

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

JUNIPER NETWORKS, INC.,
Petitioner,

v.

CORRECT TRANSMISSION, LLC,
Patent Owner.

IPR2021-00984
Patent 6,876,669 B2

Before BRYAN F. MOORE, JOHN R. KENNY, and
STEPHEN E. BELISLE, *Administrative Patent Judges*.

MOORE, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

A. Case Posture

Juniper Networks, Inc. (“Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting an *inter partes* review of claims 1–27 (“Challenged Claims”) of U.S. Patent No. 6,876,669 B2 (Ex. 1001, “the ’669 patent”). Petitioner identifies itself as a real party in interest. Pet. xi. Correct Transmission, LLC (“Patent Owner”) identifies itself as a real party in interest (Paper 4, 1), and filed a Corrected Preliminary Response to the Petition (Paper 7, “Prelim. Resp.”). Petitioner filed an authorized (Paper 7) Reply to the Corrected Preliminary Response. Paper 8.

We have authority to determine whether to institute an *inter partes* review. 35 U.S.C. § 314(b) (2018); 37 C.F.R. § 42.4(a) (2020). We may not institute an *inter partes* review “unless . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a).

Applying those standards, and upon consideration of the information presented in the Petition, Preliminary Response, and Reply, we determine that Petitioner has not demonstrated a reasonable likelihood of prevailing with respect to at least one Challenged Claim of the ’669 patent. *See* 35 U.S.C. § 314; 37 C.F.R. § 42.4(a). Accordingly, we do not institute an *inter partes* review of the ’669 patent.

B. Related Proceedings

The parties indicate that the ’669 patent is involved in two U.S. district court actions, namely, *Correct Transmission, LLC v. Juniper Networks, Inc.*, No. 6:20-cv-670 (W.D. Tex.) (“Juniper WDTX Case”); and

Correct Transmission, LLC v. Adtran, Inc., No. 5:21-cv-690 (N.D. Ala.).
Pet. xi; Paper 4, 1.

Patent Owner also indicates that the following matters may affect, or be affected by, a decision in this case: *Juniper Networks, Inc. v. Correct Transmission, LLC*, IPR2021-00469 (PTAB); *Juniper Networks, Inc. v. Correct Transmission, LLC*, IPR2021-00571 (PTAB); and *Juniper Networks, Inc. v. Correct Transmission, LLC*, IPR2021-00814 (PTAB). Paper 4, 1; see Pet. ix (Petitioner indicating that it filed a petition for *inter partes* review of U.S. Patent No. 7,983,150 (IPR2021-00469) and U.S. Patent No. 7,127,523 (IPR2021-00571)).

C. The '669 Patent

The '669 patent discloses a method and system for datagram fragmentation, transmission, and reassembly over multiple data links with multiple priority levels. Ex. 1001, code (57), 1:6–9. The patent describes a transmitter that determines, “on the fly” during transmission, whether and how each of the packets should be fragmented. *Id.* at 5:16–18. The transmitter can also transmit the packet fragments in an order different from the order in which the packets were received. *Id.* at 5:18–24. Lower-priority packet fragments are typically transmitted after high-priority packet fragments, and lower-priority packets are typically completed after high-priority packets are transmitted. *Id.* at 5:43–48. The patent discloses a receiver that uses information in the fragment headers to reassemble the packets and to detect lost fragments. *Id.* at 5:48–51.

D. Illustrative Claim

The '669 patent includes 27 claims, all of which are challenged. Claims 1 and 16 are the challenged independent claims. Claim 1 is illustrative and reproduced below.

1. A method for transmitting data over a channel, comprising:
receiving a first datagram for transmission at a first priority;
receiving a second datagram for transmission at a second priority, higher than the first priority, before the transmission of the first datagram is completed,
responsive to receiving the second datagram, deciding to divide the first datagram into a plurality of fragments, including a first fragment and a last fragment;
transmitting the fragments of the first datagram over the channel, beginning with the first fragment; and
transmitting at least a fragment of the second datagram over the channel before transmitting the last fragment of the first datagram,
wherein transmitting at least the fragment of the second datagram comprises interrupting transmission of a number of datagrams, including at least the first datagram, in order to transmit at least the fragment of the Second datagram, and adding a field to the fragment indicating the number of datagrams whose transmission has been interrupted.

Ex. 1001, 8:44–64.

E. Applied References

Petitioner relies upon the following references:

Sourani et al., U.S. Patent No. 6,631,132 B1 (Ex. 1005, “Sourani”), filed October 4, 1999, issued October 7, 2003.

Sklower et al., “PPP Multilink Protocol,” August 1996,
(Ex. 1006, “RFC1990”), published August 1997.¹

Steer et al., U.S. Patent No. 6,633,564 B1 (Ex. 1008,
“Steer”), filed September 22, 1999, issued October 14, 2003

Olsson et al., U.S. Patent No. 6,577,596 B1 (Ex. 1009,
“Olsson”), filed November 30, 1999, issued June 10, 2003.

Pet. 2; Ex. 1005, code (45); Ex. 1006, 1; Ex. 1008, code (45); Ex. 1009, code
(45).

