this proceeding involves the same parties as case IPR2024-00503, in which we just heard the party's arguments, we'll have a separate transcript.

And I'll just state for the record, that I'm Judge Boudreau, and that I'm joined by Judges Courtenay and Arbes, and now we'll get the parties' appearances.

Who do we have for Petitioner?

MR. RHODES: Michael Rhodes on behalf of Petitioner, Cisco Systems. And with me on the line is Yung-Hoon Ha, lead Counsel for Petitioner.

JUDGE BOUDREAU: Thank you, Mr. Rhodes.

And for Patent Owner?

MS. CAPPAERT: Kate Cappaert from Steptoe on behalf of Patent Owner, and with me on the line are James Nuttall, Sadaf Misbah, and Richard Baker.

1 JUDGE BOUDREAU: Thank you, Ms. Cappaert.

2 As in IPR2024-00503, we set forth the procedures with today's
3 hearing in our order entered on April 3rd, granting the party's request for
4 oral argument. And that was Paper 25 in this case. And as our hearing order
5 in that case state -- in this case stated, each party will have a total of one
6 hour to present arguments.

7 So with that, Mr. Rhodes, if you'd like to begin? And just let
8 me know how much time you'd like to reserve for rebuttal.

9 MR. RHODES: May it please the Board, I'd like to reserve my
10 time for rebuttal, and I'm aiming for 15 minutes.

11 If it's okay with Your Honor, I'd like to share my screen to
12 share Petitioner's demonstrative, which is Exhibit 1019.

13 JUDGE BOUDREAU: All right. Thank you.

14 MR. RHODES: All right. And I wanted to begin with the 986
15 patent, which on Slide 3 is titled, Fast Failure Protection Using Redundant
16 Network Edge Ports. And the 986 patent focuses on networks with
17 redundant links.

18 So in Figure 1 of the 986 patent, we have a first Link 30, which
19 is shown in purple, and a backup blocked Link 32, which is shown in
20 orange. And the 986 patent tries to solve the problem that when Link 30
21 becomes blocked and the network switches to Link 32, how to quickly
22 update the databases within the switches so that you don't create loops or
23 create problems.

24 And I wanted to start by talking about some of the terminology
25 in Figure 1, because it's important for some of the issues here. So on Slide

1 4, we have descriptions of the access switch, core switch, and edge switch
2 from the 986 patent. The access switch is described as an -- a device that
3 has ports that connect to LANs and/or to other network endpoints, such as
4 user computer systems. It's the device that's providing access to these
5 endpoints to the network.

6 And the 986 patent also describes core switches, which are --
7 which interconnect the access switches into a wide area network by direct
8 connection between the core switch and access switches and/or by
9 connection to the other core switches. So it's a general term for the switches
10 that both directly connect the access switches and also indirectly connect the
11 access switches.

12 And the 986 patent also describes edge switches, which appear
13 in the claims, which are the specific subtype of core switches that are
14 directly connected to access switches.

15 And turning back to up here --

16 JUDGE BOUDREAU: Mr. Rhodes?

17 MR. RHODES: Yes.

18 JUDGE BOUDREAU: Mr. Rhodes, this is Judge Boudreau.

19 I've also seen the term backbone switch used a few times in the
20 record, are we to understand that that's exactly the same as a core switch?

21 MR. RHODES: That's correct. The term backbone switch
22 appears in the Gai prior art reference, and it correlates to the backbone -- it
23 correlates to the core switch.

24 And I'll flip ahead to Slide 12, which has the comparison of the
25 terminology in the 986 patent and the terminology in Gai. So in the Gai

1 reference, it describes, turning to your question for the core switch,
2 backbone switches 120 to 125, because they directly connect to the routers
3 130 and 131, which connect to the LANs, or they indirectly connect to the
4 routers 130 and 131. And a subset of the backbone switches in Gai are edge
5 switches, backbone switches 122 to 125 in Figure 1 of Gai, because they're
6 core switches that also directly connect to access switches 114 to 116. And
7 Gai switches 114 to 116 are access switches because they're directly
8 connected to the LANs and the servers.

9 So turning back to Claim 1 on Slide 5. So I think most of the
10 claim limitations here aren't really a dispute, and just describe the general
11 process of failing over from the primary link to the backup link. And then
12 updating the table in the edge switch, sending dummy multicast traffic is
13 kind of the key part, which it starts in limitation 1E and is also in 12E.
14 That's where I want to focus most of the analysis.

15 So starting with 1E, in the flavor of claims that follow Claim 1,
16 you're sending dummy traffic from the edge switch, which is shown as 28
17 here, over the second link to the access switch, such as access switch 27 and
18 then 26. So that's the direction of the dummy traffic that you send, which
19 helps the access switches to update their databases. So then the access
20 switches can send communication traffic to the correct port connected to 32
21 instead of the incorrect blocked port connected to 30.

22 And if we turn to Slide 6, we can see that Claim 12 is similar.
23 It's different in that it uses the terms first bridge and second bridge, which
24 correlate to the edge switch and access switches. And I don't think that's in

1 dispute between the parties. And then it's different in that it uses the term
2 which is highlighted green on Slide 6, for downstream in its directionality.

3 And if we compare it on Slide 7 in terms of the limitation 1E
4 and the limitation 12E, we can see that the articulation of how the dummy
5 traffic sent is a little different. The 1E flavor of claims says the dummy
6 traffic sent from the edge switch to the access switch, and the Claim 12E
7 flavor of claims says you send the dummy traffic from the first bridge over
8 the second link downstream to the second bridge. So I'll discuss how Cisco's
9 grounds meet both of those flavors, the Claim 1 and the Claim 12 flavor of
10 claims.

11 Turning to Cisco's grounds, so they're based on the Gai prior art
12 reference, which is Exhibit 1005 and is titled Method and Apparatus for
13 Rapidly Reconfiguring Computer Networks.

14 And at a high level, it has a similar network to the 986 patent,
15 which shows various switches that have redundant connections to other
16 switches. So for example, if we look in the bottom left of Figure 1, there's
17 this Switch 114, and it has multiple connections, shown here and here, that
18 go to Switch 122 and are labeled as 128 in Figure 1.

19 And Cisco's grounds are based on the Gai reference and
20 obviousness, and Cisco's broken its analysis into two sub-grounds, one that
21 focuses on Switch 124 in the Gai Figure 1, which is referred to in the papers
22 as the downstream embodiment, and another set of analysis which focuses
23 on Switch 114 in Gai, which is referred to in the papers as the upstream
24 embodiment.

1 And turning to Slide 11, we can see one of the examples that
2 Gai provides regarding how its invention can be implemented. So this is an
3 example where, on Switch 114, you have a failure in Port 3, and then the
4 Switch 114 will either use Port 2 or Port 4 as a backup port. And here on
5 Slide 11, we've depicted the case where Port 2 is the backup port. So after
6 there's a failure on Port 3, this purple connection becomes blocked and is no
7 longer used. And then similar to the 986 patent, Switch 114 activates Port 2
8 as a backup, and then it sends dummy multicast messages through Port 2 to
9 inform the other switches in the network of the change, allowing them to
10 update their databases and allowing all the switches in the network to have
11 the correct addresses to avoid loops and dropped packets and other problems
12 in the prior art.

13 And we already covered Slide 12, but turning to Slide 13, here's
14 Cisco's Sub-ground 1A. And here, Cisco's focused on -- or Switch 124,
15 which can be seen on the right, or Backbone Switch 124, which can be seen
16 on the right of Figure 1. And on the left of Slide 13, we have some of the
17 disclosures of Gai that Cisco's Ground 1A are based on. So in the top left of
18 Slide 13, we have a section from column 5 of the Gai reference where it uses
19 general language to explain that it can be used to solve failures in the
20 network without explicitly limiting the protection to Port 3 of Switch 114.

21 So here, Gai says, "Upon detection of a failure at the active
22 forwarding port, the state of one of the backup ports immediately transitions
23 from blocks to forwarding, thereby becoming the new active port for the
24 device." And Cisco's Ground 1A is even more directly related to the
25 quotation shown at the bottom left of Slide 13, from column 6 of Gai, where

1 it says, "In the illustrated embodiment, the method and apparatus manifests
2 in part as a series of novel commands that may be entered at the devices.
3 The devices, moreover, may be classified as either access switches or
4 backbone switches." So Gai explicitly tells us that the commands aren't
5 limited to only being used on Switch 114.

6 (Simultaneous speaking.)

