

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CISCO SYSTEMS, INC. AND JUNIPER NETWORKS,
Petitioner,

v.

ORCKIT CORPORATION, INC.
Patent Owner.

IPR2023-00402
Patent 8,830,821 B2

Record of Oral Hearing
Held: June 12, 2024

Before KRISTEN L. DROESCH, NATHAN A. ENGELS, and
BRENT M. DOUGAL, *Administrative Patent Judges*.

APPEARANCES:

ON BEHALF OF THE PETITIONER:

THEODORE FOSTER, ESQUIRE
DAVID MCCOMBS, ESQUIRE
GREGORY HUH, ESQUIRE
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ON BEHALF OF THE PATENT OWNER:

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The above-entitled matter came on for hearing on Wednesday, June 12, 2024, commencing at 2:25 p.m., at the U.S. Patent and Trademark Office, 600 Dulany Street, Alexandria, Virginia.

P R O C E E D I N G S

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JUDGE DROESCH: All right, good afternoon. It looks like it's 2:25 Eastern Time. We'll go back on the record. So, we're back on the record, and we will begin our hearing for IPR 2023-00402. Again, my name is Judge Droesch. Joining me for the hearing are Judge Engels and Judge Dougal. We will have 60 minutes for each side today, and each side will get rebuttal time that they may reserve. It just cannot exceed 30 minutes. And a couple of quick reminders as far as to help with preparing the hearing transcript, please try your best to identify yourself before speaking and to identify your demonstratives by the slide numbers. And then, counsel for Petitioner, will you please make your appearances?

MR. FOSTER: Yes, this is Theo Foster for Petitioner, Cisco Systems. I'm lead counsel. With us today is my colleague Gregory Huh, who will be arguing this case for Petitioner. And also, on the line here is Calmann Clements with backup counsel for Cisco Systems.

JUDGE DROESCH: Okay, thank you. Counsel for Patent Owner, will you please make your appearances?

MR. STAMATOPOULOS: George Stamatopoulos with Kobre and Kim for Patent Owner, Orckit Corporation, and with me is lead counsel Steve McBride. And I will be arguing the case for Patent Owner. Thank you.

JUDGE DROESCH: Thank you. And, counsel for Petitioner, how much time would you like to reserve for rebuttal?

MR. FOSTER: Yes, we'll reserve 20 minutes, please.

1 JUDGE DROESCH: Sorry. Okay. I can't remember, and I
2 apologize if I misspoke.

3 MR. STAMATOPOULOS: I miss heard.

4 JUDGE DROESCH: Okay. How much time would you like to
5 reserve for rebuttal?

6 MR. STAMATOPOULOS: Likewise, 20 minutes.

7 JUDGE DROESCH: Okay, fabulous. Thank you very much. All
8 right, counsel for Petitioner, you may begin your presentation when you're
9 ready.

10 MR. HUH: Thank you, Your Honor. And good afternoon,
11 everybody. Thank you for giving us this opportunity today. On the record,
12 this is Gregory Huh on behalf of Petitioner and IPR 2023-00402 on the 821
13 Patent. Just briefly turning to the slides at slides two and three for
14 Petitioner's demonstratives, I provided for reference a copy of figure one of
15 the 821 Patent, as well as independent claims one and 14, which I'll be
16 addressing here today. We turn to slide four. I've outlined a number of key
17 points for discussion, and I'll first turn to how Doshi teaches a selecting
18 limitation. Turning to slide five for reference is provided claim one of the
19 821 Patent with a relevant claim language highlighted in yellow. I'll first
20 note that Patent Owner does not dispute that the preceding limitations are
21 disclosed or rendered obvious by the prior art. Specifically, Patent Owner
22 does not dispute in these briefings that providing a plurality of multi-
23 protocol labels to which transport entities between the first endpoint and a
24 second endpoint are disclosed in the prior art. Patent Owner also does not
25 dispute that the determining limitation which resides determining an overall
26 cost for each entity pair set plurality of entities is in the prior art.

1 The first limitation disputed by Patent Owner is a selecting
2 limitation, again highlighted in yellow, and I'll read it in the record so it's
3 clear, this limitation recites selecting an entity pair from set plurality of
4 transport entities based, at least in part upon said overall cost. Now, turning
5 to slide six, the Petition at pages 35 through 40 explain in significant detail
6 how Doshi discloses the selecting limitation under the plain and ordinary
7 meaning. So, for example, at slide six, we can see figure eleven of Doshi as
8 well as paragraph 14 and paragraph 142, portions of which are displayed on
9 the slide. There were additional paragraphs from Doshi cited in the analysis
10 in the Petition, as well as Dr. Houh's corresponding Declaration, and we can
11 see Doshi, for example, at paragraph 14 expressly teaches after considering
12 the cost for all the candidate pairs. Then Doshi describes the selection
13 process at paragraph 14, where the primary restoration paths for the new
14 service are selected from the plurality of candidate path pairs based on the
15 path cost for each candidate path pair. As you can see in the partial
16 paragraph of 142, where the cost is ultimately the overall minimum cost pair
17 that's ultimately selected.

18 Now under the plain and ordinary meaning Patent Owner does not
19 dispute that this limitation is actually taught by the prior art because it says
20 what it says, it plainly teaches that. Rather we turn to slide seven. Patent
21 Owner in his briefings argues that under its implicit construction, this
22 limitation is not disclosed in the prior art. And we can see Patent Owner's
23 response on slide seven. Patent Owner's response at page 30 of the
24 Response where Patent Owner argues that claim one of the 821 Patent
25 requires selecting from the total number of potential paths associated with
26 said plurality of entities. So first we would note that this is not what the

1 claim states. You can see on the slide again the portion of claim one where
2 the selecting limitation is from said plurality of transport entities, not from
3 the total number of potential paths. So Patent Owner's implicit construction
4 adds additional limitations. Although Patent Owner would argue that these
5 are not -- this is not a construction. In fact it is a construction, an implicit
6 construction. Arguing in a way to try to distinguish the prior art, we turn to
7 slide eight. We can see the ramifications of this construction.

8 So Patent Owner's implicit construction seeks to exclude Doshi
9 teachings by allegedly arguing that Doshi's selection is not sufficient
10 because, according to Patent Owner, Doshi selects from a narrow subset of
11 candidate pairs. So first we would note that this is not correct. That's not
12 what Doshi teaches, and we explained that in our Petition. But secondly,
13 what's notable is that the 821 Patent itself selection process actually selects
14 from a subset, we provide on slide eight, Figure 4C of the 821 Patent. This
15 Figure selects a subset of entity pairs, and then from that subset selects an
16 entity pair. That's the latter step in that figure. And during the deposition,
17 Patent Owner's expert Mr. Gomez conceded that Figure 4C is within the
18 scope of claim one, so that's not in dispute. So we would submit to the
19 Board that it would be improper to read an additional limitations argued by
20 Patent Owner that the selecting is for the total number of potential paths,
21 because that limitation that's been read in by Patent Owner would exclude
22 the embodiment of figure 4C.

23 Now with that, I would note also that we explained in our briefings
24 that even if there was such a requirement in the claim, which there isn't, even
25 under such a requirement, Doshi she still teaches the selecting limitation.
26 And this is on slide nine, we explained, and Dr. Houh's testimony is

1 provided on slide nine, exhibit 1038, paragraph 16, citing to Figure eleven
2 and explaining that step 1104 and 1106. In those steps, the cost is assessed
3 for all the potential path pairs. And again, I would note that Patent Owner
4 did not dispute that the determining the cost for all potential path pairs is in
5 fact in the prior art. And part of that, ultimately, then you consider all the
6 pairs for each candidate primary, and then only then do you ultimately select
7 at step 1108 and ultimately down. After you narrow down the selection
8 further in the latter steps at 1118, you would determine which is the overall
9 minimum cost pair. So even if there was a requirement, as Patent Owner
10 argues, Doshi would still disclose that limitation. Are there any questions on
11 the selected limitation before I move forward? Okay, if there are no
12 questions, I'd like to turn to slide ten.

