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Paper No. 11
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

COMMVAULT SYSTEMS, INC.,
Petitioner,

v.

REALTIME DATA LLC,
Patent Owner.

Case IPR2017-02007
Patent 9,116,908 B2

Before GREGG I. ANDERSON, SCOTT C. MOORE, and AMANDA F. WIEKER, *Administrative Patent Judges.*

ANDERSON, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
35 U.S.C. § 314(a); 37 C.F.R. § 42.108(a)

I. INTRODUCTION

Commvault Systems, Inc. ("Petitioner") filed a Petition ("Pet." (Paper 1)) pursuant to 35 U.S.C. §§ 311–319 to institute an *inter partes* review of claims 1–30 ("the challenged claims") of U.S. Patent No. 9,116,908 B2 ("the '908 patent" (Ex. 1001)). Pet. 5–8. Realtime Data LLC ("Patent Owner") filed a Preliminary Response ("Prelim. Resp." (Paper 10)).

We have authority under 35 U.S.C. § 314(a), which requires demonstration of a reasonable likelihood that Petitioner would prevail with respect to at least one challenged claim. *See* 37 C.F.R. § 42.4(a). We are not persuaded there is a reasonable likelihood that Petitioner would prevail in showing that at least one of the challenged claims is unpatentable and decline to institute an *inter partes* review of the challenged claims.

II. BACKGROUND

A. Related Proceedings in the USPTO

The parties advise us and we are aware that there are other *inter partes* review petitions filed against certain claims of the '908 patent including: *Oracle America, Inc. v. Realtime Data LLC*, IPR2016-00377 (filed Dec. 28, 2015) ("'377 IPR");[1] *Dell, Inc., Riverbed Technology, Inc., Hewett-Packard Enterprise Co., HP Enterprise Services, LLC, Teradata Operations, Inc., and Hughes Network Systems, LLC v. Realtime Data LLC d/b/a IXO*, IPR2016-01002 (filed May 5, 2016) ("'1002 IPR");[2] *Veritas Technologies, LLC v. Realtime Data LLC*, IPR2017-00364 (filed Nov. 30,

[1] '377 IPR, Institution Decision, slip op. at 15 (PTAB July 1, 2016) (Paper 8) (institution denied).
[2] '1002 IPR, Final Written Decision (PTAB Oct. 31, 2017) (Paper 71) (claims not shown to be unpatentable).

2016) ("'364 IPR");[3] *NetApp Inc. v. Realtime Data LLC*, IPR2017-01196 (filed March 30, 2017) ("'1196 IPR");[4] *Rackspace US, Inc. v. Realtime Data LLC*, IPR2017-01629 (filed June 16, 2017) ("'1629 IPR");[5] *Oracle America, Inc. v. Realtime Data LLC*, IPR2016-01672 (filed Sept. 6, 2016) ("'1672 IPR").[6] Pet. 3; *see also* Paper 5, 2–5 (listing all *inter partes* review petitions filed against patents owned by Patent Owner, including the '908 patent).

B. Related Proceedings in the District Court

Petitioner advises us that Patent Owner has asserted the '908 Patent against Petitioner in patent infringement lawsuits styled *Realtime Data LLC d/b/a IXO v. Commvault Systems, Inc., et al*., Nos. 1:17-cv-00925 (D. Del., pending) ("District Court Action") and 6:17-cv-00123 (E.D. Tex., dismissed). Pet. 2 (citing Ex. 1003 (complaint in District Court Action), Ex. 1008 (complaint in dismissed action)).

Petitioner states that the '908 patent has been asserted by Patent Owner against other alleged infringers in the following cases in the U.S. District Court for the Eastern District of Texas:[7] Case Nos. 6:17-cv-118, 6-17-cv-00119, 6-17-cv-00120, 6-17-cv-00121, 6-17-cv-00122, 6-17-cv-00123, 6-17-cv-00124, 6-17-cv-00125, 6-17-cv-00126 (related cases