7 MR. RHODES: Sorry. Is there a --

8 JUDGE ARBES: Counsel, could --

9 UNIDENTIFIED SPEAKER: Yeah, we had some good
10 weather before.

11 JUDGE ARBES: I believe we're picking up some feedback.
12 Thank you.

13 Counsel, can -- I have a technical question about the diagram
14 here.

15 MR. RHODES: Yes?

16 JUDGE ARBES: If everyone else could mute, we would
17 appreciate it. Thank you.

18 Okay. So Figure 1 here -- I understand the argument that you're
19 making that -- as to where the failure occurs and that how this allegedly
20 shows a downstream embodiment. I want to confirm my understanding of
21 this, because Gai seems to -- the only embodiment that is described in Gai
22 was a failure at a link coming from a root port, and you are correcting that
23 failure and communicating it to the root switch, right? That's the example
24 from Switch 114?

1 MR. RHODES: That's correct. Gai gives one explicit example
2 of failure of Port 3 and Switch 114. Yes.

3 JUDGE ARBES: Okay. And Gai teaches that there are
4 connections where you have redundant links. You have different paths from
5 point A to point B. What I'm curious about here -- the -- in the example that
6 you're giving -- that you're giving on Slide 13, the purple Link 128, that's
7 where the failure is, right?

8 MR. RHODES: Yes, or at the port connected to that link.
9 Correct. Yes.

10 JUDGE ARBES: Okay. And you're saying that the dummy
11 traffic -- because that port, the purple port on Slide 13, is where the failure
12 occurs, that dummy traffic would be sent downstream from Switch 124 to
13 Switch 116? That's your -- that's your understanding of how this would
14 operate in your example, right?

15 MR. RHODES: Yes, that's correct.

16 JUDGE ARBES: Okay. What I'm curious is why is that
17 consistent with Gai? Because it seems to me that, if I was -- if you go two
18 slides earlier, Slide 11. If that's the -- that is the description in Gai, and the
19 purple link failure there and the orange new link that you're that -- you're
20 using. If I was to apply that to here, why wouldn't the failure of the purple
21 link be detected at Switch 115, and you would be sending the dummy traffic
22 upstream to the root on some different port other than the one that connects
23 to the purple link there?

24 I guess what I'm asking is, isn't that the most consistent reading
25 of Gai, not the opposite, what you're showing in Slide 13?

1 MR. RHODES: Sorry, you said -- you said Switch 115?
2 There's a failure in Switch 114?

3 JUDGE ARBES: Yeah. Let -- let's say that the failure occurs
4 on the purple link --

5 MR. RHODES: Okay.

6 JUDGE ARBES: -- the purple Link 128, right?

7 MR. RHODES: Uh-huh.

8 JUDGE ARBES: Why wouldn't that -- why wouldn't that
9 failure be detected at Switch 115, and then Switch 115 is switching to a
10 different path and sending dummy traffic on a different path upstream to the
11 root? That would be very consistent with what's shown on Slide 11 and the
12 one embodiment that's described in Gai.

13 MR. RHODES: So Switch 115, which is here in the middle of
14 Figure 1, has no direct connection to the failed port or connection that goes
15 from Switch 114 to 122, so it can't directly sense that failure. It needs to be
16 informed of the failure, which in Gai, as described, it's propagated through
17 the network through dummy traffic.

18 JUDGE ARBES: Okay. So look looking at Slide 11, the
19 failure occurs -- I believe it's on Port 3. That's the purple --

20 MR. RHODES: Yes.

21 JUDGE ARBES: -- line there. That's where the failure occurs,
22 right?

23 MR. RHODES: Correct. Yes.

24 JUDGE ARBES: Okay. So what that switch then is doing is
25 sending dummy traffic up the orange Link 128 from Port 2, right?

1 MR. RHODES: Yes.

2 JUDGE ARBES: Okay. Now, if you go two more slides to
3 Slide 13, you've flipped the arrangement to where it's going down in the
4 figure instead of going up. My question is why a person of ordinary skill in
5 the art reading Gai -- why would they read Gai this way and not the way I
6 was describing from Switch 115 up in the figure?

7 MR. RHODES: Got it. I think I understand your question. I
8 think the reason is because of where the redundant links are located. So in
9 Figure 1 in Cisco's Ground 1A, the root node is 121, which is above Edge
10 Switch or Backbone Switch 124, and there's only one direct connection here,
11 128, so you don't have the same root problem. But if we look at the bottom
12 of Switch 124, which has Access Switches 116 and 115, and we know their
13 access switches because they're connected to the LANs and connected to the
14 server, you'll have the addressing problem.

15 So for example, if Switch 116 was using this purple port to
16 communicate with Switch 124, because this connection is normally blocked
17 until there's a failure and it becomes active, Switch 116 would send
18 messages to Switch 115, and then 115 would further send it to 124. Even if
19 Switch 115 can sense the failure directly here, Switch 116, can't. So which -
20 - switch 116 will keep sending messages to Switch 115, and then 115 has
21 two choices: It can either drop the packet, in which case you lose the
22 information, or it can send it back to Switch 116, which creates a loop,
23 because which -- switch 116 will keep sending it back to Switch 115.

24 So even if 115 sees this failure, 116 has to see it too, which is
25 why the dummy cast traffic is sent across this orange line to Switch 116, so

1 which -- switch 116 can then update its filtering database and use that
2 database to stop sending packets to Switch 115 and instead send them
3 directly to Switch 124.

4 JUDGE ARBES: So is the dispositive issue then is where the
5 failure occurs and that -- you are saying that the failure occurs on the port of
6 Switch 124 that's connected to the purple link? That's where the failure
7 occurs, and there are redundant paths back to what root in your example?
8 I'm sorry, what root in your downstream example in Slide 13?

9 MR. RHODES: Right. So for example, if Switch 116 was
10 trying to communicate, you know, with Switch 124, the greater network, or
11 anything upstream of Switch 124, Switch 116, when the purple is the active,
12 sends the packets to 115, and then 115 sends it on the active purple
13 connection. Once this connection goes down, the messages that 116 sent
14 effectively get trapped at 115. And I think, in terms of the characterization
15 of the key issue, I think you're right, which is -- the key issue is where you
16 have redundant links, because that creates the looping problem, not whether
17 you're going upstream or downstream, which is trivial in terms of how the
18 solution operates.

19 JUDGE ARBES: Okay, I think I understand. Because Switch
20 124 has no redundant links to the Root 121, that -- what I described doesn't
21 really work then?

22 MR. RHODES: Well, I think, because there are no redundant
23 links, you don't have the same looping problems --

24 JUDGE ARBES: Same looping problem, yes.

1 MR. RHODES: -- so you don't have the issue that both the 986
2 and Gai are trying to solve.

3 JUDGE ARBES: Okay.

4 MR. RHODES: So I guess just --

5 JUDGE ARBES: And what -- just --

6 JUDGE BOUDREAU: This is Judge Boudreau. Are the terms
7 upstream and downstream -- are they just relative to where the root is?

8 MR. RHODES: That's correct, Your Honor. I --

9 JUDGE BOUDREAU: What's --

10 (Simultaneous speaking.)

11 MR. RHODES: Yep. I can flip ahead, but I think the parties
12 agree on the definitions here. This is Slide 36, and this is from your
13 institution decision, but I don't think there's any dispute here, which is that
14 network traffic that's going towards or getting closer to the root switch is
15 going upstream, and the network traffic that's going away from the root is
16 going downstream.

17 JUDGE ARBES: And Counsel, just for clarity, what exactly is
18 the root in this example, as you're describing on Slide 13?

19 MR. RHODES: Yes. So it's Switch 121, which is the one that
20 has this purple arrow pointing to it here.

21 But I guess, if there are no further questions on this, so I'll just
22 wrap up this explanation, which is that Cisco's Sub-ground 1A comes
23 directly from the teachings of Gai, that you can apply the software
24 commands to the access switches or backbone switches. So we've applied it
25 to the Backbone Switch 124.

1 And then turning to Cisco's Sub-ground 1B, this is also based
2 on the explicit teachings of Gai. And here we have a section from column
3 13 of Gai, which explains that if Port number 7 at Switch 114 were coupled
4 to another access switch, entity 234 would transmit multicast messages,
5 carrying the source address of entities directly coupled to this additional
6 access switch as well. So based on these explicit teachings, Cisco's
7 annotated in the access switch. It's access because it's connected to a server.
8 And it's access switch 117 that connects directly to Port 7 on switch 114.
9 And then the remainder of Cisco's sub-ground 1B relies upon the specific
10 example in Gai where Port 3 of switch 114 fails. So it's also grounded in the
11 reference.

12 Turning to the disputed issues, I think the first issue the parties
13 dispute is whether the patent and Gai are fundamentally different, and then
14 whether Cisco's modifying Gai or not with its sub-grounds, whether Cisco's
15 ground 1A invalidates the claims, whether 1B invalidates the claims. And
16 then for the dependent claims, we dispute 6 and 18 and also 5 and 17. So I'll
17 start jumping into those.