13 Or I'll address the second key point, which is how Doshi and
14 Guichard teach the reselecting limitation. As part of this analysis, I'll also
15 touch on the reasons to combine and the reasonable expectation of success in
16 combining Doshi and Guichard. For the Board's reference provided on slide
17 eleven is the relevant claim language highlighted in yellow, and I'll read it in
18 the record so it's clear. If an entity pair reselection event occurs, reselecting
19 said entity pair from the group consisting of said entity pair and the
20 replacement entity pair comprising at least one entity distinct from the
21 entities of said entity pair. Now, at the outset, I would note that Patent
22 Owner did not dispute that the prior art discloses the reselection event
23 occurring. That's not disputed. Patent Owner argues about the latter portion
24 of this claim. We turn to slide twelve. The Petition, at pages 40 through 45,
25 explain how Doshi and Guichard meet this limitation. As already noted,
26 Doshi teaches selecting an entity pair based on overall minimum costs. And

1 Doshi, as you can see on slide twelve, Your Honors, at paragraph 275, Doshi
2 further teaches that it monitors and updates the network topology. So it's
3 looking for network changes as part of part of its overall analysis of the
4 network. And Guichard complements those teachings by teaching that, well,
5 the network states keep changing, and because of that, it's highly desirable to
6 detect those changes and actually re-optimize your selected LSP's. And this
7 would be, for example, cited in the Petition, Guichard at page 79. And if we
8 look at the lower portion of slide twelve, Guichard at page 81 further states
9 that re-optimization of LSP's may benefit from the new link to follow a
10 more optimal path. So just pause here for a second. And what's notable is
11 that Guichard contemplates reoptimizing LSP's in plural, not singular, is
12 looking to optimize any potential LSP that may benefit from network
13 changes.

14 Now, if we look at Patent Owner's arguments on slide 13, Patent
15 Owner concedes that at least one LSP would be distinct in the combination
16 of Guichard. Here we have on slide 13 Patent Owner's Response, page 41.
17 And I'll read it in the record so it's clear. And I'll quote, according to Patent
18 Owner, a POSITA would create a combination in which re-optimization
19 would be used only with respect to the primary path, which is what Guichard
20 teaches, end quote. Well, the fact is, the claim only requires at least one
21 entity distinct. So there's no dispute between the parties that at least you
22 would have one distinct entity in the re-optimization as applied to the
23 combination of Doshi and Guichard. So that confession is all that's required
24 by the claim, because the claim has the limitations of reselecting the entity
25 pair from the group consisting of the previously selected entity pair and the
26 replacement entity pair comprising at least one distinct entity. Well, there's

1 no dispute that we have at least one distinct entity. But I would note also
2 that our Petition explained that, in fact, Guichard contemplates re-optimizing
3 a plurality of LSP's. And in such an implementation, you could perhaps
4 have a replacement entity pair where both of them are new because you have
5 network changes that provide additional new, better LSP's available.

6 Turning to slide 14, I just want to note here for the record
7 inconsistent argument raised by Patent Owner in its Sur-reply. In the Patent
8 Owner's Response, Patent Owner sought to distinguish the Doshi reference
9 by arguing that the claim requires reselecting from all pairs. This is Patent
10 Owner's Response at page 41, arguing that Doshi doesn't reselect from all
11 pairs. Then and on, you know, on the Sur-reply for the first time in the
12 record, Patent Owner at Sur-reply at page 16 argues that the recitation of
13 consisting of in the claim does not permit reselecting from all pairs. Well,
14 this is an inconsistent position raised by Patent Owner, first of all,
15 inconsistent with its full response, but also is raised for the very first time in
16 the Sur-reply, this assertion of what consisting of somehow limits to not
17 select from all possible LSP pairs. It's our position, Your Honor, that the
18 Board should not consider Patent Owner's new argument because it was
19 waived, and also because Petitioner did not have an opportunity to submit a
20 responsive brief to this argument. But just briefly, I would note that this
21 argument raised by Patent Owner in the Sur-reply that somehow the 821
22 Patent does not select from all pairs, is inconsistent with Figure two of the
23 821 Patent itself, where it comes back in the flow chart back into the
24 analysis of the flowchart where it reperforms the selecting steps in that
25 flowchart which considers all possible pairs in fact. So this argument is late,

1 but it's also inconsistent and not supported by the 821 Patent. Does the
2 Board have any questions on how the prior art teaches this limitation?

3 If there are no questions, let me just briefly touch on the reasons to
4 combine. We've addressed and fully briefed the reasons to combine Doshi
5 and Guichard, and these reasons to combine are addressed also in part in our
6 slides 15 through 18, citing the record in the briefings. We have also
7 addressed in our briefings the reasonable expectation of success in the
8 combination of Doshi, Guichard and this is, you know, in brief displayed on
9 slides 19-21. If there are any questions on the reasons to combine or the
10 expectation of success, I'm happy to address any questions on those two
11 points. Very well. If there are no questions, then I will move, I will skip
12 over those slides and go directly to slide 22, where I'll address the third
13 point, which is how Doshi and Xu teach logic configured to determine the
14 probability of concurrent failure of said working entity and said protection
15 entity. For reference provided as claim 14 on slide 23. With the relevant
16 claim language highlighted in yellow.

17 Turning to slide 24, the Petition explained how Doshi's logic is in
18 fact configured to determine probability of concurrent failure because
19 Doshi's logic, illustrated in the context of figure eleven and corresponding
20 passages, does determine disjoint LSP pairs and calculate those costs. And
21 ultimately in certain instances will select a disjoint pair. And Doshi explains
22 that the probability of concurrent failure of disjoint pairs is very insignificant
23 because Doshi's logic does have the knowledge of the disjoint pairs and
24 selects by those processes, you are determining that ultimately the
25 concurrent failure probability of those of that pair is very insignificant. But I
26 would note also that the Petition relied upon the further combination with

1 Xu and the Xu's teachings is exactly on top of the embodiment of the 821
2 Patent. You know, 821 Patent has an embodiment that very much is what
3 Xu teaches. Turning to slide 25 just to provide context for the Board, this is
4 a portion of the 821 Patent and the 821 Patent's probability matrix, which
5 Patent Owner asserts corresponds to the claimed logic. This probability
6 matrix in the 821 patent is in fact configured by a network operator with
7 predetermined probabilities. And here we're citing on slide 25 the 821
8 patent, column six, lines 20 through 33. This was explained in our Reply,
9 where the network operator configures the probability matrix based on
10 network knowledge, and later in that passage, and I'll read it in the record,
11 no failure probabilities may be configured by the operator, typically based
12 on vendor provided mean time between failure parameters and on
13 infrastructure failure probability. For example, power failure probability
14 again, end quote. These are all known probabilities that the network
15 operator has input into the probability matrix of the 821 Patent that's not
16 disputed by Patent Owner. And Dr. Houh explained this in his
17 corresponding Declaration, exhibit 1038, paragraph 36.

18 Now true, the 821 Patent provides an alternative embodiment. If I'll
19 turn that that's shown on slide 26. So within the same passage of describing
20 how the network operator configures the probability matrix, the 821 Patent
21 states alternatively span failure probabilities may be automatically calculated
22 by the network. Okay. However, the claim does not require automatically
23 calculating, it requires determining a problem, logic configured to determine
24 probability. And in the 821 Patent, the network operator configures the
25 logic probability matrix to determine the probability of concurrent failure, as
26 explained in the previous slide 25. And during the deposition, Mr. Gomez,

1 Patent Owner's own expert, testify that automatically computing is not
2 required by the claim. So Patent Owner does not construe determining a
3 probability does not construe it as requiring a calculation or anything else in
4 this alternative embodiment. And their own experts say that this is not
5 required by the claim. So what we have here is we have an 821 Patent has
6 two embodiments, and the Xu reference plainly is on top of the first
7 embodiment, where the network operator configures the probability matrix
8 with known probabilities of concurrent failures. Turning to slide 27, we can
9 see how Xu teaches this.

10 JUDGE DROESCH: Counsel?

11 MR. HUH: Yes, Your Honor?

12 JUDGE DROESCH: Were these arguments in the Petition?

13 MR. HUH: The petition relied upon Xu's failure model teachings
14 and that fact that it was already configured with predetermined probabilities
15 of failures. And those arguments were in the Petition. We responded to
16 Patent Owner's arguments with respect to how it's in parallel with the 821
17 Patents network operator embodiment. But yes, Your Honor, we relied upon
18 Xu's failure model as teaching this limitation.

19 JUDGE DROESCH: Okay, but how did -- in that Petition, how did
20 you address the part of the claim that said there's logic that makes a
21 determination?

