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Paper 12
Date: April 11, 2025

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CISCO SYSTEMS, INC.,
Petitioner,

v.

PORTSMOUTH NETWORK CORP.,
Patent Owner.

IPR2024-00954
Patent 8,199,637 B2

Before SCOTT R. BOALICK, *Chief Administrative Patent Judge*, JACQUELINE WRIGHT BONILLA, *Deputy Chief Administrative Patent Judge*, and MICHAEL W. KIM, *Vice Chief Administrative Patent Judge*.

KIM, *Vice Chief Administrative Patent Judge*.

DECISION
Delegated Director Review of
Decision Denying Institution of *Inter Partes* Review
37 C.F.R. § 42.75

I. INTRODUCTION

Cisco Systems, Inc. ("Petitioner") filed a Petition requesting *inter partes* review of claims 1–25 of U.S. Patent No. 8,199,637 B2 (Ex. 1001, "the '637 patent"). Paper 2 ("Pet."). Portsmouth Network Corp. ("Patent Owner") filed a Preliminary Response. Paper 6 ("Prelim. Resp.").

On December 13, 2024, the original Board panel issued a Decision Denying Institution of *Inter Partes* Review. Paper 7 ("Dec." or "the prior Decision"). The Petitioner cited the prior art reference Mitchell[1] in all grounds raised in its Petition. *Id*. at 6–7. In relevant part, the prior Decision states that Mitchell only teaches propagating failure information downstream (towards the network's edge or endpoints) but not upstream, and that Petitioner does not sufficiently show that "one of ordinary skill in the art would have learned of the recited propagation and receipt to and from 'each node of the other nodes of the plurality of network nodes traversed by the first set of links' from Mitchell's downstream propagation of failure information." *Id.* at 19 (footnote omitted).

Petitioner filed a timely request for rehearing by the Director, seeking Director Review of the Board's Decision Denying Institution. Paper 8 ("DRR" or "Request"). The Director issued an order stating that she had considered the request for Director Review and "determine[d] that the Decision warrants review by an independent Delegated Review Panel ('DRP')," and "delegate[d] Director Review of the Decision to a DRP to

[1] U.S. Patent No. 8,208,370 B1 (Ex. 1005, "Mitchell").

review the Decision and determine" whether to grant rehearing. Paper 9, 2. The Director ordered the DRP to

> review the Decision and determine: (1) whether the Board engaged in an implicit claim construction of the claim limitation "propagating failure information by the detecting node to each node of the other nodes," and if so, whether that construction was correct; and (2) whether the Board properly considered Petitioner's argument that Mitchell reads on the propagating failure limitation.

Id. (footnotes omitted).

We have reviewed Petitioner's request, the prior Decision, the relevant papers, and the relevant exhibits of record in this proceeding. Upon review, we deny rehearing. Specifically, we determine that the Board implicitly construed claims 1 and 16 and that construction was correct. We also determine that the original Board panel did not overlook, and properly considered, Petitioner's arguments regarding Mitchell.

II. BACKGROUND

A. The '637 Patent

The '637 patent is titled "VPLS Remote Failure Indication" and "relates generally to communication networks, and particularly to methods and systems for providing virtual private LAN services (VPLS)." Ex. 1001, code (54), 1:17–19. Claim 1 of the '637 patent is illustrative of the challenged claims, and is reproduced below with emphasis added to highlight the disputed claim language.

> 1. [1pre] A method for handling a communication failure in a network, comprising:
>
> [1a] provisioning different first and second instances of a multipoint-to-multipoint (MP-MP) communication service over respective first and second alternative sets of links that connect a plurality of endpoints in the network,

> [1b] each of the sets traversing a plurality of network nodes, which provide physical layer resources for operating the links;
>
> [1c] providing the communication service to the endpoints over the first set of links using the first instance;
>
> [1d] upon detecting a failure in the first set of links by a detecting node of the plurality of network nodes:
>
> [1e] *propagating failure information by the detecting node to each node of the other nodes of the plurality of network nodes traversed by the first set of links*;
>
> [1f] for each node of the other nodes of the plurality of network nodes traversed by the first set of links:
>
> [1g] receiving the failure information; and
>
> [1h] deactivating a physical layer of the first set of links connected thereto, thereby causing a loss of connectivity in the first set of links; and
>
> [1i] responsively to sensing the loss of connectivity, resuming the communication service over the second instance by automatically transferring communication among the endpoints to the second set of links.