18 So Patent Owner begins its argument by saying that Gai and the
19 inventions of the 986 patent are fundamentally different, but respectfully,
20 Petitioner disagrees. Turning to Slide 20, we can see that the 986 patent
21 actually incorporates Gai by reference. And as a lengthy discussion
22 explaining its invention in the context of Gai because of all the similarities
23 and even points to Gai disclosing dummy multicast messages to update the
24 databases in the switch, which is one of, if not the key ideas behind the 986
25 patent as well.

1 And now Gai -- sorry, the 986 patent characterizes Gai as only
2 disclosing its invention being used for upstream ports and not downstream
3 ports, which we disagree with, as we show in our grounds 1A and 1B, but at
4 minimum they're not fundamentally different references. There might be at
5 most, one small technical difference between them, although Cisco disagrees
6 with that.

7 And turning to Slide 21, we can see that the 986 patent and Gai
8 address the same problem of rapidly reconfiguring your network in response
9 to network topology changes like a failed link. The 986 patent and Gai both
10 apply to the same types of networks, which are networks that use multiple
11 redundant paths. The 986 patent and Gai both use software commands that
12 build upon the same standard, the spanning tree protocol standard, which in
13 both of the reference's views is too slow in terms of how it reacts to updating
14 the filtering databases in response to a change in topology. And the 986
15 patent and Gai both discuss the same solution to speed up the spanning tree
16 process, which is by sending dummy frames to allow the access switches to
17 update their filtering databases before they can send communication traffic,
18 so it goes to the right places.

19 And turning to Slide 22, we can see that Patent Owner's expert
20 recognizes that network traffic could be sent downstream, it could be sent in
21 any direction, it could be sent upstream. This isn't the monumental
22 difference that Patent Owner characterizes it as.

23 And on Slide 23, what's pretty interesting here is that Exhibit
24 1006, which is the continuation application for Gai, actually explicitly
25 discloses sending the downstream messages to update the other switches.

1 And I've underlined it at the bottom of Slide 23 here, which is
2 transmitting by the backup designated port, that's the port that comes on
3 after the first port failed, one or more messages. The messages to tell
4 devices downstream in the spanning tree that the router is a new designated
5 port. And you can't add new material in a continuation application. So this
6 confirms that the downstream embodiment existed in Gai.

7 Turning to --

8 JUDGE ARBES: Counsel, I'm sorry, can you -- can you
9 explain the relevance of the continuation a bit more? Do you have any
10 authority that would say, a person of ordinary skill in the art looking to the
11 disclosure of Gai, would understand that disclosure based on some other
12 application happening years later? I -- I'm trying to figure out the -- how we
13 should treat this when this is not the reference that's being asserted.

14 MR. RHODES: Right. So we're not making the argument that
15 a person of ordinary skill at the art at the time of the 986 patent would've
16 seen this language. The point that we're trying to make is that a continuation
17 application doesn't contain new material from its parent. So that material
18 always existed in Gai, existed in the parent, and the claims cover sending the
19 downstream messages. So it confirms our position, which is that the
20 downstream embodiment always existed within Gai.

21 JUDGE ARBES: And do you have any case law that you can
22 point us to that it -- that involved a similar situation?

23 MR. RHODES: Not off the top of my head. I'll see if I can
24 look back at the papers and see if we cited any for rebuttal.

1 Turning to the next disputed issue, which is whether Petitioner
2 is modifying Gai. As you can see in Figure 1 -- as you can see in the
3 citations we put next to Figure 1, and we discussed these earlier, Gai --
4 sorry. Gai says that the software commands can be entered at either the
5 access switches or the backbone switches. And we've applied that directly
6 by putting the software commands into backbone switch 124. So it's based
7 on Gai, and Petition -- and Patent Owner's view that the disclosures of Gai
8 are just limited to one specific access switch, switch 114, is incorrect and
9 inconsistent with those teachings.

10 And because we're basing ground 1A on the explicit teachings
11 of Gai, there's no need to show a motivation to combine. And Gai explains
12 that the failure of point -- port 3 on switch 114 isn't limiting. Gai's language
13 explains this this is just one example of a failure that could happen in a
14 network. You could have other links, other ports that could potentially fail.

15 And turning to Slide 27, we can see that Cisco --

16 JUDGE ARBES: Counsel, before you do that, if you could go
17 back to the earlier slide? I believe Patent Owner makes the point that while
18 it is one example in Gai, it is -- it does describe a failure on a root port,
19 right? There is no disclosure in Gai of what happens when the failure is on a
20 non-root port?

21 MR. RHODES: So I agree with that first point, which is that in
22 the specific network shown in Figure 1, where there's no access switch 117
23 shown and where there's a failure in Port 3 of switch 114, in that specific
24 example, in that specific network configuration, yes, Port 3 is an upstream
25 port.

1 However, we don't believe that Gai's disclosures are limited to
2 that. For example, Gai explicitly discloses that its commands could be used
3 on different switches and Gai explicitly discloses that it could be attached to
4 a access switch 117 on Port 7 of switch 114. And in either of those cases,
5 Gai would disclose downstream messages, as we show in our grounds 1A
6 and 1B.

7 So I think the second part, I don't fully agree, but the first part I
8 agree with.

9 JUDGE ARBES: But again, you would agree that the one
10 example that Gai does describe, describes the dummy messages being sent
11 upstream from the root port, upstream towards the root, right?

12 MR. RHODES: I believe in the one example where -- that you
13 have this network and Port 3 on switch 114 fails, that, yes, that's being sent
14 upstream. In our view, Gai discloses other examples, such as when switch
15 117 is added to Port 7 of switch 114.

16 JUDGE BOUDREAU: And in Figure 1, which switch do you
17 understand to be the root -- sorry, the root switch?

18 MR. RHODES: So I think --

19 JUDGE BOUDREAU: Is it still 120?

20 MR. RHODES: Sorry?

21 JUDGE BOUDREAU: Is it 120 or is it 114?

22 MR. RHODES: For the root switch, so I think it's network
23 configuration dependent, but if we're talking about the same example in the
24 patent where Figure 3 -- or sorry, where Port 3 fails and there's no switches
25 down here, I believe switches 120 and 121 are characterized as roots.

1 So turning back to 1B, so this comes from the explicit
2 disclosure in Gai that you could add switch 117 to Port 7 of switch 114,
3 which we believe is a disclosure included in Gai, and would change the
4 analysis in terms of edge to access switch message sending and downstream
5 message sending, as we'll -- I'll explain later.

6 So because these are based on Gai's explicit disclosures and not
7 modifications to Gai, we don't need to show any motivation to combine. But
8 to the extent the Board believes that there is a modification or there needs to
9 be a motivation shown, Cisco's Petition has cited different references,
10 including the Burns reference shown on Exhibit -- on Slide 28, and also
11 Exhibit 1011, 1013, and 1014, which all explain the non-remarkable fact that
12 persons of ordinary skill would understand that you could have failures on
13 both upstream and downstream directions on upstream and downstream
14 ports.

15 So the motivation, to the extent one is believed to be there, in
16 Petitioner's view would be apparent.

17 And turning to Slide 30 for ground 1A, because the claims
18 come in kind of two slightly different flavors, I wanted to address each of
19 those. The first one, which is the Claim 1 flavor, has the dummy traffic
20 going from the edge switch over the second link to one or more access
21 switches.

22 And if we switch to Slide 32 for Cisco's ground 1A, Patent
23 Owner's expert agreed that you could have a failure at switch 124, which is
24 what Cisco's ground 1A is based on. And turning to Slide 33, we see Cisco's
25 ground 1A again. And these red switches 115 and 116 are access switches

1 because they're connected to LANs and the server. The backbone switch
2 124 is an edge switch in the parlance of the 986 patent, because it both
3 directly connects to the access switches and also provides access to the
4 routers and the LAN in the back of the network.

5 So when the dummy traffic, as we earlier discussed, goes down
6 this orange connection 128, it's definitionally going from an edge switch to
7 an access switch, which meets the Claim 1 requirements.

8 And currently, Patent Owner --

9 JUDGE ARBES: Counsel, one more question, if you could go
10 back to Slide 33.

11 MR. RHODES: Yep.

12 JUDGE ARBES: I guess my question is: What -- why would a
13 person of ordinary skill in the art not -- looking at this reference and
14 considering the detailed example that's shown in the bottom left corner of
15 switch 114 -- would not think that that same exemplary way of operating this
16 would work the same for switches 115 and 116, for instance, because they
17 have redundant paths back to the root, either 120 or -- or 121, but that there
18 is really no disclosure in Gai of how -- of what happens when a failure does
19 occur on switch 124, because that does not have redundant paths back to
20 root 121, let's say?