22 MR. HUH: Right, so we relied upon the failure model of Xu that has
23 predetermined probabilities within it. A failure model that has
24 predetermined probabilities of failure within it is logic that's configured to
25 use those probabilities that has programmed within it in order to determine
26 the failures of specific nodes or links. So, in our Petition, we pointed to the

1 failure model as logic that had pre-configured probabilities. A model that's
2 preconfigured with probabilities of failures for nodes and links is configured
3 to determine probability of concurrent failure of those nodes and links. So,
4 we cited the same passages we're discussing here today were cited in our
5 petition, Your Honor.

6 You know, so I would note, for example, if we turn to slide 28, we
7 explained in our Reply, in response to Patent Owner's assertions regarding
8 the Xu reference, how Xu is just like the 821 Patent. The Xu reference has
9 failure scenarios for links or nodes that are most probable to cause
10 simultaneous failures of those links. And for example, shown on slide 28,
11 we give an example in our reply where the Router 106, which is a node, that
12 failure probability has been input into Xu's failure model, and that the
13 probability of failure of router 106 is also corresponding to a probability of
14 concurrent failure of path 112 and path 116. So, when that failure model is
15 programmed by the network operator with predetermined probabilities of
16 failure. That is logic configured determined probability of concurrent failure
17 of those paths corresponding to router 106 failure. This is exactly what the
18 821 Patent does, Your Honors, in the first embodiment, and again, Patent
19 Owner does not argue that the claim requires calculating. I'm sorry, go
20 ahead, Your Honor.

21 JUDGE ENGELS: This is Judge Engels. Can you help me find
22 specifically where in the Petition these arguments were made?

23 MR. HUH: Let me pull it up, Your Honors.

24 JUDGE ENGELS: If you need to come back to it.

25 MR. HUH: No, no, let's address it here. So, in our Petition at pages
26 80 down to 82, we identified the Xu reference and how it's describing that

1 you have -- you're performing path selection based on the failure states. And
2 we identify that the failure model has predetermined probability of
3 concurrent failures. So, for example, we cite the same passages, Your
4 Honors, that I've just discussed today, for example, paragraph six of the Xu
5 reference. So, this is in the second analysis with respect to this claim
6 limitation. So, at page 81, we cite that the failure model would inform past
7 selection. And that's, for example, citing to paragraph 49. And if you look
8 on slide 28, we are citing to paragraph 49 of the Xu reference in the Reply as
9 well, if you can see that. So page 81, cites of 49 and our Reply illustrated on
10 slide 28, likewise cites to page paragraph 49 of the Xu reference.

11 JUDGE DROESCH: Okay, counsel, I have a follow up question. So
12 you've identified that there are common cites between the Reply and the
13 Petition, but I feel like it's not explained in the same way in the Petition as
14 it's explained in the Reply. Can you point to us like how it's explained in a
15 similar way in the Petition?

16 MR. HUH: Right. So the Xu refers, describes utilizing multiple
17 paths and selecting end to end path. This is in our Petition utilizing this
18 NMS software. The NMS is the software, network management software is
19 where the failure model resides. So for example, in Figure one of the Xu
20 reference, you can see it on slide 28. NMS is 102, and NMS is obtaining the
21 topology information as well as the failure scenarios in Figure one of Xu.
22 So 102 is the NMS and that is obtaining that information from the operator.
23 Now, we didn't focus on the operator aspect, but nonetheless the limitation
24 doesn't require an operator. We're explaining how the Xu reference in the
25 Reply is synonymous with the embodiment of the 821 Patent. But there's no
26 dispute that the failure model is logic. And we explain that and the fact that

1 the failure model obtaining those failure states of known probabilities. So in
2 the following page on the Petition, we explained that the failure state has a
3 predetermined probability of occurrence. This is citing the Xu reference,
4 paragraph six. And a POSITA would have understood that a predetermined
5 probability has been determined where the failure affects two paths
6 simultaneously. And we're just explaining here in the slide, for example,
7 how the failure of router 106 affects two paths simultaneously. So you have
8 a failure model. The purpose of the model is to utilize it in order to obtain
9 that data and make path selection decisions. And that's what Xu is all about.

10 So we relied on the logic, the failure model of Xu, and we explained
11 that it's programmed with pre-certain probabilities, and those probabilities in
12 certain instances will impact multiple paths at the same time. And I would
13 note, Your Honors, that Patent Owner did not dispute that Xu's failure
14 model is within the scope of its probability matrix in the 821 Patent. And
15 this was discussed in our Reply as well as during deposition on slide 29.
16 Patent Owner's expert did not dispute this. His only counter was that, well,
17 it's not just a model, but it is a failure model. But he may have more. So
18 what we have up here is a scenario where the 821 Patent has two
19 embodiments. The first embodiment where an operator is programming the
20 probability matrix with known probabilities of failure for given nodes or
21 links, which is precisely what the Xu reference teaches. The calculation is
22 not required according to Patent Owner's own expert and Patent Owner's
23 own experts concede that the probability matrix does correspond to a failure
24 model, which is what Xu teaches. If I may proceed. If there's no questions,
25 I just want to quickly address the working and protection paths in Xu.

1 Okay, this was brought up by Patent Owner. Patent Owner argued
2 that the paths in the Xu reference are not a protection path. So we explained,
3 you know, and I have on slide 30 Figure one of the Xu reference. And
4 there's also various passages cited in our petition as well as in our Reply
5 addressing how figure one operates. And we can see in Figure one how Xu
6 explains that you have at a first instance path 110 and path 112 carrying
7 actively carrying data, and Xu does not describe as path 116 carrying any
8 data. Further, Xu explains that in the instance where a link is cut, shown on
9 slide 30 in Figure one of Xu as 114, which is an x on the slide. When that
10 link is cut, a portion, if not all of that data will fail over to the protection path
11 116. So clearly path 116 is a protection path and path 112 was a working
12 path because initially carry data that was the actively carrying path, and path
13 116 provided protection when the link was cut, 114. If we turn to slide 31,
14 we can see Patent Owner's implicit construction. And I just want to note for
15 the record, throughout the proceedings, Patent Owner has made arguments
16 regarding non-existing limitations in the claim, and then they argue that
17 these are not constructions, but then there's implicit constructions adding
18 additional requirements to the claim throughout. And this is another
19 example of such an instance where Patent Owner argues that the Xu
20 references protection path cannot be a protection path because it's actively
21 transmitting data. Effectively, implicitly construing protection as a path that
22 never transmits data unless something fails over to it, and that simply cannot
23 be the case.

24 First of all, that's not in the claim anywhere such a negative
25 limitation, nor is it supported by the specification of the 821 Patent. But I
26 would note quite the contrary. Turning to slide 32, the 821 Patent

1 contemplates supporting the IETF protection switching scheme. And this is
2 a brief in our reply. And this is the 821 Patent, for example, column 3, lines
3 20 through 22 describing that it supports the IETF of protection switching.
4 And when you look at that standard, Your Honors, that standard supports
5 one to N architecture for protection. And what this means is that you have
6 one protection path that will provide failover protection to N working paths.
7 So in the instance where you have one protection path and one of the N
8 working paths has failed, that protection path now will carry actively carry
9 that data of the one that has failed, but it still provides protection to the N
10 minus one paths that are working. So this is an example where a protection
11 path is actively transmitting data but still providing protections to the other
12 working paths within the scope of the 821 Patent. We turn to slide 33.

13 Patent Owner in the sur reply argues that somehow the 821 Patent
14 only provides the examples. This is Patent Owner's sur reply at page nine
15 argues that the 821 Patent only refers to the one to one and the one plus N
16 architectures of the IETF standard, and it provides no examples of one to N.
17 Simply put, this is this argument is baseless because the patent nowhere in
18 the actual analysis, for example at column 354 through 62, nowhere does it
19 limit a one to one or one plus one. And in fact, and I'll read it in the record,
20 here's what the 821 Patent states. A person having ordinary skill in the art
21 will appreciate that other protection switching mechanisms may be
22 employed within the scope of this disclosure. So there's no limit in the 821
23 Patent that a protection path cannot be transmitting data, and in fact it
24 specifically incorporates the IETF standard and sites to it as allegedly
25 supporting it with standard supports one to N. So Xu's working at protection

1 paths. Even though the protection path may in some instances transmit data,
2 it is still nonetheless a protection path.