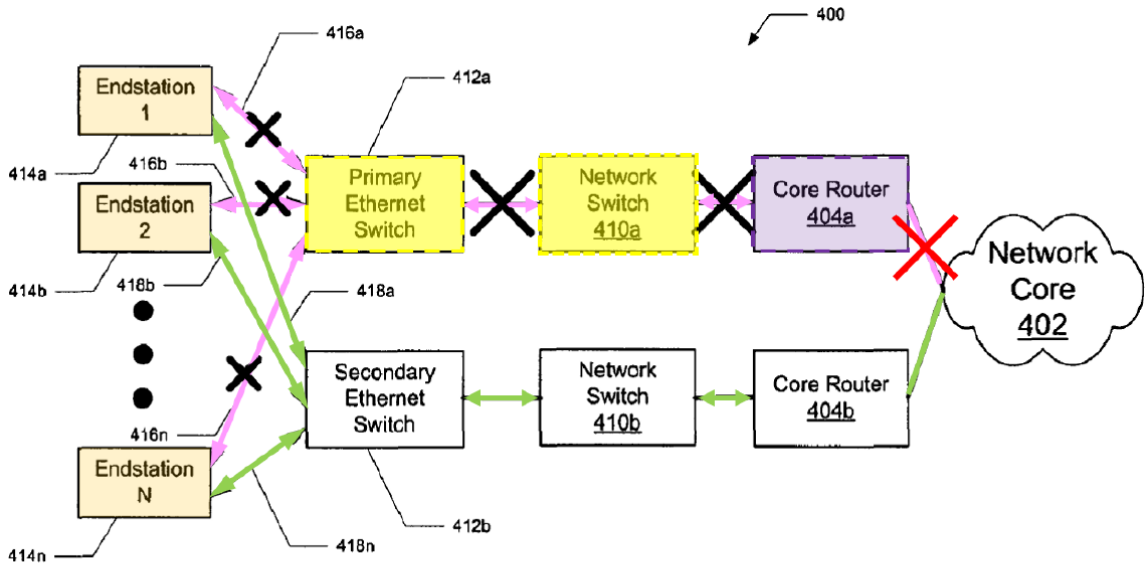
Ex. 1001, 11:19–43 (bracketed designations added by Petitioner (*see* Pet. viii–ix)).

B. The Parties' Arguments and the Decision Denying Institution

The original Board panel denied institution because it concluded that information presented in the Petition failed to establish a reasonable likelihood that Petitioner would prevail in showing the unpatentability of any of the challenged claims. Dec. 21. Specifically, the prior Decision states that Petitioner did not show sufficiently that Mitchell meets "propagating failure information by the detecting node to each node of the other nodes of the plurality of network nodes traversed by the first set of links," as recited in independent claim 1. The prior Decision explains that Mitchell "does not

teach propagation to each node, but rather it teaches continuing down the path to message only the remaining nodes in the path between the failure and the endpoints." *Id.* at 19.[2]

To illustrate its arguments about this claim limitation, Petitioner provides an annotated version of Figure 4 in Mitchell, which is reproduced below. Pet. 25.



EX1005, FIG. 4. EX1002, ¶94.