21 MR. RHODES: So I believe a person of ordinary skill in the
22 art would look at Gai's general teaching, that when you have redundant links
23 and you have an active and a backup port, after the active port fails, you turn
24 to the backup port, and then you send the dummy cast messages in order to

1 update the other switches in the network, so everyone has an updated filter
2 database and can send communication traffic to the right address.

3 I think they would have the exact same motivations to apply
4 that to switch 124 as 114, which is that you want to solve a problem that
5 people were aware of with spanning tree protocol and redundant links. And
6 you'd apply that whether Port 3 failed, Port 5 failed, Port 7 failed, Port 1
7 failed, basically anywhere that you had redundant links could benefit from
8 the invention, and you'd be motivated to use those benefits to prevent the
9 loops, prevent the drop packets, and get all the benefits that Gai talks about.

10 JUDGE ARBES: And that's even the case, even though you're
11 flipping the communication, that you are going downstream instead of
12 upstream? Instead of the example that it describes in detail of upstream
13 towards the root, you are flipping that to go downstream away from the
14 root?

15 MR. RHODES: That's right. All the motivations would be the
16 same.

17 And the point we just wanted to make with Slide 34 is that
18 Patent Owner is repeating arguments that the Board has already heard, and at
19 least didn't find for Patent Owner in its preliminary decision, which is that
20 Patent Owner continues to argue that switch 124 is not an edge switch, and
21 the Gai's disclosure is limited to only the failure of Port 3 and Switch 114,
22 which Petitioner doesn't agree with.

23 And turning to Slide 35, I'm looking at the other flavor of the
24 claims, where it explicitly uses the word "downstream". And as we
25 discussed, that means going downstream is away from the root. And as we

1 see in Slide 37, Gai explicitly says -- and we have column 14 of Gai in the
2 top left of this slide here -- that, for example, you can assume that Backbone
3 Switch 121 is the root. So it's the root, and when you take this orange link,
4 you go away from the root. And as we discussed, we know that the
5 downstream messages are part of Gai because it's included in the
6 continuation.

7 Now, in Slide 39, I just wanted to quickly address, Patent
8 Owner has a somewhat complicated example where they include different
9 path costs based on one type of network that could be in Gai and use that to
10 argue that 121 would not be the root. But the patent Gai explicitly tells us
11 that 121 could be the root, so we disagree with that example. And on Slide
12 40, we disagree because we find that, you know, these are non-limiting
13 examples of what you could have in the network, and you don't have to
14 choose the lowest cost path to the root anyway.

15 Now, turning to Cisco's Ground 1B on Slide 43, that's where
16 we've added this Access Switch 117 to Port 7 of Switch 114. And that's
17 important for a couple reasons. So we also apply the same example of Port
18 3 on Switch 114 failing. But when you add Switch 117, that turns Switch
19 114 to also be an edge switch, because now it's directly connected to an
20 access switch, 117, and it further has connections, either through Port 4 or
21 through Port 2, back to the routers and core of the network.

22 And Switch 120, which is in Figure 1 of Gai, is an access
23 switch definitionally, because it's connected to the server, which you can see
24 in the top left of Figure 1 of Gai. And what's important here is we're sending
25 the dummy traffic in Cisco's Ground 1B either through Port 2 or Port 4,

1 which are the specific examples the patent gives, when Port 3 fails. And it's
2 going from what is definitionally an edge switch towards what is
3 definitionally an access, which meets these claim requirements. And that's -

4 -
5 JUDGE ARBES: Counsel, Gai does describe Switch 120 as a
6 backbone switch, right?

7 MR. RHODES: Yes. But you can --

8 JUDGE ARBES: Did you say --

9 (Simultaneous speaking.)

10 MR. RHODES: -- both a backbone and an access switch.

11 JUDGE ARBES: Gai describes it as an access switch?

12 MR. RHODES: Well, Gai specifically says that it connects to a
13 server, which here is 112 B in Figure 1. The 986 patent tells us that the
14 switches that connect to endpoints, whether they're LAN servers or other
15 computers, are access switches. So Switch 120 is a switch that's connected
16 to a server which is trying to access the network. So it's the access switch.
17 Here, I'll flip back to the descriptions in the patent.

18 JUDGE ARBES: Well, I think Gai describes it as a backbone
19 or core switch, but your position is that it meets the definition for an access
20 switch as well; is that right?

21 MR. RHODES: That's correct. Yes.

22 JUDGE ARBES: Okay.

23 MR. RHODES: Sorry, I'm just getting back to my place. So
24 the next set of claims have the requirement of downstream, so I wanted to
25 address that, too.

1 So we asked Patent Owner's expert if the Switch 117 in Cisco's
2 Ground 1B would be considered an access switch.

3 And he said, yes, and he also said that in certain situations, you
4 can select a root switch out of all of the access switches, and Gai discloses a
5 flexible way of doing so.

6 If we turn to Slide 50, we can see part of a citation to column
7 10 of Gai. And here, Gai explains that you can arbitrarily choose a root
8 switch simply by selecting the switch having the lowest ID to become the
9 root. So you can basically choose between any of the access switches to
10 become the root in Gai. And on Slide 51, we can see the consequence of
11 when Access Switch 117 that's connected to Port 7 of Switch 114 becomes
12 the root. Then when the dummy traffic travels through this orange path
13 towards Switch 120 or the alternate orange patch -- path through Switch 120,
14 it's getting away from Switch 117, which in that case would be the root. So
15 that traffic is definitionally downstream, and Patent Owner's expert agrees
16 that in Ground 1B, the traffic's going away from Switch 117.

17 Now, moving on to the dependent claims. So on Dependent
18 Claim 6, I think there's kind of an old part and a new part. So it's according
19 to Claim 1, and it says, "Wherein sending the dummy traffic comprises
20 sending data frames originating at the edge switch." And I'd say this is an
21 old part because, as we saw, Claim 1 says you go from the edge switch to
22 the access switch already, and that's really where I think the dispute is here.

23 And then there's a new part, which is, "While having source
24 addresses corresponding to network addresses of other entities in the
25 network that are accessible to the access switches via the edge switch." And

1 on Slide 55, we can see some of Patent Owner's argument, and I think this is
2 even clearer in the demonstrative the patent owner has provided for its
3 hearing, but Patent Owner's really repeating the same argument it makes for
4 the independent claims, that what Cisco points to aren't edge switches, so the
5 dummy traffic doesn't come from edge switches.

6 But there's not really any new argument they're making with
7 respect to Claims 6 and 18, so for the same reasons that we believe we're
8 right for those, we offer the same arguments here. And Patent Owner can't
9 contest the new part of Claims 6 and 18 because Gai discloses it. Gai
10 explains that the dummy multicast messages carry the source address of each
11 entity that's directly coupled to the device, so the other entities.

12 And turning to Slide 57 and 58, here I'm addressing Dependent
13 Claims 5 and 17, which are the two claims that the Board didn't find in
14 Cisco's favor in its preliminary determination. So starting with Claim 5, it's
15 a method according to Claim 4, wherein updating the database comprised
16 changing the entries in the database. And if we flip ahead to Claim 4, we
17 can see the antecedent basis of the database is talking about the database of
18 the edge switch. Claim 4 says, "Updating the database of the edge switch,
19 that entries in the database point to the second port instead of the first port."

20 And coming back to Claim 5, so we have the entries in the edge
21 database to point to the second port before receiving the communication
22 traffic from the one or more access switches on the second port. So what
23 Claim 5 and 17 are talking about is that you have your edge switch. After it
24 switches from its main to backup port, it updates its own database. After it
25 updates its own database, it's sending the dummy traffic to update the access

1 switches. And only after the access switches use the dummy traffic to
2 update their address databases can they send traffic to the new address,
3 which is how I think everyone agrees the system has to work, and how both
4 Gai and the 986 patent are directed.

5 So turning to some of the citations in Cisco's Petition to Gai,
6 Cisco pointed out how Gai explains that it discloses a switch, for example
7 the edge switch, that discards old information in their database after a port
8 transitions to an active date. So once we activate the new port, the edge
9 switch flushes its old database, and then Gai also discloses that Switch 114
10 informs the other devices of its new forwarding port by transmitting dummy
11 multicast packets through the new port. So after the edge switch has flushed
12 its database, it sends the dummy traffic to the access switches, and that's
13 how the access switches are going to learn about the new port so they can
14 put that address in their communication traffic.

15 And turning to Slide 61, here the Petition is explaining how Gai
16 discloses that the switch that receives the dummy messages from the new
17 port -- that's the access switch -- enters this information in its filtering
18 database such that this new port information is used when the switch sends a
19 message to the newly activated port, which is what's happening in Gai, is the
20 access switch learns the new address, and only then can it use the new
21 address and put that in its messages.

22 And turning to Slide 62, we can see that Patent Owner's expert
23 agrees with that order of steps. We asked Patent Owner's expert, "The
24 switches that receive the dummy multicast messages use them to update
25 their own databases to reflect the new forwarding port, right?"