3 Lastly, on this limitation, I want to point one more inconsistent
4 argument by Patent Owner again at the Sur-reply stage. Turning to slide 34
5 please. Here we have Patent Owner arguing in the Sur-reply at page 24 that
6 the probability of concurrent failure is a total probability that any shared
7 segments fail, in addition to the probability that any destroying segments
8 fail. This is a new construction argument raised by Patent Owner in the sur
9 reply interpreting probability concurrent failure as a total probability. This
10 was never briefed before by Patent Owner and it's for the first instance
11 raised here. But this assertion, again like the previous one, is contrary to the
12 patent itself and I'll bring it in the record. It's the 821 Patent at column six,
13 lines 16 through 19, where the 821 Patent states that the probability of
14 multiple failures affecting two entities may be considered low enough to be
15 disregarded. So this statement in the 821 Patent contradicts Patent Owner's
16 implicit construction belatedly raised in the Sur-reply. So that argument
17 fails, it should not be considered by the Board. Are there any questions on
18 the logic configured limitation that I can address right now?

19 JUDGE DROESCH: I don't believe there are any questions right
20 now.

21 MR. HUH: Thank you, Your Honor, just briefly, I want to touch on
22 dependent claims that were argued by Patent Owner, and I just want to touch
23 on them just to highlight some things for the Board's consideration. Turning
24 to slide 36, if I may, with respect to dependent claim two, the Petition
25 addressed how the prior art teaching in Doshi of switching between working
26 at protection LSP's renders obvious claim two, now that was specifically

1 argued in the Petition, Petition at 46. The Patent Owner Response, the full
2 response never addressed switching of Doshi, never once mentioned
3 switching as it pertains to claim two. Then in Patent Owner's Sur-reply the
4 untimely now again, I think for the fourth or fifth time raised a new
5 argument with respect to this dependent claim, arguing that the switching in
6 Doshi is not sufficient. That untimely argument should not be considered by
7 the Board. That argument was waived, and the Board should give that
8 argument no weight. Turning to slide 37, regarding dependent claim 13, the
9 Petition provided numerous examples of how the prior art teaches
10 sequentially switching LSP's. We also provided a reason to do that, which
11 was to minimize interruption in service. This is Petition at 62.

12 We have, Patent Owner took issue that we didn't cite evidentiary
13 reference for that understanding in the art. We've addressed, we've cited
14 now multiple references that this was known in the art to sequentially
15 change LSP's because you don't want to interrupt service. That was we --
16 you know, Petitioner could probably cite to evidence to support the
17 proposition of knowledge in the art that was raised in the Petition. Turning
18 to slide 38, the last slide. This is regarding claim 18. The Petition addressed
19 claim 18 on its own. It's not the same thing as claim two. And we addressed
20 how Doshi selects pairs comprising the working and the protection from the
21 MPLs LSPs. This was addressed in the Petition. Patent Owner, in its
22 Response, did not address the Petition and focused on the language in claim
23 two confounding claim two with claim 18, therefore never addressing
24 language in claim 18. And I'll stop here in the interest of time if there's no
25 questions on the issues that I discussed today.

1 JUDGE DROESCH: All right. It does not appear that there are any
2 additional questions from my colleagues. We can go ahead with Patent
3 Owner arguments. I believe you have about 22, 23 minutes left for rebuttal.
4 Counsel for Patent Owner, you may begin your presentation when you're
5 ready.

6 MR. STAMATOPOULOS: Thank you, Your Honor. So I would
7 like to start from the requirement that we refer to in our demonstrative
8 exhibits as the selecting limitation. Claim one is representative. It's shown
9 on Patent Owner's demonstrative exhibits, slide 23. You'll see here in slide
10 23, there are three steps that are relevant in claim one, the third of which is
11 the selecting an entity pair from said plurality of transport entities based, at
12 least in part, upon said overall cost. This is key. Said overall cost. The
13 reason this is key is because that said overall cost is actually calculated or
14 determined for each entity pair of said plurality of entities. In the second
15 step that you see highlighted in green and said plurality of entities is key
16 because that's the antecedent basis for that is in turn provided by the first
17 step, which is providing a plurality of multiprotocol label switching MPL's
18 transfer entities between a first endpoint and a second endpoint. You heard
19 incorrectly from Petitioner's counsel that these points have been conceded.
20 The reason you heard incorrectly that these points have been conceded is
21 because if you go to the Patent Owner Response, page 29, you will see
22 Patent Owners position with respect to what entities Doshi calculates costs
23 for, its K entities in the first leg of Doshi, figure eleven, and its L entities for
24 the second leg of Doshi under option two.

25 Our position, and in fact, the disclosure in Doshi is that K plus L at
26 the very most is the totality of candidate pairs provided in Doshi. As I will

1 explain, and as we've also put in our papers, starting from the Patent Owner
2 response, the key difference between Doshi and the 821 Patent claim one, as
3 well as claim 14 with respect to the selection limitation, lies in the number of
4 candidate pairs, and it is for this reason because there is no concession on
5 our part. We put it under the same heading. But all of these three points go
6 hand in hand because one provides antecedent basis to the next and then
7 antecedent basis to the next. And substantively, this point has been made
8 very clearly in our Patent Owner Response. The key distinction with respect
9 to Doshi and the selection limitation is that whereas claim one requires
10 providing a plurality of entities, taking all of the pairs that come out of that
11 plurality and then selecting from that plurality, that's the key. That's what's
12 required under claim one, Doshi does not do that. The reason Doshi does
13 not do that is because the maximum number of pairs in Doshi is always
14 equal to the maximum number of entities in Doshi. Any way you look at it,
15 anywhere you slice it, you will see that the maximum number of entities in
16 Doshi at most is $K + L$, maximum. And if you look at Petitioner's Reply
17 and the expert Declaration submitted by the Petitioner, you will see two key
18 things. Number one, there's no numerical example as to what happens if you
19 take the totality of pairs generated from a plurality where the paths, the path
20 order, is not interchangeable. And that's what. By the way, there's a lot of
21 mischaracterizations of the record here. There's in fact too many for me to
22 try and address and summarize altogether in 60 minutes. So I will
23 intersperse them in my presentation. If you have questions about anything
24 that our expert is said to have said, I would invite you to ask me. But I will
25 try to focus on the most salient points.

1 As Mr. Gomez has testified, you need to look at these pairs because
2 there is a working entity and a protection entity in a pair. One is working,
3 and that's a key point that's actually defined in the patent between two
4 endpoints and the other one is designated to protect the first one in case there
5 is a failure. So obviously, it does make a difference if you have A as your
6 working entity, or B as your working entity, and a pair that's made up of
7 entities and a person of ordinary skill in the art, designing a protection
8 system would know the difference. In fact, I don't believe that a system
9 that's not in the record, but I don't believe that a system could actually decide
10 which of two entities in a pair is the working entity and protection entity,
11 unless there were some type of designation. The moment you find that
12 there's a designation of a working entity and protection entity, the order of
13 the pairs matters. And if you find that the order of the pairs matters, and you
14 should, because that's what Mr. Gomez said, and Dr. Houh, who says
15 incorrectly that he agrees with Mr. Gomez that the order doesn't matter, he
16 hasn't given you any reasons why he agrees with Mr. Gomez that the order
17 of the pairs doesn't matter. He just says, I agree with Mr. Gomez that the
18 order of the pairs doesn't matter. If you look at his Declaration, he doesn't
19 say I agree with Mr. Gomez because there's no because there's no reason.
20 He just says I agree. Once you take a look at Mr. Gomez's testimony, you'll
21 see that that's not what Mr. Gomez said. And so, once you look at Dr.
22 Houh's testimony, you'll see that there's no basis for his incorrect agreement
23 with Mr. Gomez. And once you find that the order of the pairs matters,
24 consistent with Mr. Gomez's testimony, you will see that the 821 Patent
25 requires generating a number of pairs that is given by the following formula.
26 And I'll take you to slide 46 of Patent Owner's demonstrative exhibits.