Id. As stated in Mitchell, Figure 4 "illustrates a data processing system including a primary Ethernet Switch network element." Ex. 1005, 2:65–67. More specifically, Figure 4 of Mitchell depicts data processing system 400 including primary and secondary core routers 404a and 404b respectively. *See* Ex. 1005, 7:34–39. Petitioner modified Figure 4 of Mitchell by adding a red X representing a failure between network core 402 and core router 404a and adding color to a number of features. *Compare* Ex. 1005, Fig. 4 (original), *with* Pet. 25 (annotated and modified). Mitchell recites that "a

[2] Independent claim 16 recites a substantively similar limitation, to which the original Board panel also applied this analysis. Dec. 19–20.

failure such as that illustrated on a link between primary network switch 410a and core router 404a may be propagated downstream to one or more of end stations 414." Ex. 1005, 7:49–53. According to Petitioner, a person having ordinary skill in the art would have understood that in the event that core router 404a detects a failure, "each of the downstream network elements (*i.e.*, network switch 410a and primary ethernet switch 412a) receive the propagated failure information." Pet. 25 (citing Ex. 1005, code (57), 2:24–33, 7:25–29, 7:36–53; Ex. 1002 ¶¶ 95–96).

In its Preliminary Response, Patent Owner counters that Mitchell does not teach the disputed limitation. Prelim. Resp. 5–7. Specifically, Patent Owner argues that "Mitchell does not disclose the propagation of failure information to ***each*** node in the network topology, rather, Mitchell only teaches that 'failure information is propagated ***downstream***.'" *Id.* at 6 (citing Ex. 1005, 4:10–15). According to Patent Owner, even when core router 404a detects a failure and propagates failure information, "it does so for network elements downstream of the core router. Nothing in Mitchell's disclosure suggests the deactivation of links upstream of the link failure." *Id.* at 7 (emphasis omitted).

In the prior Decision, the original Board panel determined that Mitchell was limited to propagating failure information downstream, and did not propagate the failure information to any nodes between the detected failure and the network's core:

> Thus, based on our review of the reference, Dr. Houh's testimony, and the parties' arguments, we understand Mitchell to teach the propagation of failure information from the location of the failure to the network's edge or endpoints and that this propagation excludes nodes between the detected failure and the network's core. Therefore, the question before us is whether one

> of ordinary skill in the art would have learned of the recited propagation and receipt to and from "each node of the other nodes of the plurality of network nodes traversed by the first set of links" from Mitchell's downstream propagation of failure information. We are not persuaded that Petitioner's showing is sufficient.

Dec. 19.

The prior Decision further addresses Petitioner's argument based "upon a circumstance where the failure occurs far upstream and uses that case to assert that Mitchell teaches the recited propagation and receipt." Dec. 19. In particular, because Mitchell only teaches propagating failure information to downstream nodes, the prior Decision found that "circumstance" insufficient to teach the disputed limitation:

> Claims 1 and 16, however, respectively recite the propagation to "each node" and "all nodes." Mitchell, in contrast, does not teach propagation to each node, but rather it teaches continuing down the path to message only the remaining nodes in the path between the failure and the endpoints. It specifically and explicitly sets out to maintain connectivity with all nodes upstream of the failure. This is materially different from the claims of the '637 patent, and Petitioner has not provided a sufficient explanation to establish that one of ordinary skill in the art would have found it obvious to extend Mitchell's downstream-only propagation to instead include the recited propagation and receipt of failure information to and by each and all nodes. In other words, Petitioner does not assert that one of ordinary skill in the art would have understood Mitchell's disclosures to teach any interaction with the upstream nodes that would inform those nodes of a failure. Nor does Petitioner or Dr. Houh explain that an expansion of Mitchell's teaching to include such an interaction with the upstream nodes would have been obvious. Mitchell sets out to preserve upstream links and the existence of a case that Petitioner argues has no upstream links

> with connectivity that may be preserved does not teach a system that sets out to disrupt all links.

Id. at 19–20.

C. Petitioner's Request for Director Review

In its Request for Director Review, Petitioner argues that the Board erred in three ways: (1) "by carrying out an implicit claim construction to add additional limitations not found in the claims"; (2) "by ignoring that one instance of the prior art reading on the claims can nevertheless render the claim unpatentable"; and (3) "by failing to consider the prior art as modified and presented in the Petition in its obviousness analysis." DRR 1; *see also id.* at 6.