1 "Correct."

2 "And then, once the databases are updated to reflect the new
3 forwarding port, switches can then send regular network traffic towards the
4 new forwarding port, right?"

5 "Yeah."

6 He agrees that you have to update the databases before you can
7 send the communication traffic, which is exactly what Claims 5 and 17
8 require.

9 And I just wanted to look at the bottom citation here to column
10 12 on Slide 63, where Gai explains why this order is important, which is the
11 identity of the new root port, for example Port number 4, which is one of the
12 fails from the Port number 3 example, must be propagated to the other
13 devices, such as Access Switches 115 to 116 and Backbone Switches 120 to
14 125, to prevent messages from being lost or misdirected. And that's the
15 reason you need to get the right address before you send the communication
16 traffic, so you don't create the loops, so you don't lose the packets, so the
17 packets don't get misdirected.

18 And Patent Owner's expert remembered reading these
19 disclosures in Gai. Patent Owner's expert explained that a switch that is --

20 Or we asked, "A switch that is then sending dummy multicast
21 messages out of its new forwarding port would first need to update its
22 database?"

23 And he agreed it needs to update the information to use it. "I
24 think it's in there, though. I remember reading it. It's in Gai."

1 And lastly, as a procedural point, Patent Owner didn't raise
2 arguments with respect to Claims 5 and 17 in its Reply, so I -- or its
3 Response, so it shouldn't be able to do so here. And unless the Board has
4 any questions, that's all I had.

5 JUDGE COURTENAY: Mr. Rhodes, this is Judge Courtenay.
6 I sort of have a big picture question. As you mentioned, Patent Owner
7 included the reference to Gai in the background of the -- of the invention
8 section of the 986 patent, and you have just gave -- given a presentation that
9 it renders obvious everything in the 986 patent. So it sort of begs the
10 question, what's going on here?

11 MR. RHODES: Right. So I think what's going on here is the
12 patent includes a mischaracterization of what Gai discloses and tries to
13 benefit from that mischaracterization to claim a subset of what Gai already
14 disclosed, which is the patent takes the narrow view, similar to Patent Owner
15 here, that Gai's disclosure is limited to the situation where Port 3 on Switch
16 114 fails in a single type of network, in which case it's an upstream port, and
17 tries to use that to apply the same invention and claim it going downstream.

18 JUDGE COURTENAY: And if I understood you correctly,
19 you said the continuing application to Gai teaches downstream; is that
20 correct?

21 MR. RHODES: Yes, that's correct.

22 JUDGE COURTENAY: But it's not present in the Gai
23 reference that we have before us? We just -- we just have upstream; is that
24 correct? Did I understand you?

1 MR. RHODES: So if we're talking about the disclosure or
2 claims, I'd say that's kind of two pieces. The claims of Gai does not include
3 downstream explicitly. The disclosures of Gai, as we've attempted to show
4 in Sub-Grounds 1A and 1B, does disclose downstream, and the continuation
5 can't add new material to the original Gai patent.

6 JUDGE COURTENAY: All right. The real party in Gai is
7 Cisco Technology. Is that the same entity as Cisco Systems, or are they
8 different entities?

9 MR. RHODES: They -- they're related entities. It's a --

10 JUDGE COURTENAY: Related? Okay. Well, I mean, if you
11 add new material to a continuing application, it's a continuation in part, CIP,
12 not a continuation. But you -- but you're saying that the claims in Gai 194,
13 not the continuation of Gai, but the claims in Gai 194, do not disclose
14 downstream, but you gave a presentation where, in the description, there is a
15 -- an exemplary embodiment that discloses downstream?

16 MR. RHODES: Yes.

17 JUDGE COURTENAY: Is that correct?

18 MR. RHODES: That's correct.

19 Any other questions?

20 JUDGE COURTENAY: Okay. Thank you very much. Thank
21 you.

22 MR. RHODES: All right. Thank you. I'll reserve the
23 remaining time for rebuttal.

24 JUDGE COURTENAY: Okay. You have about 46 minutes
25 that you've taken, so you have about 15 minutes in rebuttal.

1 MR. RHODES: Thank you.

2 MS. CAPPAERT: Thank you.

3 JUDGE BOUDREAU: Ms. Cappaert, would you like to
4 reserve any time for sur-rebuttal?

5 MS. CAPPAERT: I'll save -- I'll reserve 15 minutes for sur-
6 rebuttal.

7 JUDGE BOUDREAU: Okay. Thank you.

8 MS. CAPPAERT: Thank you.

9 I think the main point, and I can show my slides as well if it
10 would be helpful, is that the slides and the -- or that Petitioner was just
11 talking about, trying to argue that Gai and the 986 patent are not
12 fundamentally different kind of ignore what the main focus of Gai is. As the
13 Board recognized and as Your Honor recognized, all of the express
14 disclosures in Gai relate to root ports and root port management. That is
15 what the -- that is also how the 986 patent discusses Gai. The 986 patent
16 talks about Gai dealing with upstream ports and upstream root management.

17 So I'll share my screen. Let me know if you can see it. But
18 looking --

19 JUDGE BOUDREAU: Yes, I can see it. Thank you.

20 MS. CAPPAERT: So Gai itself -- and I'll jump ahead for a
21 minute here. This -- on Slide 19 is a figure of Gai, and it's an annotated
22 figure from the Petition. But as Petitioner just talked about, Gai is related to
23 these root ports, the ports that are towards the root of the -- of the system,
24 and managing how -- what happens when one of those ports fails.

1 So in the embodiment that's discussed, one of the root ports
2 fails, and in the embodiment root Port 3 fails and it switches to root Port 4,
3 which is not what is disclosed in this annotated figure. And then W
4 messages are sent upstream to update the upstream ports as to the change,
5 and what has -- what has occurred with respect to the failed Port 3 in the fact
6 that Port 4 is now being used.

7 So in this example, if Port 3 had failed, Port 2, you would get
8 upstream messages being sent upstream towards the root, that now messages
9 should be going to Port 2 and not Port 3 in switch 114. And that's how the
10 986 patent refers to Gai.

11 So the 986 patent, in talking about Gai, if you look at Slide 21,
12 talks about how Gai, and upon detection of a failure, this is in column 3,
13 Lines 15 to 35, but upon a detection of a failure at the active forwarding
14 port, the switch immediately places one of the backup trunk ports in the
15 forwarding state so that it becomes the new active port. The switch then
16 transmits dummy multicast messages toward the root upstream through the
17 newly active trunk port.

18 Similarly, and if you look at column 4 in the 986 patent, the 986
19 patent expressly distinguishes the claimed invention of the 986 patent from
20 Gai. It states in column 4, lines -- begins around column 4, Line 31, it's
21 talking about the preferred embodiments of the invention and talking about a
22 method of fast changeover between redundant network links that can be
23 implemented by modifying a single MAC bridge without the need for
24 reprogramming or replacing other items of equipment in the network.

1 The bridge is modified as described above so as to manage its
2 redundant downstream ports in a novel way. This modification is in contrast
3 to the methods described in U.S. Patent number 6,032,194, which is Gai, and
4 the 802.1 W draft, which require network entities to be aware of and manage
5 redundancies in their upstream ports and use special commands to cause
6 them to do so.

7 So Gai is related to managing those upstream ports and
8 redundancies in those upstream port networks, not to the downstream
9 disclosures that are at the heart of the 986 patent itself. And you can see that
10 --

11 JUDGE ARBES: Counsel, just for clarity, you would agree
12 that this may be persuasive -- persuasive evidence in your favor, but how the
13 challenged patent characterizes Gai is not really the full dispositive issue?
14 It's what Gai actually discloses and what a person of ordinary skill in the art
15 would understand based on Gai's actual disclosure, right?

16 MS. CAPPAERT: Yes, I do agree with that, that it's not
17 dispositive how the patent owner discussed Gai in the context of the 986
18 patent specification. But I would submit that the discussion in the 986 is
19 consistent with how a person of ordinary skill in the art would've understood
20 Gai and what Gai discloses when you are looking at the real embodiments
21 and the thrust of what Gai's disclosure is.

22 And I think that that's exemplified, if you look at another IPR
23 that's currently pending before this Board, which is IPR2024-00893. And in
24 that IPR, Petitioner in that IPR is Juniper Networks, and their expert
25 admitted in deposition that Gai does not relate to downstream. And that

1 petition relies on a different reference for the downstream disclosures, with
2 the understanding that Gai does not relate to downstream. So I would
3 submit that supports what Patent Owner are saying here in the 986 patent
4 and what Gai is actually disclosing, which is clear when you look at the
5 actual comparison of the -- what is shown and claimed in the 986 patent and
6 you compare it to Gai.