1 There's no dispute that the total number of pairs once you consider
2 the order of pairs to matter, we talked about why it does. The total number
3 of pairs that will come from a K plurality of entities is $N = K \times K - 1$.
4 That's in the red font here. $N = K \times K - 1$.
5 Now, in the reply, Petitioner made a big point about how the order doesn't
6 matter. That's because they want to divide that $N = K \times K - 1$
7 one over two and why Doshi discloses three entities. If you find that the
8 order doesn't matter and that you could have a three entity system that reads
9 onto the claims, then you would get the one edge case where $N = K$
10 equals three, N also equals. In every other case you will find. And it seems
11 that I'm out of focus. Let me try to fix that. In every other case. In every
12 other case, the claims of the 821 Patent will yield a different number of pairs
13 than Doshi. For ten entities, you'll get 90 pairs. For three entities, you'll get
14 six pairs. And the reason that's important is because if you find that, then it
15 cannot be the case that Doshi selects an entity pair from said plurality of
16 transport entities based, at least in part upon said overall cost, because
17 overall cost has to be for the total number of entities, sorry, for entity pairs.
18 And as we discussed that number for ten for ten entities is 90 pairs. For
19 three entities, it's six pairs. It's never the same. Whether you take
20 disjointedness into account or not, that number is never the same.

21 Now I'd like to briefly touch on some questions raised with respect to
22 claim construction and whether it's appropriate to construe the limitations in
23 claim one as allowing or not allowing for selection from a subset. The
24 claims of claim one sorry, the claim one does allow for selection from a
25 subset. It does not allow for selection based upon set overall cost, where
26 overall cost is determined with respect to a subset. Overall cost is not

1 affected either, if you take a look at the claims, it's not affected either by
2 claim two or by claim four, and it's certainly not affected by claim nine.
3 Let's take a look at claim nine. Claim nine depends from claim four wherein
4 said overall cost function comprises selecting a subset of entity pairs. If said
5 subset comprises at least two entity pairs, selecting an entity pair from said
6 subset, that minimizes an entity cost function. The entity cost function is not
7 part of claim one. This is a limitation on a limitation that's not found in
8 claim one. And then Your Honors, if you go to claim four, which I don't
9 have in the demonstratives, if you go to claim four, claim four reads, the
10 method of claim two, wherein selecting an entity pair further comprises
11 minimizing an overall cost function. The overall cost function of claim nine,
12 which Petitioner points out in its papers, is only added in claim four. It's not
13 part of claim one. Following the same path going from claim four to claim
14 two, the method of claim one, wherein said step of selecting an entity pair
15 further comprises selecting a working entity from said entity pair and
16 selecting a protection entity from said entity pair. There's two key points
17 about this.

18 Number one, claim two, life size does not affect claim one's
19 requirement that you'll see in slide 23, selecting based upon overall cost,
20 which overall cost has to be determined with respect to the totality of
21 entities. That's number one, point number one, which is very important. So
22 claim Petitioner's argument about claim nine and subset selection being
23 within the scope of claim one collapses because there's no limitation affected
24 either by claim two, claim four, or claim nine, which depend from one that
25 affects this overall cost language right here. The second key point with
26 respect to claim two is that it calls out specifically selecting a working entity

1 and selecting a protection entity. Even if Your Honors were to find that in
2 the context of claim one, the order of pairs did not matter. The order of pairs
3 very clearly matters, and the number of entities that you can generate from a
4 set very clearly matters in the context of claim two, because you have an
5 express calling out of a working entity and a protection entity to meet that
6 selection, the cost of those entities needs to matter. And if the cost of those
7 entities matters, then the cost determination of pairs differs depending on
8 which entity is designated as a working or protection entity. That means the
9 order matters in layman's terms.

10 Petitioner also raised the point that there are certain embodiments in
11 the Specification, in particular with respect to Figure 4C, that will be
12 excluded from the scope of claim one. Not true. For the same reason as we
13 discussed with respect to claim nine, the embodiment shown in 4C is not
14 excluded. Very importantly, if you follow the trail from Figure 4C shown in
15 slide 29 of our presentation, you will see that 4C is the detail of the step 310
16 that appears in -- bear with me for one moment, in Figure three of the path.
17 So you'll see that Figure three calls out 310. From 310, you can see the
18 detail of that and 4C. 310 is that -- remember the discussion about a cost
19 function with respect to claims four and nine. That's what 310 refers to. It
20 refers to minimizing a cost function, and if you follow that path, you'll see
21 that 230, which is a larger flow chart that includes step 310, is part of a more
22 high level flowchart shown in figure two. And you'll find that flowchart
23 actually in slide 26 of our demonstrative exhibits. That's selecting an entity
24 pair at 230, selecting an entity pair always comes after step 222. Are all
25 pairs examined? And therefore, you can see that whether you're doing a
26 subset selection or any other type of selection, the key point here is that you

1 need to determine the cost for every single pair associated with a plurality.
2 That's the key point. That's the key point of the 821 Patent, and it's wrong.
3 It's incorrect that we've conceded that point. We have not conceded that
4 point. That's in the Patent Owner's response. It's the antecedent basis for
5 the selection limitation, which goes together with providing a plurality
6 determining a cost for all of the pairs. And what's undisputed? What's
7 undisputed, Your Honors, is our expert's testimony that if you are to find. If
8 you are to find that there's no interchangeability with respect to the entities
9 in a pair, which there isn't, and that a cost determination is required with
10 respect to each and every pair, then you have to find it does not lead onto
11 claim one of the 821 Patent. That's a key point. So let me pause there
12 before I go on to my next one to see if there are any questions.

13 JUDGE DROESCH: I don't think there's any questions.

14 MR. STAMATOPOULOS: The next point that I'd like to address is
15 the question of motivation to combine. Now, you heard from and read from
16 Petitioner that there's a desirability and efficiency or needs or rationales for
17 which a person of ordinary skill in the art would combine to prior art
18 references. And you've also probably read the testimony of our expert that
19 says that, yes, efficiency and reliability are universal needs, and I'll repeat it
20 one more time, let there be any doubt that efficiency and reliability are
21 universal needs in pretty much any industry, including networking. The
22 problem with that, Your Honors, is that you need to have some type of
23 connection between the motivation, some type of nexus between the
24 motivation to combine, whether it be reliability, efficiency, or something
25 else that's universally accepted and the actual combination. And Petitioner
26 has told us that in compulsory terms --

1 JUDGE DOUGAL: Counsel, please, let's pause for a moment.

2 Judge Droesch lost her video. I want to confirm that she is still connected.

3 MR. STAMATOPOULOS: I apologize. Whenever you'd like me to
4 continue, Your Honors, I'm happy to do it.

5 JUDGE DROESCH: Hi, this is Judge Droesch. Was I the only one
6 that dropped off? Okay, I'm back. I think so. Go back. Begin where we
7 left off.

8 MR. STAMATOPOULOS: Your Honor, I'm not sure where you lost
9 me, but I'll attempt to start over. So what I was saying before I stopped was
10 that the issue with Petitioner's argument is not efficiency and reliability are
11 not legitimate or appropriate motivations to combine at large. They are, and
12 they're universally ubiquitous. Who did not want to make an efficient or
13 reliable product? Our expert testified that is something that all network
14 communications equipment providers strive for. That's not the problem with
15 Petitioner's argument that they proffered a generic need in that sense. The
16 problem with Petitioner's argument is that they have made, that they have
17 proffered these motivations to combine without tying them, they've made
18 conclusory assertions, or they've made assertions without support, or argued
19 in conclusory fashion that these motivations would actually motivate a
20 person of ordinary skill in the art to practice the specific combination as
21 claimed in the patent. There's no evidence for that, Your Honors, other than
22 Dr. Houh saying that there would be a need for efficiency or reliability, or
23 choosing more optimal paths, there's no evidence that this particular
24 combination would either result in that, or that a person of ordinary skill in
25 the art would have a reason to believe that it might resent. If you look at
26 Doshi, there's no teaching of re-optimization at all, or reselection at all. If

1 you look at Guichard, you'll see that re-optimization only occurs, or is taught
2 only with respect to networks in which there's no protection entity
3 employed.

4 If you look at claim, sorry, slide 51 of our demonstratives, you'll see
5 that there's one path. Once that path fails, it's torn down, and you migrate to
6 another path. But there's no disclosure. And Petitioner has pointed to no
7 disclosure of Doshi teaching the use of re-optimization in the context of a
8 network in which there's both a working and a protection path. In fact,
9 Guichard distinguishes between protection and restoration. If you go to
10 slide 53, you'll see that Guichard says there's actually two families of
11 network recovery mechanisms, protection and restoration. Protection
12 mechanism. This is Doshi, relies on the precomputation and signaling of a
13 backup alternate path before any failure. In contrast, a restoration
14 mechanism like the one disclosed in Guichard requires a computation of
15 backup only after the failure has occurred. In terms of convergence time,
16 protection mechanisms are usually faster but require more overhead because
17 extra state is required. So they have, they have pros and cons, they have
18 tradeoffs. And critically, what Guichard teaches, if you go to slide 52 at the
19 bottom paragraph, says, in some cases, it might be desirable to elect to use a
20 combination of recovery mechanisms.