D. Delegation of Director Review

The Acting Director issued an order stating that she had considered the request for Director Review and "determine[d] that the Decision warrants review by an independent Delegated Review Panel ('DRP')," and "delegate[d] Director Review of the Decision to a DRP to review the Decision and determine" whether to grant rehearing. Paper 9, 2. The Director ordered the DRP to

> review the Decision and determine: (1) whether the Board engaged in an implicit claim construction of the claim limitation "propagating failure information by the detecting node to each node of the other nodes," and if so, whether that construction was correct; and (2) whether the Board properly considered Petitioner's argument that Mitchell reads on the propagating failure limitation.

Id. (footnotes omitted).

III. ANALYSIS

A. Whether the Board Implicitly Construed the Claims

Independent claim 1 recites, *inter alia*, "propagating failure information by the detecting node to each node of the other nodes of the plurality of network nodes traversed by the first set of links." Ex. 1001, 11:31–33. Independent claim 16 recites substantially the same limitation: "to propagate a first message notifying all other nodes in the network that are traversed by the first set of links upon detecting the local failure." Ex. 1001, 12:48–50. Although claim 1 requires failure information to be propagated to "each node" and claim 16 requires propagation to "all other nodes," the parties do not treat the limitations differently. *See* Pet. 35 (analysis of claim 16 adopting the arguments presented for claim 1); Prelim. Resp. 5–7 (arguing claims 1 and 16 together). We agree with the parties that there are no material differences between the limitations.

Petitioner argues in its Request that "[w]ithout explicitly carrying out a claim construction analysis, the Board abused its discretion by improperly engaging in claim construction." DRR 6 (citing *PLR Worldwide Sales Ltd., v. FLIP Phone Games Inc.*, IPR2024-00133, Paper 12 at 7 (PTAB Aug. 22, 2024) (Decision Granting Director Review)). For the reasons set forth below, although we agree with the Petitioner that the prior Decision does set forth an implicit claim construction, we disagree that it was improper or an abuse of discretion.

To begin, Petitioner states in its Petition that "no terms require construction for the purposes of this IPR." Pet. 9 (citing Ex. 1002 ¶¶ 52–53). Similarly, Patent Owner states that "at this stage in the proceeding, Patent Owner will apply the ordinary and customary meaning to the '637 Patent's

claim terms." Prelim. Resp. 3. Despite the agreement that an explicit claim construction was not needed, an analysis of each party's arguments concerning the prior art shows that there was no agreement as to the meaning of the limitations at issue.

Specifically, regarding claim 1, Petitioner advances arguments focusing on whether Mitchell teaches propagating failure information to downstream nodes. *See, e.g.*, Pet. 23 ("Mitchell discloses that upon detection of a failure in the link, the link failure information is propagated downstream by the detecting node. EX1005, 4:10-15 ('As the link state or link ***failure information is propagated downstream***….') . . . ." (emphasis omitted)); Pet. 25 ("Mitchell discloses that each of the downstream network elements (*i.e.*, network switch 410a and primary ethernet switch 412a) receive the propagated failure information.") (citing Ex. 1005, code (57), 2:24–33, 7:25–29, 7:36–53; Ex. 1002 ¶¶ 95–96).

In response, Patent Owner focuses on whether the failure information was propagated to each/all nodes, not just the downstream nodes. *See, e.g.*, Prelim. Resp. 6 ("Mitchell does not disclose the propagation of failure information to ***each*** node in the network topology, rather, Mitchell only teaches that 'failure information is propagated ***downstream***.'") (quoting Ex. 1005, 4:10–15), 7 ("[e]ven if core router 404a propagates link failure, it does so for network elements ***downstream*** of the core router. Nothing in Mitchell's disclosure suggests the deactivation of links upstream of the link failure.").