7 If you look, and I will go through these relatively quickly, but
8 the 986 patent and -- looking at Slide 9, is directed to -- you have your edge
9 switch and your access switches. And on Slide 10 -- so going to Slide 11,
10 you have your edge switch and you have your two redundant links, which
11 are Links 30 and Links 32. And you have your first bridge or edge switch in
12 red and your second bridge or access switch in blue.

13 One is -- looking at Slide 1230 is in the active state. And in
14 Slide 32 -- or Slide 1332, redundant -- the second redundant link is in the
15 blocking state. And what's disclosed in the 986 patent is if P3 is in the
16 active state that is shown in Slide 14, traffic is going to be sent from P3
17 down to access switch A. But if you have a port failure, as shown in Slide
18 15, P3 is going to go to the blocking state and you're going to switch over to
19 P4. P4 is going to go into the active state.

20 And what is disclosed in the 986 patent and what is claimed is
21 that then dummy traffic would be flooded through the system updating, that
22 those port -- that the port had changed, that traffic was now being sent
23 downstream from P4 as opposed to P3.

24 That is the opposite to what is disclosed in Gai. Gai is
25 disclosing upstream management and upstream management of how traffic

1 is being flowing through the system as opposed to the downstream
2 management. Now --

3 JUDGE ARBES: Counsel, before you move on to the -- can I -
4 - can we go back to Slide 19 for an -- for an instant?

5 MS. CAPPAERT: Sure.

6 JUDGE ARBES: So the specific example that Gai goes
7 through is in the context of switch 114. And presumably the same sort of
8 functionality would apply in switch 115 and 116, for instance, because those
9 have root ports and they go up to the roots 120 and 121.

10 Petitioner has made the point that a failure can occur at any
11 switch. And so looking at switch 124, they have given a scenario of what
12 would happen if the failure occurs there. Can you respond to that? And
13 what would happen if the -- if a failure occurs on that port of switch 124,
14 that they've -- that they've pointed to?

15 MS. CAPPAERT: In the context of Gai, I would respectfully
16 submit that, I don't know, Your Honors. I think that Gai does not expressly
17 disclose what would happen there. And it may be an instance where you
18 would have packets being dropped because there was not proper
19 downstream management in the system, because Gai is directed to the
20 upstream report management. So I don't think that Gai is really focused on
21 that.

22 I think that what would potentially happen is that 124 would
23 recognize that it had a downstream port failure issue and it would send it, as
24 is disclosed consistent in Gai, upstream. So it would go upstream to 121,
25 and then 121 -- so 121 would handle letting the -- flooding the traffic

1 downstream -- or flooding the -- updating the system so that it would know
2 which way to send messages, but that the system would not handle it -- I
3 don't believe that Gai discloses what Petitioner is arguing, and that Gai does
4 not have any disclosures expressly related to the downstream management
5 and how dummy traffic would be dealt with if a downstream port failed. It
6 really only does disclose what happens in the context of an upstream port
7 failure.

8 So I think if you're looking consistently with what Gai discloses
9 and how it manages upstream port failures, there's no reason to believe that
10 the -- a downstream port failure would not be handled the same way, and
11 that switch 124 would not send the message upstream that there had been a
12 different port failure and update tables in switch 121 to ensure that traffic
13 was handled correctly.

14 JUDGE COURTENAY: Ms. Cappaert, did I pronounce your
15 name correctly or did I --

16 MS. CAPPAERT: Yes, you did.

17 JUDGE COURTENAY: Ms. Cappaert, yes. One thing I just
18 have to make you aware of, both of you, is from both your presentations so
19 far, I -- I'm really just concerned about what Gai actually teaches and not
20 hypotheticals about what it might teach in some kind of hypothetical
21 scenario. And I'm having trouble telling the difference. So just be aware of
22 that.

23 And another thing that concerns me about this case is the
24 overlapping types of switches. You know, we have not really a definition
25 per se, but we have a description of these switches in the 986 patent, and

1 they seem to overlap and, you know, as a claim construction issue, that's
2 another point of concern. So you might keep those issues in mind as you
3 continue forward.

4 Proceed.

5 MS. CAPPAERT: Thank you.

6 I think with respect to what Gai is disclosing, Gai is dealing
7 with -- I mean, I think as discussed in our papers, with your cost
8 management and the cost in the system and what you do when you have a
9 root port failure and how you handle updating the system accordingly in
10 those cases.

11 I think going ahead to Slide 23, which relates to independent
12 Claim 12 and sending the dummy traffic from the first bridge to the second
13 link downstream, this is the figure and there, we did put a red accident
14 because we don't believe that it's disclosed in Gai for what Petitioner is
15 arguing. And Petitioner is -- respectfully, I would say Petitioner sees the
16 system that has both upstream or has root ports, and it has downstream ports,
17 and saw a system where it could change that different ports fail.

18 And I'm not going to disagree with Petitioner that Patent
19 Owner's expert said that any port could fail. I don't think that that is a
20 disputed issue. I don't think it's disputed that a downstream port could fail. I
21 think the issue is that Gai does not disclose how the system of Gai would
22 handle any sort of downstream failure. And that isn't the focus. Gai is
23 focused on upstream management of the system, so managing all of your
24 ports flow towards the root, as opposed to away from the root, the
25 downstream embodiments.

1 I think that while Petitioner asserts that it is not modifying Gai,
2 it is. It's modifying the different switches that are disclosed in Gai. It's
3 modifying the different paths that are disclosed in Gai. It's kind of cherry-
4 picking port failures and identifying wire -- a hypothetical situation that is
5 not expressly disclosed in Gai, and saying that, in this hypothetical situation,
6 should a port failure happen, a person of ordinary skill looking at Gai would
7 know that the same system disclosed for upstream management would be
8 used for downstream management of ports.

9 And respectfully, that isn't disclosed in the Gai reference. And
10 what Petitioner points to are vague assertions, talking about how an access
11 switch could be a backbone switch, and kind of cobbling together a modified
12 system of Gai with no support or evidence to support that change, or this
13 modified Gai system.

14 And with respect to the references that Petitioner's counsel just
15 pointed to, that Petitioner's counsel supports -- support modifying Gai in this
16 manner, those -- none of those relate to downstream management should a
17 downstream port fail. They all, as Petitioner's counsel said, relate to the fact
18 that any port can fail, but not what you do with it and not saying how the
19 downstream traffic would be dealt with, or the use of redundant port --
20 redundant links for downstream traffic.

21 So respectfully, the modifications to Gai that are being
22 proposed by Petitioner just aren't set forth anywhere in the Gai reference
23 itself. Again --

24 JUDGE ARBES: Counsel, can I ask -- can I ask about one of --
25 one of those modifications, and specifically Ground 1B that adds the Switch

1 117 at the bottom of Figure 1? There is some disclosure in Gai at column
2 13, line 60, that there is a Port number 7 that could be coupled to another
3 access switch.

4 Does that provide some support for adding that Switch 117 in
5 there?

6 MS. CAPPAERT: I would submit that it may provide support
7 for adding Switch 117, but does not provide support for the next steps that
8 Petitioner takes with respect to what would happen in failures if you added
9 Switch 117 there.

10 And I think that -- and in Petitioner's demonstrative is -- as
11 Petitioner just discussed, Petitioner went through an entire scenario where,
12 well, if you had your Switch 117 here, your root flow would be going
13 downstream. But this would go -- you would flip it, so whereas you'd be
14 having your traffic flowing towards Switch 120 and away from Switch 117.

15 But, again, Petitioner points to a downstream port failure in that
16 embodiment, or in that modification in Ground 1B, that isn't disclosed in
17 Gai. Again, Gai would relate to your upstream port management. So you
18 wouldn't be looking at a failure in Ports 3 or 4 in those situations, you'd be
19 looking at a failure in Port 7 or 6.

20 Gai doesn't disclose, well, you have an access Switch 117 and
21 this is how a failure would be handled with that addition, Gai simply states --
22 and I can find the express language in column 13. I apologize.

23 Gai simply states that if Port number 7 at Switch 114 were
24 coupled to another access switch, entity 234, would transmit multicast

1 messages carrying the source address of entities directly coupled to this
2 additional access switch as well.

3 But that isn't talking about port failures in downstream
4 embodiments here, it is talking about how in that preexisting embodiment
5 you could potentially let your access switch know what had happened.

6 And Petitioner is taking a disclosure that in one situation you
7 may have another access switch connected and using that to create an
8 entirely new hypothetical situation that isn't disclosed in Gai to support its
9 argument that downstream embodiments are disclosed.

10 JUDGE COURTENAY: Ms. Cappart, I think you've
11 articulated very well my concerns. I think that when we consider
12 hypothetical, could be, might be, scenarios with Gai, the reference -- the
13 reference, by the way, that was fully disclosed in the background of the
14 invention by the patent owner, and we consider all these hypotheticals, we
15 have to engage in some degree of speculation. And that concerns me.