F. Asserted Grounds of Unpatentability

Petitioner challenges the patentability of claims 1–27 of the
'669 patent based on the following grounds.

Claims Challenged	35 U.S.C. §	Reference(s)
1–27	103(a) ²	Sourani, RFC1990, Steer
1–4, 8–12	103(a)	Olsson
5–7, 13–27	103(a)	Olsson, RFC1990

Pet. 2. Petitioner relies upon the Declaration of Yaling Yang, Ph.D.
(Ex. 1003).

¹ Patent Owner disputes this publication date but we do not need to resolve that issue because we deny institution on another basis. *See* Prelim. Resp. 37–40.

² The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 287–88 (2011), amended 35 U.S.C. § 103. Because the '669 patent was filed before March 16, 2013, the effective date of the relevant amendment, the pre-AIA version of § 103 applies.

II. ANALYSIS

A. Applicable Law

Petitioner challenges the patentability of claims 1–27 of the ’669 patent on grounds that the claims would have been obvious under 35 U.S.C. § 103 in light of various references including: Sourani, RFC1990, Steer, and Olsson. “In an [*inter partes* review], the petitioner has the burden from the onset to show *with particularity* why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”)) (emphasis added). This burden never shifts to Patent Owner. *See Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (citing *Tech. Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1326–27 (Fed. Cir. 2008)) (discussing the burden of proof in *inter partes* review).

A claim is unpatentable under 35 U.S.C. § 103 if “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) when of record, objective evidence of obviousness or non-obviousness, i.e., secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). Secondary considerations may

include the following: “commercial success, long felt but unsolved needs, failure of others, etc.”³ *Id.* The totality of the evidence submitted may show that the challenged claims would not have been obvious to one of ordinary skill in the art. *In re Piasecki*, 745 F.2d 1468, 1471–72 (Fed. Cir. 1984). When evaluating a combination of teachings, we must also “determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *KSR*, 550 U.S. at 418 (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

We analyze the challenges presented in the Petition in accordance with the above-stated principles.

B. Level of Ordinary Skill in the Art

Petitioner contends that a person of ordinary skill in the art, at the time of the effective filing date of the ’669 patent:

would have had a bachelor’s degree in electrical engineering, computer engineering, computer science, or a closely related field, and one to two years of experience in the design and development of network communication systems. Alternatively, a POSITA would have a master’s degree or similar post-graduate work in electrical engineering, computer engineering, computer science, or a closely related field, and fewer years of design and development experience.

Pet. 5–6 (citing Ex. 1003 ¶¶ 59–63). “Patent Owner takes no position with respect to Petitioner’s proposed level of skill.” Prelim. Resp. 37.

We regard Petitioner’s proposed definition as reasonable, and consistent with the prior art before us. *See In re GPAC Inc.*, 57 F.3d 1573,

³ At this stage of the proceeding, Patent Owner has not presented objective evidence of non-obviousness.

1579 (Fed. Cir. 1995) (determining that the Board of Patent Appeals and Interferences did not err in concluding that the level of ordinary skill in the art was best determined by the references of record). Accordingly, we apply the level of skill set forth above, which also is consistent with the testimony of Dr. Yang. Ex. 1003 ¶¶ 59–63.

C. Claim Construction

Neither Petitioner nor Patent Owner proposes any claim terms for construction. Pet. 6 (“Petitioner construes each term as having its ordinary and customary meaning.”); Prelim. Resp. 11 (“Patent Owner does not propose any claim term departs from its ordinary and customary meaning.”). We do not find that the express construction of any term is necessary for this decision. *See Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (“[O]nly those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy.”); *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (applying *Vivid Techs.* in the context of an *inter partes* review).

D. Obviousness of Claims 1–27 over the Combination of Sourani, RFC1990, and Steer

Petitioner contends that claims 1–27 would have been rendered obvious by the combination of Sourani, RFC1990, and Steer. Pet. 7–60. To support its contentions, Petitioner provides explanations as to how Sourani, RFC1990, and Steer teach each claim limitation. *Id.* Petitioner also relies upon the Yang Declaration (Ex. 1003) to support its positions. Patent Owner contends, *inter alia*, the asserted art fails to show “responsive to

receiving the second datagram, deciding to divide the first datagram into a plurality of fragments.” Prelim. Resp. 40–46.

We begin our discussion with a brief summary of Sourani, RFC1990, and Steer and then address the evidence and arguments presented as to this ground.

1. Sourani (Ex. 1005)

Sourani interrupts transmission of lower-priority packets with urgent packets. Ex. 1005, code (57), 1:60–67. Sourani’s system prioritizes urgent packet transmission. *Id.* at 5:47–50. During regular packet transmission, Sourani’s interrupt handler checks for urgent packets at predefined stop points. *Id.* at 6:5–17. If no urgent packets are found, Sourani’s interrupt handler includes bits indicating there was no interruption declaration in the transmission, and then continues normal transmission. *Id.* at 6:14–17. If an urgent packet is found, Sourani includes a different set of bits in the transmission to prepare the receiver to receive an urgent packet. *Id.* at 1:60–67. Once the urgent packet is transmitted, Sourani sends any remaining portions of the previously transmitted packet. *Id.* at 6:28–33.