In resolving this dispute, the prior Decision phrased the issue as "whether one of ordinary skill in the art would have learned of the recited propagation and receipt to and from 'each node of the other nodes of the

plurality of network nodes traversed by the first set of links' from Mitchell's downstream propagation of failure information." Dec. 19 (footnote omitted). Similarly, when considering the example where the failure occurs far upstream, the prior Decision evaluated whether this would have taught a person of ordinary skill in the art to propagate the failure information to all nodes, no matter where they were located. In particular, the prior Decision states:

> Claims 1 and 16, however, respectively recite the propagation to 'each node' and 'all nodes.' Mitchell, in contrast, does not teach propagation to each node, but rather it teaches continuing down the path to message only the remaining nodes in the path between the failure and the endpoints. It specifically and explicitly sets out to maintain connectivity with all nodes upstream of the failure. This is materially different from the claims of the '637 patent, and Petitioner has not provided a sufficient explanation to establish that one of ordinary skill in the art would have found it obvious to extend Mitchell's downstream-only propagation to instead include the recited propagation and receipt of failure information to and by each and all nodes. In other words, Petitioner does not assert that one of ordinary skill in the art would have understood Mitchell's disclosures to teach any interaction with the upstream nodes that would inform those nodes of a failure.

Id. at 19–20.

We agree that the prior Decision does not explicitly frame any of this analysis as a claim construction. The actual issue before the original Board panel, however, implicitly came down to resolving a dispute as the plain and ordinary meaning of the relevant claim terms. *See O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1361 (Fed. Cir. 2008) ("A determination that a claim term 'needs no construction' or has the 'plain and ordinary meaning' may be inadequate when a term has more than one

'ordinary' meaning or when reliance on a term's 'ordinary' meaning does not resolve the parties' dispute."). In order to resolve that dispute, the prior Decision essentially construed "each node" or "all other nodes" to mean all nodes,[3] regardless of whether the node was upstream or downstream from the failure. We see nothing improper with the original Board panel choosing to resolve the dispositive issue in this manner, even if not formally designating it as a claim construction.

B. Whether the Board's Implicit Construction Was Correct

Petitioner next argues that "the Board abused its discretion by . . . implicitly adding limitations to the claims." DRR 6 (citing *PLR Worldwide*, IPR2024-00133, Paper 12 at 7 (Decision Granting Director Review)).

> Specifically, the Board required that Mitchell further teach or render obvious '***interaction with the upstream nodes*** that would inform those nodes of a failure,' even though the claims were drafted broadly to encompass situations in which the failure detecting node is the most upstream node so that failure information can only propagate downstream."

Id. at 6–7 (citing Dec. 19–20). According to Petitioner, in imposing this limitation, "the Board provided no explanation as to why it reads the '637 Patent to require failure propagation upstream other than opining that 'all nodes' necessarily includes both upstream and downstream nodes." *Id.* at 7 (citing Dec. 19–20). For the reasons discussed below, we agree with the prior Decision's construction requiring failure information to be propagated to all nodes, regardless of whether the node is upstream or downstream from the failure.

[3] Although there are times the original Board panel mentioned upstream nodes, we read that as requiring propagation with all nodes, without any limitations. By definition, all nodes would include all downstream and upstream nodes, assuming there are any.

We begin with the words of the claims. The relevant language in claims 1 and 16 is broad, referring to "each node" or "all other nodes." Ex. 1001, 11:31–33, 12:48–50. That language does not refer to any specific type of node, such as upstream or downstream nodes. Thus, the prior Decision's implicit construction, which does not limit "nodes" to a particular type of node, is consistent with the claim language itself. The original Board panel's claim construction is likewise consistent with language in the specification of the '637 patent. The specification indicates that the fault information is sent to all other nodes, as noted below when referring to "the other nodes":

> In order to improve the protection provided by network 20, embodiments of the present invention provide improved methods for initiating the diversion of traffic to the backup topology. In principle, when a network node detects a local failure or other loss of connectivity in one of the links of the primary topology, *the node propagates this information to the other nodes of the primary topology*. The detecting node propagates the information by distributing a message, which is referred to herein as a remote fault indication (RFI).

Ex. 1001, 7:7–15 (emphasis added). Thus, like the words of the claims, the specification does not limit the recited nodes to either upstream or downstream nodes.