16 MS. CAPPAERT: I agree.

17 JUDGE COURTENAY: Thank you.

18 MS. CAPPAERT: I agree, and I'm --

19 JUDGE COURTENAY: Speaking for myself, not the panel.

20 MS. CAPPAERT: And I agree. And I think that that is Patent
21 Owner's position, that Gai really does relate to upstream -- handling
22 upstream management with root port failures, and that all of Petitioner's
23 arguments that Gai discloses the claims of the 986 Patent relate to
24 hypotheticals of what may or could happen should a downstream port fail,
25 where that scenario is not expressly disclosed in the 194 Patent.

1 JUDGE COURTENAY: And the continuation of Gai is really
2 not a ground. It's not in the ground before us.

3 MS. CAPPAERT: Correct.

4 JUDGE COURTENAY: It's really irrelevant, isn't it?

5 MS. CAPPAERT: Yes.

6 JUDGE COURTENAY: Thank you.

7 MS. CAPPAERT: Yes, we would submit that it is -- that it is
8 irrelevant as it is -- as I believe Petitioner's counsel recognized, it is not part
9 of the ground that is currently before the Board. And with respect to --

10 JUDGE BOUDREAU: Ms. Cappaert, this is Judge Boudreau.
11 Could you address Petitioner's argument that because Gai's continuation
12 recited in the claims the messages telling the devices downstream in the
13 spanning tree that the router has designated a new port, that that is evidence
14 that that was disclosed in Gai to begin with?

15 MS. CAPPAERT: I -- what I believe Petitioner's position to be
16 is that because a claim issued in a later application, there was -- that supports
17 the fact that the specification discloses downstream embodiments.

18 But respectfully, I would submit that we don't believe there's
19 written description support for that claim in the later continuation
20 application and the continuation patent. So I think that that -- and that
21 because it isn't in the ground and because it's not before the Board, we didn't
22 need to address the written description issue.

23 But I think that whether or not the claim issued and the claim in
24 the later patent set includes downstream, that doesn't respectfully disclose --

1 or support that Gai discloses downstream embodiments. I would submit that
2 there isn't support for that claim in that later patent.

3 JUDGE BOUDREAU: As I understand Petitioner's argument,
4 though, they couldn't -- Gai couldn't have added new matter when filing a
5 continuation. And so I'm wondering what Patent Owner's take on that is.

6 MS. CAPPAERT: I mean, I would agree that in general in a
7 continuation application you can't add additional matter or additional subject
8 matter to a patent. But I don't think that anything in the later application and
9 this later specification expressly discloses downstream. So I think that the
10 specification includes the same disclosures at issue here, which respectfully
11 Patent Owner submits do not disclose what happens in a situation where a
12 downstream port fails or how that situation would be handled.

13 With respect to Claim 6 and 18. Claim 6 and 18 both require
14 sending data frames originating at the edge switch. But if you look in Gai,
15 Gai is disclosing that messages are forwarded by the access switch, not the
16 edge switch. So we would respectfully submit that Petitioner has failed to
17 establish that Gai discloses Claim 6 and 18, which require the dummy traffic
18 comprising data frames originating at the edge switch, not the access switch.

19 And I think that that relates to kind of an overall difference,
20 maybe, in some ways with Gai, both in addition to the upstream
21 management and versus downstream management.

22 And I'll go back briefly, but if you look at the 986 Patent and
23 what is claimed, the 986 Patent is dealing with updating your tables and your
24 databases in your access switches. So it's dealing with you have a

1 downstream port failure, so you're updating your downstream databases to
2 reflect that failure.

3 Whereas Gai is talking about your access switch has an
4 upstream failure. And so you're updating the information in your edge
5 switches, not in your access switches. So it's a -- it's a flip in terms of which
6 databases are being updated that, I think, again, just differentiates -- is a
7 fundamental difference between the 986 Patent and Gai with respect to
8 downstream updating of the access switches being disclosed in the 986
9 Patent and upstream updating of the edge switches being disclosed in Gai.

10 And if there are no further questions, I will reserve the rest of
11 my time for surrebuttal.

12 JUDGE BOUDREAU: All right. Thank you.

13 JUDGE COURTENAY: Okay. You're about 24 minutes.

14 MR. RHODES: Thank you. May it, please --

15 JUDGE BOUDREAU: Mr. Rhodes.

16 MR. RHODES: Thank you. May it please the Board. So I
17 wanted to start with the continuation application, which everyone has been
18 discussing. So I wanted to start, so here I have the Petition, and this is page
19 43 of Cisco's Petition, where we cite the continuation application.

20 But Petitioner respectfully disagrees with Patent Owner that the
21 continuation is not in the grounds because it was in the Petition and it is part
22 of the grounds. And through Pages 43 to 44, Cisco explains --

23 JUDGE ARBES: Sorry. I'm sorry, counsel, just to be clear,
24 why is it part of the ground? It -- I was under the impression this was a
25 single reference Section 103 ground.

1 MR. RHODES: Sorry. I mean, it was part of the Petition. It is
2 a single reference 103 ground, but I mean that it's part of the Petition, and I
3 think Patent Owner was suggesting that it didn't have a response -- a chance
4 to respond to these arguments before, but I wanted to make it clear that these
5 arguments were in the Petition and that Patent Owner did have such a
6 chance.

7 And in the Petition, Cisco explained how the continuation
8 application included the dummy messages, and also explained how this
9 information -- this dummy message going downstream was actually added
10 by the examiner, not the applicant, because the examiner found that Gai
11 disclosed this.

12 And we talked a bit about case law, and Cisco had not cited
13 case law for the proposition in its Petition that the continuation cannot
14 include new material because we treat it as kind of a fundamental rule of
15 patent law. And I think that Patent Owner doesn't dispute it either. But one
16 case for that proposition would be *Transco Products v. Performance*
17 *Contracting*, which is 38 F.3d 551, which is a Federal Circuit 1994 case. So
18 I would offer that to the Board.

19 And then the next --

20 JUDGE ARBES: But Counsel, you're not aware of any case
21 law where a subsequent continuation was used to determine how a person of
22 ordinary skill in the art would have understood an earlier disclosure, right?
23 You're not -- that case does not stand for that proposition, right?

24 MR. RHODES: That's correct. I'm not aware of any sitting
25 here today. To the extent the Board wants additional briefing or case law,

1 you know, we're happy to provide it. I would say that what we've relied on
2 the continuation for isn't necessarily what a person of ordinary skill in the art
3 would have understood at the time, but instead to explain that the Gai
4 reference, as the examiner found for the continuation, does disclose
5 downstream in its disclosures and embodiments, consistent with what we
6 have argued in our Petition.

7 JUDGE BOUDREAU: Right. But we're not here to determine
8 whether the continuation was a proper continuation or not, whether it should
9 have been designated as a continuation in part instead.

10 MR. RHODES: That's correct, Your Honor, we're not here to
11 make that determination. We're here to determine whether or not Gai
12 discloses downstream or edge to access switch disclosures, and this is part of
13 the evidence, among centrally the disclosures in Gai itself, that Petitioner has
14 relied upon as additional supporting evidence.

15 Now turning to Patent Owner's other statement, that our
16 grounds are not based upon the disclosures in Gai. Again, we disagree. So
17 I'll start with the Sub-Ground 1A, and then move to the Sub-Ground 1B.
18 But as we explained, Sub-Ground 1A is based on explicit disclosures in
19 columns 5 and 6 of the Gai reference. For example, turning to the bottom
20 left of Slide 25 of our demonstrative, Gai explicitly discloses that the devices
21 moreover may be classified as either access switches or backbone switches
22 and that the novel commands can be applied to the access switches and the
23 backbone switches. If we look at figure 1 of Gai, the commands are meant
24 in order to resolve redundant links, and because of that, you know that it

1 would have to be -- if it can be applied to the backbone switches, it would
2 have to be applied to redundant links within the backbone switches.

3 And if you use the one example where root switch 120 and 121
4 are root switches, all of the uplinks from the backbone switches 122 to 125
5 only have a single link. So this would be the only way as shown in Cisco's
6 Ground 1A that you would properly apply Gai's teachings to edge switch or
7 backbone switch 124. And --

8 JUDGE ARBES: Going back to the previous slide, 25, can you
9 respond to the patent owner's argument that we just don't know? We just
10 don't know, based on the disclosure of Gai, what would happen if a failure
11 occurs on a downstream port. We know for sure what would happen if a
12 failure occurs on an upstream root port, but we just -- there's just not enough
13 disclosure in Gai to say what would happen in the scenario you lay out there
14 with the purple link.