21 Now let's take this step by step. It doesn't say it might be desirable to
22 use a protection system and a re-optimized restoration system. It just says in
23 the abstract, it might be desirable to elect to combine some recovery
24 systems. It doesn't say when, it doesn't say why, it doesn't say what, and it
25 doesn't say how. All it says is it might be desirable, and then it goes on. It
26 says, although such an option requires some extra care to avoid risk

1 conditions between recovery mechanisms and double protection, which may
2 lead to a lack of optimality in terms of backup resources. That's an
3 admonition, that's a teaching away. It says, unless you have a very good
4 reason to do this, to combine recovery mechanisms, and we're not even
5 going to tell you what recovery mechanisms to combine, but unless you have
6 a very good reason to do this, it's probably best to avoid. So it's in that
7 context that Petitioner's experts coming and saying and Petitioner coming
8 and saying there's efficiency and reliability and all these other great benefits
9 to obtain from combining Guichard and Doshi. But what they haven't
10 shown you is specific instances where it actually would be desirable. That's
11 needed. That's the law of obviousness. It's not whether I could combine it,
12 it's whether I would combine it. And I need a reason to combine it. I need a
13 motivation, and it needs to not be conclusory.

14 And Petitioner has actually cited a case, a case saying that generic
15 rationales are not inherently suspect. And that's not what we're saying here.
16 We're not saying that generic rationales are suspect. It's the Intel versus
17 Qualcomm case. If you look at the Intel versus Qualcomm case, you'll see
18 that it says, there is another sense in which a rationale could be generic if it's
19 conclusory. If I just say that combine A and B, because A and B would
20 result in greater efficiency, without demonstrating to you or providing some
21 type of evidence as to why there would be greater efficiency. Here Guichard
22 teaches against Doshi is entirely silent on re-optimization. And if you look
23 at Petitioner's other references, including Xu and Huang, you'll see that the
24 context in which a person of ordinary skill in the art would be approaching
25 these references is not a context of let's throw everything together, let's
26 throw every recovery mechanism together because we need extra protection.

1 No, it's one where, and this is laid out in our papers, simplicity and
2 elimination of complexity reprised the redundancy.

3 Petitioner has not produced any evidence regarding this point, which
4 is made in our papers and made by Mr. Gomez. All the Petitioner has done,
5 essentially, is to mischaracterize Mr. Gomez' testimony, who said that in
6 some cases it might be desirable, but you need to vet the mechanism. You
7 need to vet the combined recovery mechanism. In some cases, in the
8 abstract, it might be desirable. The key here is that I can't identify any cases
9 where it might be desirable, and certainly a person of ordinary skill in the art
10 would not have identified any cases where it might be desirable to do so.

11 The other key point, the combination of Guichard and Doshi beyond the
12 absence of evidence that a person of ordinary skill in the art might be
13 motivated to combine the two, is that you don't just need to modify sorry,
14 you don't just need to combine Doshi and you Guichard to practice re-
15 optimization in Doshi and practice claim one. If you were to just do that, if
16 a person of ordinary skill in the art were just to combine Doshi and Guichard
17 based on Guichard's teachings, they would re-optimize only the working
18 entity. Because Guichard only teaches a working entity, there is no
19 evidence. Petitioner has not pointed to any evidence showing that Guichard
20 and Doshi or a person of ordinary skill in the art combining Guichard and
21 Doshi, would modify them in such a way where both the working and the
22 protection entity would be re-optimized as required by the claims.

23 That doesn't necessarily mean that every time you re-optimize, by the
24 way, the claims don't require that you re-optimize the entities by changing
25 both entities. They do require that both of these entities, both the working
26 and the protection entity, be subject to re-optimization. Subject to

1 reselection. In the context of Guichard, only the working entity is ever re-
2 optimized, and Guichard contains ample teachings that are contained also in
3 our papers with respect to why it's not necessarily desirable or not desirable
4 to use the extra resources in order to practice re-optimization writ large in
5 the context of a protection mechanism. There's also, there's also an
6 argument in the Reply that somehow Patent Owner has conceded or
7 admitted that re-optimization is taught in the context of other systems.
8 That's a mischaracterization. Your Honors, we've made the point in our
9 papers that none of the systems that Petitioner has provided to substantiate a
10 reasonable expectation of success disclose re-optimization in the context of a
11 protection system. That's what's needed here. That's what the 821 discloses,
12 the 821 Patent reselection in the context of a protection system. And in fact,
13 the only reference that even mentions a protection entity, the Zamfir
14 reference, is one where our expert explained why it's materially different
15 from claim one. And it's actually Petitioner that has failed to rebut that
16 argument. We have certainly addressed and not conceded, as Petitioner
17 suggests, that there are systems that show re-optimization in the context of
18 protection.

19 The next points that I'd like to address are with respect to the
20 concurrent probability of failure. Before doing so, since this is a slight
21 change of gears, let me pause there and see if there's any questions. If not,
22 I'm happy to move on.

23 JUDGE DROESCH: It doesn't look like there's any questions from
24 my colleagues. Thank you.

25 MR. STAMATOPOULOS: All right, so the claim 14 is slide 60 of
26 Patent Owner's demonstratives. If you look at claim 14, it clearly requires a

1 logic that is configured to determine a probability of concurrent failure. You
2 heard from opposing counsel that a failure model with predetermined
3 probabilities used to assess failures is a logic. I don't believe that's the case.
4 A logic that determines probabilities of failures is a logic that determines
5 probabilities of failures. The fact that you might use predicate failure
6 scenarios to assess how you will distribute loads between paths or traffic
7 between paths is not the same as determining a probability of concurrent
8 failure. But I'd like to take the references one by one with respect to Doshi.
9 If you go to the Petitioner's demonstratives, in particular, slide 24, the
10 disclosures that Petitioner relies on clearly state that the probability of an
11 occurrence of more than one failure during the time interval to repair failure
12 is very insignificant. The teaching here is not to determine a probability of
13 failure, it's to ignore a probability of failure. Those are different things.
14 There's no teaching of determining the probability. There's no teaching of
15 the logic used to determine the probability. All that's being said is like, look,
16 we're using this system. We know from experience that the probability of
17 occurrence of more than one failure during a time interval required to repair
18 failure is slight. So we're not going to actually determine a probability of
19 failure.

20 If you look at Petitioner's papers, you'll see that Doshi clearly does
21 not disclose determining a probability of failure or concurrent failure of a
22 working entity and a protection entity in particular, as required by the
23 claims. It's a shortcut that Doshi discloses. Xu has a very similar issue. It
24 doesn't say ignore, but it doesn't contain a concept of a working entity and a
25 protection entity. It contains the concept of splitting traffic between a
26 variety of entities, and all of these entities share together in the traffic

1 between two endpoints. And then if one of them fails, one or more of those
2 other entities can pick up the slack. And in that context, it says there are a
3 number of failure states that we have deemed to be the most likely. If you
4 go to paragraph 49 of Xu and you can find that on slide 68 of Patent
5 Owner's exhibits, it says, of course any subset has a non zero probability of
6 simultaneous failure, but because of the monster size of all subsets, for
7 practicality, the set is usually restricted to the most probable. So what
8 they're doing is they're taking failure scenarios, assessing the probabilities,
9 predetermining them somehow, and then using those as inputs to a system
10 that does what, distribution. And that's consistent with everything that
11 Petitioner said. Here's what's the difference between Petitioner and Patent
12 Owner. What we're saying and what the claims require, is that there needs
13 to be a logic that determines the probability of the following occurrence.
14 The working entity and the protection entity concurrently fail. That's not the
15 same as the predetermined probability of some failure state. That's a very
16 specific mode of failure, concurrent failure of a working entity and a
17 protection entity. And what the 821 Patent discloses is a system that
18 determines that probability. Xu doesn't disclose that, it uses a set of
19 predetermined, prebaked failure states and their probabilities to assess how
20 to distribute traffic.