2. RFC1990 (Ex. 1006)

RFC1990 discloses a PPP multilink system. Multiple physical links 28, 30, 32 form channel 24 for transmission of data from transmitter to receiver. Ex. 1006, 3. Each packet 34, 36, 38 is broken into fragments for transmission over the links. *Id.* Each fragment receives a header with a fragment sequence number and beginning and ending bits. *Id.* at 7–8. The system increments the sequence number for each fragment and its transmitter sends the fragments across the links in sequence number order. *Id.* at 8–10. The receiver waits until all fragments have arrived for a given

packet before reassembly. *Id.* at 11–12. If the reassembler 44 determines packet fragments are lost, it discards the rest of the packet fragments. *Id.*

3. *Steer (Ex. 1008)*

Steer interrupts lower-priority packets with higher-priority packets in a DOCSIS network. Ex. 1008, 9:17–26. Steer uses a continuation field 57 (green) to indicate if there are more interrupting packets. *Id.* at 10:17–33. When there is only one interrupting packet, Steer's continuation field is set to zero. *Id.* at 10:26–30. Steer discloses multiple interrupting packets with the first row 81 having an interrupting packet 87 and a continuation field 86 set to two indicating there are two following interrupting packets 85, 93. *Id.* at 11:54–57.

Steer uses two memory elements to track the filling of the next block buffer: the interrupt level, and the current Q pointer. *Id.* at 15:21–32. The interrupt level provides the number of packet interruption levels. *Id.* at 15:24–27. The current Q pointer identifies the queue from which the current packet is being transmitted and can also indicate if there are any packets awaiting transmission. *Id.* at 15:27–32. With this information, Steer's system can begin transmission of a higher-priority packet even if another transmission has already started. *Id.* at 14:66–15:3.

Steer's process is recursive and contemplates multiple priority levels where higher-priority interrupting packets interrupt packets. *Id.* at 13:27–38. Steer's algorithm finds the highest priority packets in the highest priority queue, preferentially transmits these packets, and selects the next highest priority packet until all higher-priority packets are transmitted. *Id.* at 18:59–62, 19:10–20. After this, transmission of the interrupted packets resumes.

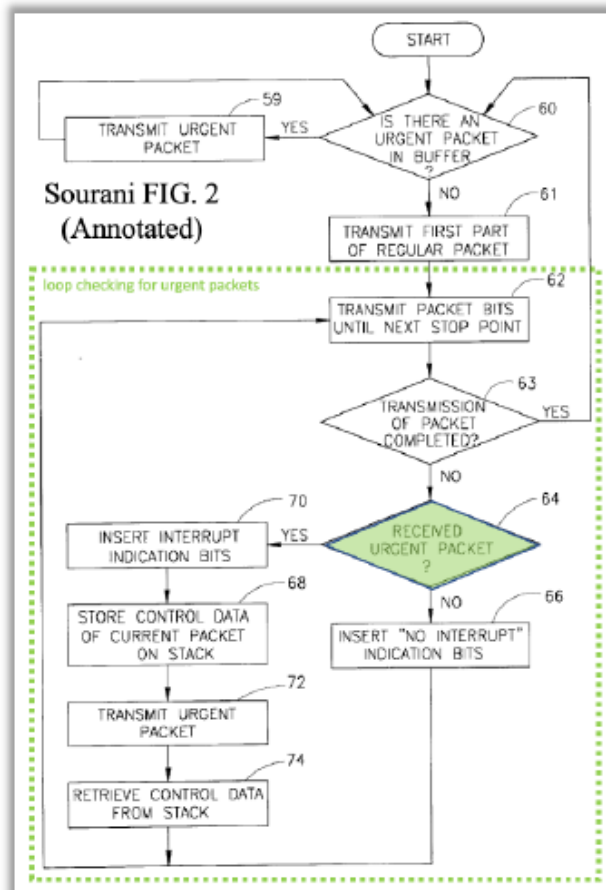
Id. at 18:63–65. Steer explains the receiver must coordinate the collection and reassembly interrupted packets. *Id.* at 13:55–67, 15:49–57.