15 MR. RHODES: Yeah. So respectfully, we disagree with that.
16 And the top left of Slide 25, which is a section of column 5 of Gai, I think
17 Gai explains exactly what would happen, which is upon the detection of a
18 failure at the active forwarding port, not limited to an uplink, the state of one
19 of the backup ports immediately transitions from block to forwarding,
20 thereby becoming the new active port for the device.

21 And I think the bulk of the disclosures in Gai are all directed to
22 explaining this, which is what you do completely consistent with Cisco's
23 Ground 1A, is you have a link. After you have a porter link failure, you
24 block it, you move to the redundant backup link, you make it active, and you
25 send the dummy traffic through that active link.

1 And there's a lot of citations cited in the Petition, but that's the
2 focus of what Gai's about. It's where you would use Gai, if you were to
3 apply it to the backbone switches, which is what Gai explicitly tells you it
4 can do. And it's the only way, because if you look at, for example, switch
5 124, above it, this link 121 isn't a redundant link. So if you were to apply
6 the teachings of Gai to switch 124, that's how a person of ordinary skill in
7 the art would have applied it. And Gai explains that the failure of port 3 and
8 switch 114 is just one example of a network in failure that it can deal with
9 and it's not limiting.

10 And respectfully, Petitioner believes the view that Gai's
11 disclosure is limited to one failure of one port on one switch is too narrow of
12 a view of the disclosures of Gai and not consistent with what a person of
13 ordinary skill in the art would have understood.

14 Turning to Slide 27, we have Cisco's disclosures with respect to
15 its sub, Ground 1B. And here, Gai explicitly tells us that port 7 of switch
16 114 can connect to another access switch, 117. And I think Patent Owner
17 argued that maybe that's disclosed, but none of the other parts of Cisco's
18 Ground 1B are. But again, respectfully, Petitioner disagrees.

19 Turning to Slide 28 -- sorry, that's the -- I guess let me flip a
20 couple slides forward to where Ground 1B is discussed. So turning to Slide
21 44, Cisco's Ground one B, after you add port 117, which I think everyone
22 agrees is disclosed by Gai, you follow the exact same procedure that
23 everyone agrees Gai described in detail of when port 3 of switch 114 fails,
24 failing over to either port 2, which is shown in the top right of Slide 44, or
25 failing over to port 4, which is shown in the bottom right of Slide 44.

1 And Cisco's embodiment simply follows these disclosures,
2 which go through Gai. And I think everyone at least agrees that Gai does
3 disclose in detail the process of failing over from port 3 to port 2 or port 4,
4 which is what Cisco's Ground does after you add access switch 117, which is
5 Cisco also explains, pointing to disclosures and column 13 of the patent, can
6 become the root switch because you can be flexible in which switch is
7 selected as the root switch, including the switch having the lowest ID.

8 And I also wanted to address Patent Owner's comments about
9 the Juniper case, so I prepared a couple slides on that at the end, which starts
10 at Slide 67. So Patent Owner raised this argument for the first time in a
11 footnote in its Sur-reply, basically arguing that Dr. Houh's positions are
12 inconsistent because he is relying on a combination for downstream in the
13 Juniper case, but not here. But Cisco's and Dr. Houh's positions are
14 completely consistent.

15 Turning to Slide 68, we can see what's happened -- what the
16 Juniper embodiments are based on, and what they're based on is the specific
17 case where switch 114 has a failure in port 3 and Juniper's grounds don't
18 include the switch 117. That's explicitly disclosed by the Gai reference. So
19 what they say in the Juniper case is simply that in this specific case, where
20 there's no switch 117 and port 3 of switch 114 fails, in that specific case, this
21 would be upstream, which is something that Petitioner here agrees with and
22 we discussed early in the presentation.

23 JUDGE ARBES: And Counsel, just to be clear, there was a
24 different declarant in that case, right? It was not Dr. Houh testifying in both
25 cases, right?

1 MR. RHODES: I believe it was Dr. Houh testifying in both
2 cases, although I -- I'm not 100 percent sure. I'll have to double check. And
3 unless the Board has any other questions, those are the points that I wanted
4 to address.

5 JUDGE BOUDREAU: All right. Mr. Rhodes, can we go back
6 to Slide 44 for just a minute?

7 MR. RHODES: Absolutely.

8 JUDGE BOUDREAU: I just -- I'm just trying to understand,
9 does that citation from column 11, how does that relate to switch 117?

10 MR. RHODES: Sure. So this citation, so I build it up kind of
11 in two steps. So in column 13, it says that you can add switch 117 to port 7
12 of switch 114, and once we've done that, what the citation in column 11 is
13 telling us is what switch 114 does when port number 3 fails, independent of
14 port 7. So how they relate is that Cisco's Ground 1B is based on the explicit
15 disclosures of going through the whole process of what Gai explains in
16 detail happens after port 3 of switch 114 fails. But we've simply added the
17 step of including the switch 117 that Gai explicitly says can be included.
18 And that has ramifications in terms of the downstream nature of the traffic
19 and invalidity for this case.

20 JUDGE BOUDREAU: I see. Thank you for clarifying that.

21 MR. RHODES: And unless the Board has any other additional
22 questions, I cede my time and I think it might have been Dr. Bruce McNair
23 in the Juniper IPR, but I cede the rest of my time, so thank you.

24 JUDGE BOUDREAU: Thank you.

25 Ms. Cappaert?

1 MS. CAPPAERT: Yes. I -- it was -- it was Mr. McNair who
2 was the expert in the Juniper case. With respect to and I'm actually just
3 going to show -- I -- a couple of just points and I'll start with what
4 Petitioner's counsel was just talking about.

5 While Petitioner's counsel is correct that this bottom figure and
6 the annotated figure in -- on Slide 44 of Petitioner's demonstratives shows an
7 example where you have port 3 that fails and then what happens with port 4,
8 in Gai, the root port is still up -- is -- it's -- this is all upstream, so the root
9 port is 120. So what Petitioner is doing then is saying, oh, well, you can add
10 117 as an access port and make that the root port.

11 But the same flow of traffic wouldn't apply, because Gai, again,
12 is talking about upstream -- dealing with upstream notifications and updating
13 tables and information upstream. So if you change 117, it doesn't mean that
14 all of -- if you make access switch 117 the root, it flips the entire system and
15 Petitioner is just glossing over that and saying, well, it just makes it --
16 instead of being upstream, it becomes downstream.

17 But that's not what Gai discloses. Petitioner is trying to take
18 one example of the addition of an access switch and then use that to
19 fundamentally change Gai's disclosures to being more than what they are.
20 And respectfully, I think that Petitioner is doing that in several ways. I think
21 that with respect to whether the disclosures that Petitioner had with respect
22 to whether -- and I'll see if I can find it quickly in their slide.

23 In slide 25, these are in the summary section of the 194 patent
24 and Petitioner is trying to cherry-pick portions of the patent that it says are
25 vague or high level and then argue that a person of ordinary skill would look

1 at these and know that what Gai is disclosing is more than what it -- the
2 main thrust and crux of Gai's disclosures, which, again, all relate to that
3 upstream embodiment and updating your edge switches if you have a failure
4 at an access switch, not the other way around.

5 And so it -- it's asking -- it -- it's -- we're not really taking all of
6 Gai in its totality for what a person of ordinary skill in the art would
7 understand. Looking at Gai, it is just focusing on cherry-picked portions of
8 Gai that I would submit are more vague and taking them out of context of
9 the entirety of the rest of the disclosure to argue that Gai discloses more than
10 it does.

11 And I think that that is -- that is Patent Owner's primary
12 position here, is that Petitioner is just overreaching with what Gai discloses,
13 and a person of ordinary skill in the art looking at Gai wouldn't know
14 necessarily what Gai would do if a downstream port failed, because that isn't
15 what Gai was directed to. Gai was directed to root port failures and then
16 upstream modifications if those failures occurred. And so for that reason,
17 Patent Owner submits that Petitioner has failed to establish that the
18 challenge claims of the 986 patent are invalid.

19 Unless the Board has any questions, I cede the rest of my time.

20 JUDGE BOUDREAU: All right. Thank you, Counsel. It
21 doesn't look like we have any other questions. So this concludes our hearing
22 in IPR2024-00505. I will -- if the parties could just stay on the line for a few
23 minutes after we go off record, though, just in case the court reporter had
24 any questions about anything.

25 MS. CAPPAERT: Of course.

1 JUDGE BOUDREAU: That would be great. And otherwise,
2 this concludes the hearing.
3 (Whereupon, the above-entitled matter went off the record at
4 4:24 p.m.)

PETITIONER:

Yung-Hoon Ha
DESMARAIS LLP
yha@desmaraisllp.com

PATENT OWNER:

James R. Nuttall
Katherine D. Cappaert
STEPTOE LLP
jnuttall@steptoe.com
kcappaert@steptoe.com