21 Now, because the 821 Patent discloses a logic and Xu does not
22 disclose a logic, Petitioner -- and we deal with whether this is a new
23 argument or not, but I think on the substance, if you actually look at the
24 substance, you'll see that what Petitioner is saying here is that look at the
25 821 Patent. There are embodiments in which certain inputs go into this
26 logic. If you look at slide 25 of Petitioner's presentation, node failure

1 probabilities may be configured by the operator span favor probabilities may
2 be assigned, for example, manually by a network operator based on network
3 knowledge. That's not the same as determining the probability of concurrent
4 failure of a working entity and a protection entity. A node and a span are
5 constituent elements. They're the building blocks of entities. You need to
6 put those as inputs into the logic that determines a probability of concurrent
7 failure of a working entity and a protection entity. They're not the outputs,
8 and they're not the process through which that determination is made. And
9 what Petitioner is trying to do here, because Xu doesn't read on the claims, is
10 it's trying to equate the use of certain inputs that are essential to determining
11 the probability of concurrent failure to the determination itself. And it's
12 trying to analogize between what's disclosed some embodiments that are
13 disclosed under specification, which, by the way, Petitioner misconstrues,
14 and what's done in Xu, which is a prebaked model that uses an input, what
15 the claims require determining as an output. And by the way, even the input
16 in Xu, the predetermined probabilities, those don't pertain to the concurrent
17 failure of a working entity and a protection entity. Because, as we've
18 explained, the concept of working and protection entity is not part of Xu.

19 You've heard how we've tried to supposedly improperly limit the
20 concept of a working entity and a protection. That's not true. That is not
21 true. Every single claim requires the selection of an entity pair. Let's start
22 from that. Claim one talks about how an entity pair consists of entities that
23 are between different endpoints, sorry, are between the same two endpoints.
24 There's no disclosure of that in Xu, there's no disclosure of defining entities
25 with respect to specific endpoints, there's no disclosure of designating them
26 in pairs, and there's certainly no disclosure of designating them as a pair of a

1 working and a protection entity. And critically, there's no disclosure of
2 switching over only in the event of a failure. What we're saying here is not
3 that a protection entity needs to sit idly in a network and never transmit any
4 traffic in any of its spans or nodes. What we are saying, however, and
5 what's required in the patent, or at least from the context of the patent, is that
6 traffic is transmitted between two endpoints through the working entity,
7 which is selected as an active entity, and the protection entity only takes
8 over once there is a failure of that working entity. That concept is just not
9 present in Xu, and it's because that concept is not present in Xu, there's no
10 need for a construction here, but there's Petitioner's construction, certainly
11 not proper. And it's also, by the way, untimely. It was not offered in the
12 petition. But because there is no concept, as I was saying, of these two,
13 there's no concept of a working in a protection entity. There can't be a
14 calculation or determination of a concurrent failure of those particular two
15 entities. And so, Xu only discloses the scenario of a predetermined failure
16 scenario without disclosing how that predetermination is made.

17 Briefly, with respect to the argument that Patent Owner's implicit
18 construction excludes the 821 Patents IETF embodiment, which supports
19 one to N protection that's in slide 32 of Petitioner's presentation. First of all,
20 the patent says nothing. If you read the patent, the patent says nothing about
21 the one through N architecture that Petitioner is pointing to. If you go to the
22 patent, column one lines 54 to 57. So, these mechanisms rely on proactive
23 connectivity verification between the endpoints for fast failure detection and
24 support, both one to one and one plus one protection architectures that's
25 different from the one to N architecture that Petitioner points to. Second,
26 there's no incorporation by reference of the specification to which Petitioner

1 relies, on which Petitioner relies. Third, and critically, if you actually go to
2 Exhibit 1033 and you go to where it refers to the one to N architecture, on
3 page five of 27, you'll see that what it says is details for the one to N
4 protection switching architecture will be provided in a future version.
5 There's no disclosure the one to N protection architecture, there's no
6 disclosure that this could be within the ambit of the working and protection
7 entities that are part of the claims of the 821 Patent. So that argument is
8 incorrect on the facts. How am I doing on time by the way?

9 JUDGE DROESCH: Counsel, you have about 20 minutes left of
10 your 60 minutes.

11 MR. STAMATOPOULOS: Let me touch briefly on dependent claim
12 two. So with respect to dependent claim two, Patent Owner submits that this
13 is not an untimely argument. First of all, Your Honors, if you look at the
14 Patent Owner response, response was based on how Doshi actually works.
15 There's no specific mention of the switching that Petitioner raised, but there's
16 a comprehensive response with respect to how Doshi works. But even if
17 you were to consider this argument as untimely, which we submit it isn't,
18 then you'd still need to take into account the fact that the claim two stands
19 for selection of the working entity from said entity pair and a protection
20 entity from said entity pair, which in the event that there were any doubt
21 with respect to claim one, claim two makes absolutely clear that the ordered
22 pair matters. And if you find that the ordered pair matters, which it does, at
23 the very least with respect to claim two, then that's an independent reason of
24 the switching that Petitioner has raised for finding claim two. And with that,
25 I'll end here and reserve time. Thank you very much.

1 JUDGE DROESCH: Thank you, counsel, you have about 19
2 minutes left. Counsel for Petitioner, you have about 22 or 23 minutes for
3 your rebuttal, and you may begin when you are ready.

4 MR. HUH: Very good. Thank you. Just a few brief points. First,
5 regarding Patent Owner's argument that there's a less key point of the
6 interchangeability between the working and the entity pair in claim one. Just
7 now, as he came off the argument, effectively conceded that claim two
8 actually indicate that there's no requirement that claim one entity pairs are
9 not interchangeable. So claim two actually is the one that ultimately selects
10 the working entity and the protection entity from the entity pair in claim one.
11 So the whole argument that was allegedly a key argument on claim one has
12 just been conceded that it's actually not an argument for claim one.

13 Secondly, I would note also that with respect to claim 14, Patent
14 Owner argued that Xu does not have a working and protection entity pair.
15 Well, claim 14 has no pair requirements in the claim. If you look at claim
16 14, Your Honors, I would direct your attention to that claim, and it speaks to
17 a working and a protection entity, but it doesn't characterize them as a pair.
18 And there's no dispute that the Xu reference does have a working entity.
19 And then when there's a failover, when logic fails, when the link fails at 114
20 shown on figure one of Xu, there is a failover to the protection path. So
21 there is a working entity and a protection entity in Xu. Again, 14 has no pair
22 requirement. So that's another point that Patent Owner effectively now
23 concedes regarding claim 14.

24 Just briefly, I want to touch on the logic configured to just bring it
25 back briefly to the Petition. We identified in the Petition at page 80, and we
26 stated that it would have been obvious to use Doshi's logic to perform

1 Doshi's flow chart logic, including the path calculation and selection
2 techniques. And then we further cited to Xu at Petition at page 81, citing to
3 Xu and stating that the Xu models failure states would cause at least one
4 path to fail. As part of that, we cited various passages in Xu which actually,
5 again, as we presented in our slides, and I want to just read it in the record so
6 it's clear on slide 28. We read it, we explained, and this was cited in the
7 Petition. But Xu's failure scenarios apply to links or nodes that are most
8 probable to cause simultaneous failure of multiple upper layer links. And
9 we explain how Xu utilizes those scenarios with the shared vulnerability to
10 calculate multiple diverse paths. And there's no dispute that Xu actually
11 utilizes the failure model in its calculations for the path. Patent Owner
12 counsel again, conceded that during the argument. So we know. What we
13 do know is that Xu's failure model is created and that is software. And that,
14 according to Patent Owner's expert, a model is just software or logic. Logic
15 is software and we know that that failure model has within it has been
16 configured by the network operator in Xu, just like the 821 Patent with
17 predetermined probabilities of failures, including the most probable failures
18 that cause simultaneous failures of multiple upper layer links. This is Xu at
19 paragraph 49.