4. Analysis

a. Independent claims 1 and 15

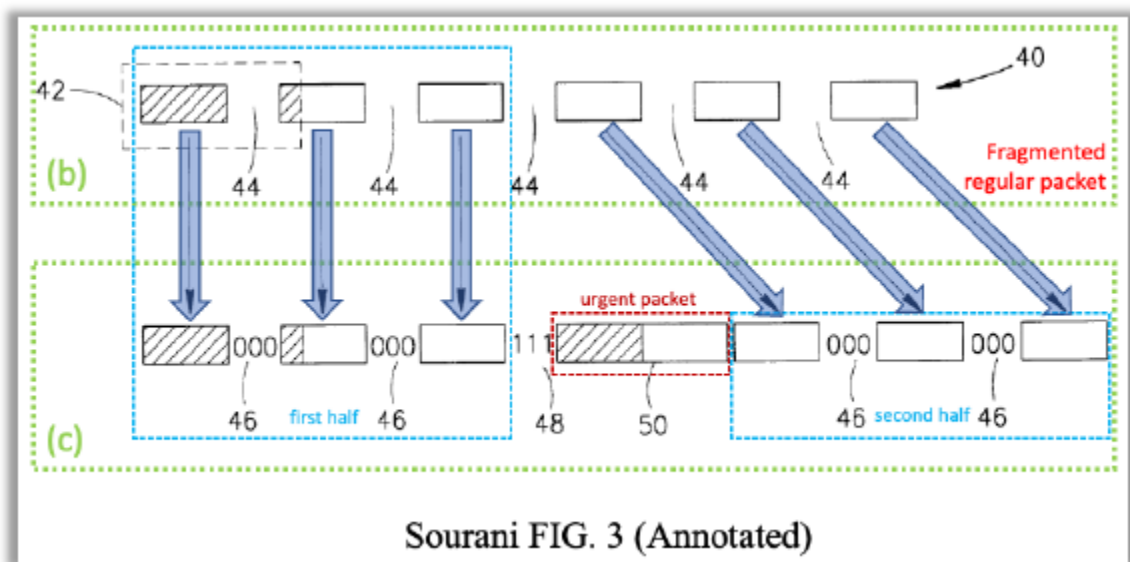
“responsive to receiving the second datagram, deciding to divide the first datagram into a plurality of fragments”

Petitioner contends that “Sourani discloses receiving the second datagram and transmits the urgent packet before the regular packet.” Pet. 17–19 (citing Ex. 1005, 6:5–27, Fig. 3; Ex. 1003 ¶¶ 196–198). Petitioner further contends “Sourani’s FIG. 2 [reproduced below as annotated by Petitioner] depicts a loop checking for urgent packets (steps 62-74, encircled in green).” *Id.* at 20.



As shown in Petitioner’s annotated Figure 2 above, Sourani’s transmitter’s interrupt handler checks whether an urgent packet was received during transmission of a regular packet at step 64. If not, it inserts “no interrupt” indication bits at step 66 and regular packet transmission continues at step 62. If an urgent packet is received at step 64, interrupt handler 36 stores packet control data, indicates an interrupt is declared at step 70, and transmits the urgent packet at step 72. Once complete, transmission of the interrupted regular packet resumes. Pet. 20–21 (citing Ex. 1005, 6:5–33; Ex. 1003 ¶¶ 86–87).

Sourani’s transmitter inserts interrupt bits if an urgent packet is received during transmission of a regular packet. *Id.* at 20 (citing Ex. 1005, 6:13–27). Petitioner’s annotated Figure 3 purports to show the inclusion of Sourani’s “interrupt indication bits (‘111’ in FIG. 3)” between fragments of the regular packet at step 70, which divides the regular packet into a first and second half. *Id.* at 21.



Petitioner's annotated Figure 3, reproduced above, shows a regular packet 46 in three sections divided by "000," then "111," then an urgent packet, followed immediately by the remainder of the regular packet divided into three sections divided again by "000." *Id.* Petitioner contends, "Sourani's depiction of gaps in packet 40 shows fragmentation." *Id.* at 22. As explained below, we disagree. Additionally, Petitioner contends, "Sourani describes stop points at fixed intervals or at locations based on system parameters including 'the urgency level of the urgent packets, the occurrence rate of urgent packets, and the traffic load on link.'" *Id.* at 22 (quoting Ex. 1005, 7:14–8:7; citing Ex. 1003 ¶¶ 88–90). As explained below, Petitioner does not explain sufficiently how basing stop point locations on general parameters regarding traffic load and/or urgency level and rate of received packets would have taught or suggested the limitation of "responsive to receiving the second datagram, deciding to divide the first datagram into a plurality of fragments."

Patent Owner argues that the stop points that Petitioner contends represent the claimed fragmentation are predetermined, not determined in response to a packet, i.e. "'in a preferred embodiment of the invention, stop points 44 ***are located at fixed intervals*** of a predetermined number of bits.'" Prelim. Resp. 42 (quoting Ex. 1005, 6, 56–58). We agree. The stops (the alleged fragmentation) are not placed in response to receiving the second datagram as recited in claims 1 and 15. In fact, Sourani states, "in a preferred embodiment of the invention, stop points 44 are located at fixed intervals of a predetermined number of bits." *Id.* (quoting Ex. 1005, 8).

Additionally, Patent Owner argues that one of ordinary skill would not consider the stop point's fragments because Sourani teaches away from

using fragmentation. Prelim. Resp. 43. Specifically, Sourani states that “[i]t is noted that unlike fragmentation, the inserted indication bits are transparent to external units. That is, once the indication bits are removed by receiver 28, there is no way for a third unit receiving a packet from the receiver to know whether the received packet was interrupted or whether interrupt indication bits were inserted to the packet.” *Id.* (quoting Ex. 1005, 8:8–13).