Additionally, the prior Decision's construction is consistent with the prosecution history. Specifically, when the applicant amended the claims to add the relevant limitation (Ex. 1004, 157), the applicant described the invention as "sending a failure information message to *all* the other nodes of the communication service" (*id.* at 164) (emphasis added). Similarly, in response to another rejection (*id.* at 170–82), the applicant described the claimed invention as "sending a failure information message to *all* the other

nodes of the communication service." *Id.* at 204 (emphasis added). The applicant then distinguished Grenier, which the examiner relied on as anticipatory prior art, which only sent "failure information from a detector node to a *single* predefined selector node for restoring connectivity." *Id.* (emphasis added). Thus, the prosecution history supports a construction that failure information must be propagated to every node, not just those upstream or downstream from the failure.

To the extent that Petitioner focuses solely on downstream nodes (*see* Pet. 23), that is incorrect. Downstream nodes are not discussed in either the words of the claim, the specification, or the prosecution history. Instead, as discussed above, the claims require propagation to all nodes, regardless of location.

C. Whether the Board Properly Consider Petitioner's Argument

Petitioner argues that the original Board panel did not consider a modified version of Mitchell. DRR 12–15. Specifically, in the Petition, Petitioner argued that a person having ordinary skill in the art "would have readily understood that just as primary switch 104a in Figure 2 is used to detect a failure, it would have been possible for the core router 404a in Figure 4 to detect a failure in the link between the core router 404a and the network core 402." Pet. 20 (emphasis omitted); *see also id.* at 20–22 (expounding on the same). This modification would allow core router 404a to detect a failure and then propagate that failure information. *Id.* at 23–26.

The original Board panel did not overlook that modified version of Mitchell. To the contrary, the prior Decision expressly acknowledged the version of Mitchell which detects the failure far upstream. Dec. 15–16 (discussing Petitioner's argument based on modified Mitchell). Additionally,

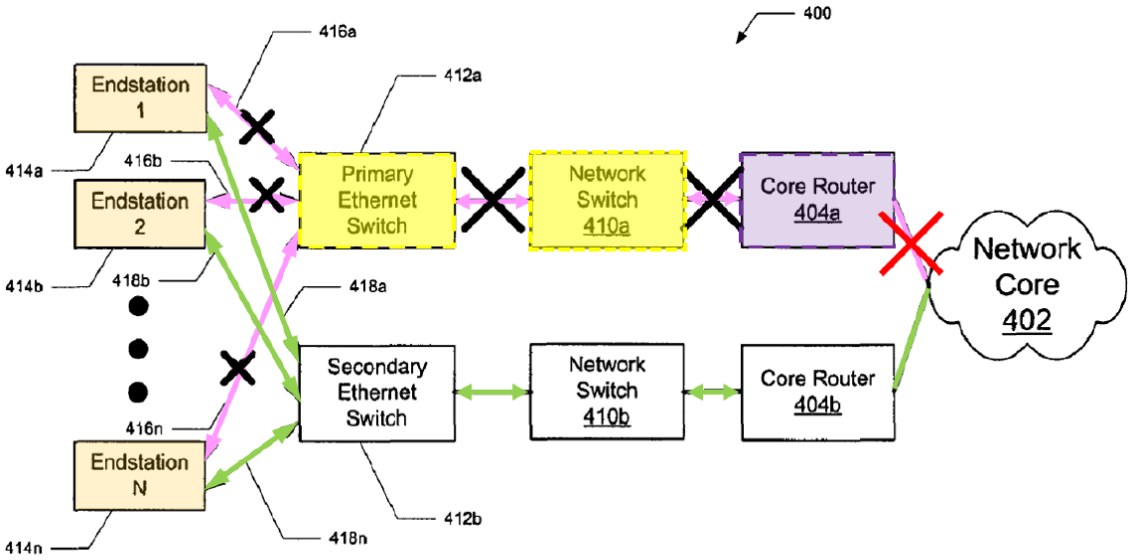
the prior Decision expressly addressed why that modified version of Mitchell did not teach or suggest the disputed claim limitation. *Id.* at 19 ("Petitioner relies upon a circumstance where the failure occurs far upstream and uses that case to assert that Mitchell teaches the recited propagation and receipt.").