20 And you know, Patent Owner's argument just now that, well, Xu
21 only does the most probable and does not do all of the total possibility of
22 failures of these states. Again, I would note that the 821 Patent itself does
23 the exact same thing if we turn to slide 34 in our demonstratives. I wanted
24 to make it clear in the record that the 821 Patent also in fact disregards
25 multiple failures that affect two entities. So as long as you have one failure
26 probability, and our example would have been router 106. But as long as

1 you have one failure probability, that is corresponding to two links on that
2 node, which is what we explained in our briefings that meets the claim.
3 Because again, the 821 Patent itself at column six, line 16 through 19 states
4 the probability of multiple failures affecting two entities, such as a second
5 failure occurs before the entity pair reselection process triggered by the first
6 failure was completed, may be considered low enough to be disregarded. So
7 this concept of that the router 106 probability that in our example is
8 insufficient to meet the probability of concurrent failure of multiple paths,
9 that argument is simply incorrect because the patent itself does not consider
10 all possible probabilities at one time in its determination of probability of
11 concurrent failures. As long as you have a probability of concurrent failure
12 in our example, it would have been router 106 shown on slide 28. And
13 because you know that probability and you determine that, and consequently
14 that probability is also determining the probability that in figure one of Xu,
15 that path 112 would fail and path 160 would fail at the same time. Because
16 when that node goes down, both paths that traverse the node goes down at
17 the same time. So again, Xu does exactly what the patent does with respect
18 to the failure model. And really the only question is, does this determination
19 require calculation?

20 As Patent Owner, you know, as Patent Owner seeks to argue in its
21 briefings, but does not construe it as such, you know, Patent Owner never
22 construe this limitation as requiring a calculation, right? Patent Owner does
23 not dispute that its own failure model, the probability matrix, is configured
24 by the network operator with predetermined probabilities. That's conceded,
25 and that is logic. So that's logic that's configured to determine probability
26 concurrent failure. In the same way, Xu's failure model is logic, because it's

1 software logic in NMS 102. So that's also logic that's configured probability
2 of concurrent failure as we explained. So, the only real question on this
3 issue, you know, from Petitioner's perspective, is, does this limitation require
4 calculation in real time? That's automatic, which is the second embodiment
5 of the 821 Patent. And we would submit that if the Board does not construe
6 this limitation to require that automatic calculation, then clearly the Xu
7 reference in combination with Doshi renders obvious this limitation.

8 And I want to pause there because this is important, because that's
9 really the crux of Patent Owner's arguments through its briefings, is that
10 there's a calculation required, but they never construe it as such. And what I
11 would submit to the Board is that if there's no such requirement, then clearly
12 Xu is exactly on top of the first embodiment of the 821 Patent. And if
13 there's any questions on how Xu renders that obvious, I'm happy to address
14 it and, you know, go into further details if there's any questions. But our
15 petition specifically cited to Xu's failure modification at 81, the same
16 passages in Xu that are brief in the reply. Does the Board have any
17 questions that I may address today?

18 JUDGE DROESCH: I don't believe that I or my colleagues have any
19 questions right now.

20 MR. HUH: Very good. Thank you, Your Honor. I'll stop you in the
21 interest of time. Thank you.

22 JUDGE DROESCH: Thank you, counsel. Council for Patent
23 Owner. You have 19 minutes for rebuttal.

24 MR. STAMATOPOULOS: Thank you, Your Honor. I will pause
25 for you to ask me questions. I'm sure that you'll interrupt me if you do. I
26 just want to address some of the points that were just now raised by

1 Petitioner's counsel. So, first, with respect to claim two, Petitioner's counsel
2 suggested that we somehow conceded that the order doesn't matter. That's
3 not true. What we said simply is that if the Board finds that the order
4 matters with respect to claim one, and the Board should, then that settles the
5 matter. Or should settle the matter with respect to claim one and claim one's
6 patent. Because claim one doesn't actually mention a working and a
7 protection entity, those entities are implied because of the entity pair
8 determination. All the Board needs to do is look at claim two. And so, we
9 submit that the order matters for both claims. But if it doesn't matter for
10 claim one, it certainly should matter unambiguously and expressly so with
11 respect to claim two. That's not a concession. We're just making two
12 arguments. It's not entirely clear in claim one, which it should be. It should
13 be very clear in claim two. Next –

14 JUDGE ENGELS: Counsel, this is Judge Engels.

15 MR. STAMATOPOULOS: Please.

16 JUDGE ENGELS: So claim two depends from claim one, and
17 narrows claim one, doesn't it effectively narrow it by, as you would say,
18 making the order matter?

19 MR. STAMATOPOULOS: Respectfully, Your Honor, no. All the
20 claim two adds is that you actually have the selection of a working entity
21 and a protection entity. That selection is missing from claim one. But the
22 fact that the selection is missing from claim one doesn't off need to
23 determine costs with respect to all possible pairs. You still need to
24 determine the cost with respect to all possible pairs. And all possible pairs
25 means that you need to take into account the order of entities within those
26 pairs. Whether you have an explicit reference to a working and a protection

1 entity, that doesn't change the fact that the order of the pairs matters, because
2 if you don't take order of pair order into account, then you're left with an
3 incomplete set of pairs. A person of ordinary skill in the art would know
4 this, but if Your Honor's find, we submit that would not be a correct finding
5 that the pair order is not spelled out in claim one. Then all you need to do is
6 take a look at claim two. And there it becomes abundantly clear because of
7 this additional selection step that the pair should matter. Again, you don't
8 need what's in claim two, but I just want to bring it to your attention lest it
9 fall through the cracks. This claim two, which is a dependent claim, and
10 they're sometimes neglected and breathe things in an argument. Not sure if
11 I've answered your question. Thank you.

12 Next, I'd like to address Petitioner's counsel argument about claim
13 14. That claim 14 doesn't characterize the working and protection entity as a
14 pair. There's clearly a selection of a working entity. There's a selection of
15 protection entity. Those concepts are clearly recited. There's no selection of
16 any third entity. The patent itself talks about pairs everywhere in the
17 specification. This new argument now that there's no characterization of the
18 working and protection entities as a pair, I think is misplaced. It's
19 unsupported. I think it's baseless. I'm happy to address any questions you
20 may have on this argument, but if not, I'll move on and go on to -- and I'd
21 like to seize on something that Petitioner's counsel said just now, that there's
22 a network operator that plugs in the predetermined probabilities in Xu, and
23 there may be a network operator that plugs in some inputs into the
24 probability matrix of the 821 Patent. Without addressing whether this is
25 right or wrong. Just assuming for argument's sake that this is right, there's a
26 big difference between those two things. Here's what the difference is. Xu

1 takes prebaked probabilities as inputs and uses them for an entirely different
2 process, not for determining concurrent failures, but for splitting ratios. The
3 821 Patent does have inputs into its logic. Those might be span or node
4 failures, but then it uses those in order to determine the probability of
5 concurrent failure of an entirely different concept or item or object, if you
6 will. That object is a working entity and a protection entity.

7 We're not disputing with the logic needs inputs what we are
8 disputing, and I think that's the crux of our dispute with Petitioner. Whereas
9 Xu discloses a prebaked output that's used for some other purpose, the 821
10 Patent requires in its claims a logic that will determine on the basis of certain
11 inputs the probability of occurrence of a particular event. That event is the
12 concurrent failure of a working entity and a protection entity. That concepts
13 not disclosed in Xu, there's no determination. I wish I could point to you,
14 point you to something that shows that this doesn't exist. Unfortunately, I
15 don't think that's possible. But the full context of Xu, if you read Petitioner's
16 papers and the evidence they've introduced, you'll see that that just isn't
17 there. You need to take a make a logical leap and equate some disclosures
18 about the inputs in the probability matrix in the 821 Patent, which is not all
19 that the claim requires. That's just a piece of the probability matrix to the
20 predetermined probabilities in Xu, and that would not be appropriate.

21 With respect to this question of a calculation. I think this is the first
22 time I've heard now that Petitioner would like to hear a construction of what
23 determines means. We submit that determines has a readily understood
24 meaning. You need a lot that logic has some inputs and it spits out some
25 outputs. In this instance, the outputs are the probability of a concurrent
26 failure. You need to have a logic that determines that. I'm not prepared

1 right now to tell you whether this is a product of a calculation or some other
2 type of computation. I don't think it's required. I do think that determine has
3 a readily understood meaning. If Your Honors have questions on that, I'm
4 happy to address those. If not, I'll stop here. Thank you.

5 JUDGE DROESCH: All right, counsel, it does not look like my
6 colleagues have any additional questions for you. Thank you both, counsel,
7 for your presentation today. They're helpful to deciding the cases. We're
8 going to submit both cases, and we're going to go off the record.

9 (Whereupon, the proceedings at 4:05 p.m. were concluded.)

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