Despite Patent Owner’s argument, the “mere disclosure of alternative designs” in the prior art “does not teach away.” *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004). Thus, we do not agree that this statement is a “teaching away.” Nevertheless, “even if a reference is not found to teach away, its statements regarding preferences are relevant to a finding regarding whether a skilled artisan would be motivated to combine that reference with another reference.” *Polaris Indus., Inc. v. Arctic Cat, Inc.*, 882 F.3d 1056, 1069 (Fed. Cir. 2018). “[T]he question is whether there is something in the prior art as a whole to suggest the *desirability*, and thus the obviousness, of making the combination.” *Id.* at 1200. As explained below, Petitioner has not shown that desirability.

While not showing a teaching away, the above statement in Sourani contrasting stop points and fragmentation does show that one of ordinary skill in the art reading Sourani would know that the stop points in Sourani are not intended to be fragments. Petitioner has not explained sufficiently why, despite this contrast, one of ordinary skill would use fragmentation with the system of Sourani.

Petitioner contends

To the extent Patent Owner argues Sourani's stop points aren't located responsive to receiving the urgent packet, a POSITA would have found it obvious to modify Sourani to utilize stop points locations based on system parameters including the newly received urgent packet. It would have been well within the skill of a POSITA to modify Sourani in this manner with a reasonable expectation of success because two of Sourani's expressly described parameters, the urgency level and occurrence rate of urgent packets, consider aspects of urgent packets. A POSITA would have been motivated to modify Sourani to optimize transmission of higher-priority packets. As modified, Sourani's transmitter places stop point at locations responsive to the current traffic, including the newly received urgent packet, because the system parameters of the urgency level and occurrence rate of urgent packets consider aspects of the newly received packet. This results in optimizing transmission by, e.g., increasing packet fragmentation using stop points when there's an elevated occurrence rate of higher-priority packets.

Pet. 22–23.

We are not persuaded by this unsupported conclusory motivation to modify Sourani. Petitioner asserts one of ordinary skill would be motivated to “optimize transmission of higher-priority packets.” *Id.* Sourani already achieves this optimization by increasing the number of stop points based on urgency level and occurrence of urgent packets. Additionally, “increasing” stop points (or “increasing fragmentation” as Petitioner asserts) is not equivalent to determining to use or not use fragmentation in response to an urgent packet, as claimed. Thus, Petitioner's motivation as stated does not allege there is motivation to achieve the specific claimed limitation.

As explained above, we do not find stop points are equivalent to fragmentation. However, even if we were to find stop points equivalent to

fragmentation, Sourani does not make a choice to use stop points or not use stop points based on urgency. Additionally, Petitioner has not shown sufficiently that one of ordinary skill would understand that Sourani can determine whether to set stop points based on the receipt of an individual urgent packet as opposed to general system parameters, nor has Petitioner explained the motivation for that change.

Petitioner also states it would have been “obvious to modify Sourani to utilize stop points locations based on system parameters including the newly received urgent packet.” *Id.* This sort of alleged motivation to combine is insufficient to establish a reasonable likelihood of success because it “fails to explain why a person of ordinary skill in the art would have combined elements from specific references *in the way the claimed invention does.*” *ActiveVideo Networks, Inc. v. Verizon Commc’ns, Inc.*, 694 F.3d 1312, 1328 (Fed. Cir. 2012) (discussing expert trial testimony which was “generic and [bore] no relation to any specific combination of prior art elements”); *see also Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1073 (Fed. Cir. 2015) (“[O]bviousness concerns whether a skilled artisan not only *could have made* but *would have been motivated to make* the combinations or modifications of [the] prior art to arrive at the claimed invention.”). Petitioner does not explain sufficiently why the system parameters regarding general level and number of urgent packets being received would motivate one to fragment only when an individual packet is received.

Petitioner also does not explain sufficiently how using fragmentation only in response to an individual urgent packet as claimed results in an “optimization” different than that already achieved by Sourani.

Additionally, Petitioner does not explain sufficiently how the knowledge of such “optimization” would be gained outside of knowledge gained from the challenged patent itself. We determine that this is an impermissible exercise of hindsight with the claims of the ’669 patent serving as a guide, which is not appropriate for a conclusion of obviousness. The motivation stated by Petitioner uses circular logic to state the claim limitation itself is the motivation to modify the reference to achieve the claim limitation. This recitation of the limitation in the claim as a problem to be solved is a hindsight motivation. *Monarch Knitting Mach. Corp. v. Sulzer Morat GmbH*, 139 F.3d 877, 881 (Fed. Cir. 1998). “Defining the problem in terms of its solution reveals improper hindsight in the selection of the prior art relevant to obviousness.” *Id.* “The inventor’s own path itself never leads to a conclusion of obviousness; that is hindsight. What matters is the path that the person of ordinary skill in the art would have followed, as evidenced by the pertinent prior art.” *Otsuka Pharm. Co., v. Sandoz, Inc.*, 678 F.3d 1280, 1296 (Fed. Cir. 2012).