Petitioner further argues that the Board abused its discretion by misapprehending or overlooking the correct legal standard, which led to a factually incorrect outcome. DRR 8–12. Specifically, Petitioner argues that "[t]he Petition demonstrated one instance that exactly meets the plain language of the claim, which is all that is required under the law to find the claims obvious." *Id.* at 8. That is, according to Petitioner, "[t]he claims Petition shows one instance, where Mitchell discloses or suggests the most upstream 'detecting node' will propagate failure to 'each' or 'all nodes' in a first set of links, thus rendering obvious claims 1 and 16." *Id.* at 9. Petitioner further argues that the original Board panel misapprehended or overlooked Federal Circuit case law holding that a single instance is sufficient to show that a claim is not patentable. *Id.* at 10–12 (citing *Hewlett-Packard Co. v. Mustek Sys., Inc.*, 340 F.3d 1314, 1326 (Fed. Cir. 2003); *Unwired Planet, LLC v. Google Inc.*, 841 F.3d 995, 1003 (Fed. Cir. 2016); *Target Corp. v. Proxicom Wireless, LLC*, 2023 WL 6135787 at *5 (Fed. Cir. 2023); *Hospira, Inc. v. Fresnius Kabi USA, LLC*, 946 F.3d 1322, 1327 (Fed. Cir. 2020)).

As an initial matter, Petitioner makes the above arguments for the first time in the Request. *Compare* DRR 10–12 (citing cases), *with* Pet. 23–26 (not citing cases). The original Board panel could not have misapprehended

or overlooked, much less abused its discretion in doing so, arguments which were not before it.

Turning to the substance of the argument, Petitioner presents the annotated figure, set forth below, that shows a fault between core router 404a and network core 402 (as designated by a red "X" mark).



EX1005, FIG. 4. EX1002, ¶94.

Pet. 25. We find that the original Board panel properly considered Petitioner's argument when concluding that, even considering modified Figure 4, it was unclear that Petitioner's repeated reference to only propagating failure information downstream was meant to be substantively equivalent to propagating such information to all nodes. In particular, the Petition also quotes Mitchell for preserving upstream portions of the network. *See id.* at 25–26 (citing Ex. 1005, 2:24–33). This quotation suggests the presence of upstream nodes, even with the modifications, to which the failure information would not have been propagated.

Petitioner now, in its Request, characterizes the modification as having been made to specifically create a scenario, and, to be clear, the only

scenario, where the relevant claim limitation is met, namely because all nodes in that modification are downstream of the fault. Petitioner has not identified, however, where such characterization is set forth in the Petition. It is not the responsibility of the Board to develop undeveloped arguments hinted at in the Petition. *See United States v. Dunkel*, 927 F.2d 955, 956 (7th Cir. 1991) ("Judges are not like pigs, hunting for truffles buried in briefs."); *DeSilva v. DiLeonardi*, 181 F.3d 865, 866–67 (7th Cir. 1999) ("A brief must make all arguments accessible to the judges, rather than ask them to play archaeologist with the record."). Rather, the Petition must identify "[h]ow the construed claim is unpatentable under the statutory grounds identified in paragraph (b)(2) of this section. The petition must specify where each element of the claim is found in the prior art patents or printed publications relied upon." 37 C.F.R. § 42.104(b)(4).

The original Board panel did not misapprehend or overlook Petitioner's arguments. To the contrary, they were properly considered in the prior Decision, as presented in the Petition. To the extent those arguments were further developed in the Request, they were new, and, thus, could not have been misapprehended or overlooked. And even when considered, we are unpersuaded that Petitioner's positions in the Request compel a different substantive outcome.

IV. CONCLUSION

We conclude that the Board (1) implicitly construed the disputed limitations of claim 1 and 16; (2) correctly construed the disputed limitations; and (3) properly considered Petitioner's arguments regarding Mitchell.

V. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that the rehearing is *denied*.

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