In the alternative, Petitioner relies on the combination of Sourani and RFC1990 to meet the limitation of “responsive to receiving the second datagram, deciding to divide the first datagram into a plurality of fragments.” Petitioner asserts RFC1990 and U.S. Patent No. 5,956,341 (“Galand”) (incorporated-by-reference into Sourani) disclose dividing the datagram into fragments. Pet. 23–24 (citing Ex. 1005, 1:49–57; Ex. 1007 1:16–25, 1:57–63, 2:40–3:12, 3:6, 4:14–20, 4:41–66; Ex. 1003 ¶ 93). Petitioner, without citation to evidence outside a conclusory statement of its declarant, suggests one of ordinary skill would fragment Sourani’s packets because “such fragmentation provides a high bandwidth link and improves

link operation efficiency.” Pet. 24 (citing Ex. 1003 ¶ 93). Even if we were to accept that one of ordinary skill would replace Sourani’s stop points with fragmentation, Petitioner has not explained sufficiently why such fragmentation would have been done specifically upon receipt of an urgent packet, other than because of the knowledge gleaned from the challenged patent

Petitioner and its declarant suggest that because “Sourani’s stop point locations are placed based on system parameters including the urgency level and the occurrence rate of urgent packets, Sourani’s stop point locations would be responsive to the receipt of the urgent packet.” Pet. 25; Ex. 1003 ¶¶ 89, 91 (citing Ex. 1005, 7:22–30). Petitioner has not explained sufficiently how setting the location of a stop point is related to setting the stop point in response to the receipt of an urgent packet. Additionally, Petitioner does not explain sufficiently its attempt to associate the “occurrence rate of urgent packets” with the receipt of one particular urgent packet. Additionally, Petitioner does not explain sufficiently why one of ordinary skill would abandon Sourani’s method of predetermining stop points. We find Petitioner’s rationale for modifying Sourani, even given the knowledge of fragmentation gained from RFC1990 and Garland, is a hindsight rationalization.

Petitioner does not rely on Steer to teach this limitation. *Id.* at 19–25. We have reviewed the record, and find that Petitioner does not provide sufficient evidence for purposes of institution that the prior art teaches the limitation of “responsive to receiving the second datagram, deciding to divide the first datagram into a plurality of fragments,” recited in claims 1 and 15. For the foregoing reasons, and constrained by the Petition, we are

not persuaded that the cited evidence adequately supports Petitioner's contention that the combination of Sourani, Steer, and RFC1990 teaches or suggests the limitations recited in independent claims 1 and 15.

b. Dependent Claims 2–14 and 16–27

Petitioner asserts that the combination of Sourani, Steer, and RFC1990 teaches the limitations of dependent claims 2–14 and 16–27. Patent Owner makes no arguments contesting the prior art teachings of the limitations of these claims, other than the arguments it presented for claims 1 and 15. *See generally* Prelim. Resp.

For the foregoing reasons, we determine that Petitioner has not demonstrated a reasonable likelihood of success in establishing the unpatentability of independent claims 1 and 15, and claims 2–14 and 16–27, which depend therefrom, as having been obvious over the combination of Sourani, Steer, and RFC1990.

E. Obviousness of Claims 1–4 and 8–12 over Olsson and Claims 5–7 and 13–27 over the Combination of Olsson and RFC1990

Petitioner contends that claims 1–4 and 8–12 would have been obvious over Olsson. Pet. 61–80. Petitioner also contends claim 5–7 and 13–27 would have been obvious over the combination of Olsson and RFC1990. *Id.* at 81–88. To support its contentions, Petitioner provides explanations as to how Olsson or Olsson and RFC1990 teach each claim limitation. *Id.* at 61–88. Petitioner also relies upon the Yang Declaration (Ex. 1003) to support its positions. Patent Owner contends, *inter alia*, the asserted art fails to show “responsive to receiving the second datagram, deciding to divide the first datagram into a plurality of fragments.” Prelim. Resp. 52–55.

1. Olsson (Ex. 1009)

Olsson discloses a solution to address networks carrying an increasing amount of traffic associated with real-time applications, such as voice and video. Ex. 1009, 1:11–28. Olsson seeks to reduce packet delay with a combination of fragmentation, scheduling, and header compression and uses multiple priority queues as part of a “conventional priority queuing scheme.” *Id.* at 4:49–65.

2. Analysis

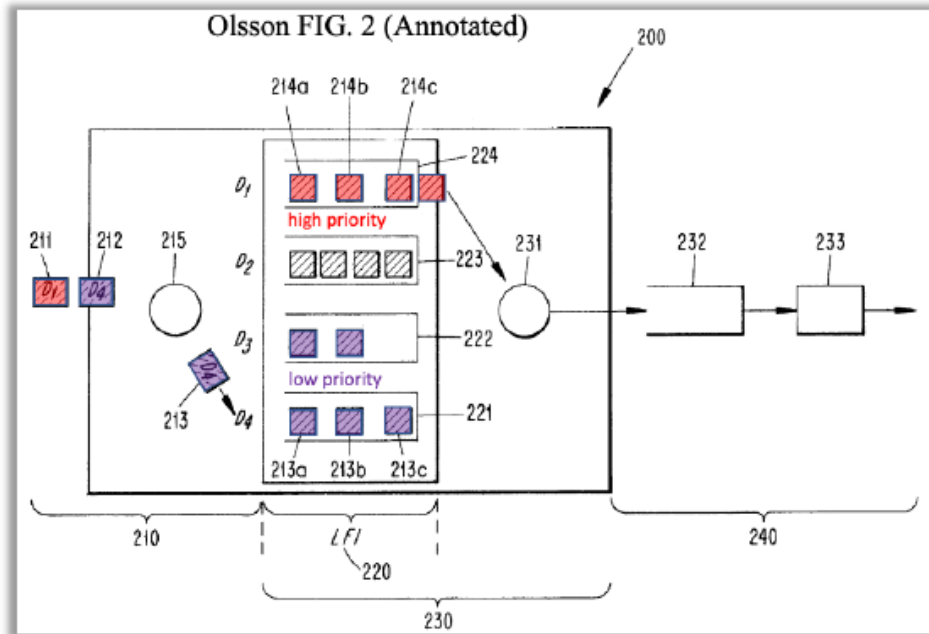
a. Independent claims 1 and 15

responsive to receiving the second datagram, deciding to divide the first datagram into a plurality of fragments

Petitioner relies on Olsson’s fragmentation scheme to teach “responsive to receiving the second datagram, deciding to divide the first datagram into a plurality of fragments.” Pet. 65. Petitioner contends, “Olsson discloses fragmenting a datagram having a lower priority along with packets with a higher time sensitive priority.” *Id.* at 67 (citing Ex. 1003 ¶ 276). Petitioner’s declarant also contends Olsson states long packets are generally lower priority packets. Ex. 1003 ¶ 275 (citing Ex. 1009, 7:10–14). Petitioner relies on the following quote from Olsson: “additional degrees of segmentation [are performed] . . . on either complete but long BE data packets or packet fragments at higher layers which are nonetheless too long for efficient transfer at PPP layer 520.” *Id.* ¶ 276 (quoting Ex. 1005, 11:10–14).

Petitioner contends Olsson explains, “once packets are fragmented, they may be queued according to, for example, a conventional priority queuing scheme.” Pet. 66 (quoting Ex. 1009, 7:19–23; Ex. 1003 ¶ 274).

Annotated Figure 2 below, according to Petitioner, shows how Olsson fragments packets.



As shown in Figure 2 above, Olsson teaches a network node 200 with packets 211 (red) and 212, 213 (purple) entering network layer 210. Packet 213 is fragmented into packets 213a, 213b, 213c (purple) and packet 214 is fragmented into packets 214a, 214b, 214c (red). *Id.* (citing Ex. 1009, 6:62–7:18; Ex. 1003 ¶ 274). Packet 213 is fragmented into packets 213a, 213b, 213c (purple). Petitioner contends that packet 213 is a long packet and that Olsson will fragment long packets when preparing to “queue fragments.” *Id.* at 67 (citing Ex. 1009 8:52–55, 11:10–14, 11:51–55, 9:53–55).

We note that although Olsson discloses, “long packets are generally of a lower priority,” Olsson also asserts that it “fragment[s] packets of *various priorities* larger than a predetermined size.” Ex. 1009, 3:25–26, 7:10–14. Petitioner has suggested Olsson fragments long packets, i.e. lower priority

packets, however, Petitioner has not presented sufficient evidence that Olsson fragments those lower priority packets “in response” to the receipt of an urgent packet, as claimed. *See* Prelim. Resp. 52.

In the alternative, Petitioner contends, “[t]o the extent Patent Owner argues Olsson lacks an express disclosure of fragmenting a first datagram in response to the receipt of a second datagram, a POSITA would have found such a responsive fragmenting of the first datagram to be obvious.” Pet. 67. Specifically, Petitioner contends that because Olsson describes segmentation applying to “time sensitive and Best Efforts queueing strategies” a person of ordinary skill would recognize that further fragmentation allows sending higher priority packets or fragments between lower-priority packets. *Id.* at 68 (citing Ex. 1009 3:25–28 (“By fragmenting packets of various priorities larger than a predetermined size high priority packets or fragments thereof may be sent between fragments of lower priority packets”); Ex. 1003 ¶ 277).

Petitioner’s conclusory reference to the motivation to “time sensitive and Best Efforts queueing strategies” does not explain why fragmentation in response to receipt of an urgent packet would be preferred as opposed to Olsson’s teachings. This is not a modification of an existing function in Olsson but is a new function—deciding when to fragment on receipt of an urgent packet—added by attorney argument and unsupported testimony from Petitioner’s declarant.⁴ Petitioner improperly fills a gap in its mapping to a claim limitation based on this attorney argument and unsupported testimony.

⁴ Under 37 C.F.R. § 42.65(a), “[e]xpert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.” It is within our discretion to assign the appropriate weight to the testimony offered by Petitioner's declarant. *In re Am. Acad. of Sci. Tech.*

Identifying a limitation by expert testimony and the “ordinary creativity” of one of skill in the art is improper and tantamount to using common sense. *DSS Tech. Mgmt., Inc. v. Apple Inc.*, 885 F.3d 1367 (Fed. Cir. 2018). Common sense in an obviousness analysis is “typically invoked to provide a known *motivation to combine*, not to supply a missing claim limitation.” *Arendi S.A.R.L. v. Apple, Inc.*, 832 F.3d 1355, 1361–62 (Fed. Cir. 2016). Although doing so might be permissible when “the limitation in question [is] *unusually* simple and the technology *particularly* straightforward” (*id.* at 1362 (emphases added)); that is not the case here. While the art is relatively predictable, Petitioner has not shown that fragmenting in response to the receipt of an urgent packet is a well-understood function.

Petitioner also contends, “modifying Olsson to fragment a first datagram in response to receiving a second datagram would be consistent with the goal of reducing packet delay.” Pet. 68 (citing Ex. 1009, 4:49–51 (“It is therefore an object of the present invention to provide a method and apparatus for reducing packet delay using scheduling and header compression.”), Ex. 1003 ¶ 277). Asserting the claim limitation is consistent with the goal of the prior art does not “explain why a person of ordinary skill in the art would have combined elements from specific references *in the way the claimed invention does*,” as required. *ActiveVideo Networks, Inc.*, 694 F.3d at 1328.

Ctr., 367 F.3d 1359, 1368 (Fed. Cir. 2004) (“[T]he Board is entitled to weigh the declarations and conclude that the lack of factual corroboration warrants discounting the opinions expressed in the declarations.”).

Additionally, Patent Owner responds that Olsson teaches that the *method* of achieving the object of reducing packet delay is “using scheduling and header compression,” as recited in the Olsson specification. Prelim. Resp. 53–54 (citing Ex. 1009, 4:49–51). We agree. Petitioner has not explained sufficiently how scheduling and header compression is related to the claimed fragmenting in response to an urgent packet.

Petitioner also contends that, because Olsson states fragmentation may occur at different layers, a person of ordinary skill would have a reasonable expectation of success. Pet. 68 (citing Ex. 1009 7:58–63; Ex. 1003 ¶ 277). Patent Owner argues, “Petitioner provides no evidence as to why fragmentation at different layers applies to a motivation to reconfigure Olsson to perform responsive fragmenting.” Prelim. Resp. 54. We agree. To the extent, the disclosure of fragmentation at different layers was meant to provide a motivation rather than just show that one of ordinary skill would have an expectation of success in achieving the modification, Petitioner has not explained the relevance of fragmentation at different layers to a decision to fragment in response to an urgent packet.

In sum, Petitioner does not provide any rationale for modifying Olsson in a manner that would meet the claim limitation at issue and certainly does not provide sufficiently “articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *KSR*, 550 U.S. at 418 (quoting *Kahn*, 441 F.3d at 988); *accord In re NuVasive, Inc.*, 842 F.3d 1376, 1383 (Fed. Cir. 2016) (stating that “‘conclusory statements’” amount to an “insufficient articulation[] of motivation to combine”; “instead, the finding must be supported by a ‘reasoned explanation’” (citation omitted)); *In re Magnum Oil Tools Int’l, Ltd.*, 829

F.3d 1364, 1380 (Fed. Cir. 2016) (“To satisfy its burden of proving obviousness, a petitioner cannot employ mere conclusory statements. The petitioner must instead articulate specific reasoning, based on evidence of record, to support the legal conclusion of obviousness.”).

For the reasons above, we are not persuaded that Petitioner has presented a sufficient rationale, apart from hindsight, demonstrating that a person of ordinary skill would have modified Olsson to, “responsive to receiving the second datagram, decid[e] to divide the first datagram into a plurality of fragments.” Thus, constrained by the Petition, we are not persuaded that the cited evidence adequately supports Petitioner’s contention that Olsson teaches or suggests the limitations recited in independent claims 1 and 15.

b. Dependent Claims 2–14 and 16–27

Petitioner asserts that Olsson and/or the combination of Olsson and RFC1990 teaches the limitations of dependent claims 2–14 and 16–27. Patent Owner makes no arguments contesting the prior art teachings of the limitations of these claims, other than the arguments it presented for claims 1 and 15. *See generally* Prelim. Resp.

For the foregoing reasons, we determine that Petitioner has not demonstrated a reasonable likelihood of success in establishing the unpatentability of any of independent claims 1 and 15, and claims 2–14 and 16–27, which depend therefrom, as having been obvious over Olsson and/or Olsson and RFC1990.

F. Discretionary Denial Under 35 U.S.C. § 314(a) and/or 325(d) and Whether RFC1990 is a Printed Publication

Because we deny institution upon consideration of the merits of Petitioner's challenges, Patent Owner's arguments that we should exercise our discretion under 35 U.S.C. § 314(a) and/or 325(d) to deny institution or find that Petitioner has not shown that RFC1990 is a printed publication are moot.

III. CONCLUSION

Petitioner has not demonstrated a reasonable likelihood of prevailing with respect to any of claims 1–27 of the '669 patent under any of proffered Grounds.

IV. ORDER

For the reasons given, it is:

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review is not instituted for claims 1–27 of U.S. Patent No. 6,876,669 B2.

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Patent 6,876,669 B2

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