[3] '364 IPR, Decision on Institution and Joinder, slip op. at 7–8 (PTAB June 1, 2017) (Paper 6) (case terminated and joined with '1002 IPR).
[4] '1196 IPR, Institution Decision, slip op. at 14 (PTAB October 13, 2017) (Paper 10) (institution denied), Decision on Joint Motion to Terminate, slip op. at 3 (February 14, 2018) (Paper 19) (proceeding terminated upon settlement).
[5] '1629 IPR, Decision on Joint Motion to Terminate, slip op. at 3 (PTAB Aug. 24, 2017) (Paper 12) (proceeding terminated on settlement).
[6] '1672 IPR, Decision on Institution and Joinder, slip op. at 7–8 (PTAB March 7, 2017) (Paper 13) (case terminated and joined with '1002 IPR).
[7] Related cases in other jurisdictions are identified in following parentheses.

pending in N.D. Cal., 17-cv-3182, and D. Del., 1:17-cv-00972), 6-17-cv-00118, 6-16-cv-01037, 6-16-cv-01035 (related case in N.D. Cal. 3:17-cv-02109), 6-16-cv-00961, 6-16-cv-00089, 6-16-cv-00086, 6-16-cv-00087, 6-17-cv-00071 (related case in N.D. Cal., 4:17-cv-02373), 6-15-cv-00463, 6-15-cv-00464, 6-15-cv-00465, 6-15-cv-00466, 6-15-cv-00467, 6-15-cv-00468, 6-15-cv-00469, and 6-15-cv-00470 (related cases in N.D. Cal., 3:16-cv-01836, and C.D. Cal., 2:16-cv-02743). Pet. 2–3; *see also* Paper 5, 5–9 (listing district court challenges to the '908 patent and/or commonly owned U.S. Patent No. 7,415,530).

C. The '908 Patent

The '908 patent describes systems and methods "for providing accelerated data storage and retrieval utilizing lossless data compression and decompression." Ex. 1001, Abstract. The '908 patent further describes providing an effective increase of data storage and retrieval bandwidth of a memory storage device. *Id.* at 2:60–62. The data storage and retrieval accelerator method and system reduces the time required to store and retrieve data from a computer to a disk memory device. *Id.* at 3:25–28.

D. Challenged Claims

As noted above, Petitioner challenges claims 1–30 of the '908 patent, of which claim 1 is an independent system claim, and claims 21 and 25 are independent method claims. Claim 1 is illustrative of the challenged claims and is reproduced below:

1. A system comprising:

a memory device; and

a data accelerator configured to compress:

> (i) a first data block with a first compression technique to provide a first compressed data block; and (ii) a second data block with a second compression technique, different from the first compression technique, to provide a second compressed data block;
>
> wherein the compressed first and second data blocks are stored on the memory device, and
>
> the compression and storage occurs faster than the first and second data blocks are able to be stored on the memory device in uncompressed form.

Ex. 1001, 18:50–62.

E. Asserted Grounds of Unpatentability

Petitioner challenges the patentability of the '908 patent based on the following grounds under 35 U.S.C. § 103(a).[8] Pet. 16.

References	Basis	Claim[s] Challenged
Chu[9] and Fox[10]	§ 103	1–7, 9–25, 27–30
Chu, Fox, and Wood[11]	§ 103	8

[8] The Leahy-Smith America Invents Act ("AIA"), Pub. L. No. 112-29, 125 Stat. 284, 287–88 (2011), revised 35 U.S.C. § 103, effective March 16, 2013. The earliest possible effective filing date of the '908 patent is March 11, 1999 (Ex. 1001 at (63)), prior to the effective date of the AIA. Thus, the grounds asserted are under the pre-AIA version of § 103.

[9] Ke-Chiang Chu, U.S. Patent No. 5,467,087, issued Nov. 14, 1995 (Ex. 1004, "Chu").

[10] Armando Fox et al., *Adapting to Network and Client Variability via On-Demand Dynamic Distillation*, ACM Sigplan, Vol. 31, No. 9, Sept. 1996 (Ex. 1005, "Fox").

[11] Chris Wood et al., *DASD Trends: Cost, Performance, and Form Factor*, IEEE Proceedings, Vol. 81, No. 4, Apr. 1993 (Ex. 1005, "Fall").

References	Basis	Claim[s] Challenged
Chu, Fox, Rynderman,[12] and Clark[13]	§ 103	26

III. ANALYSIS

A. Legal Standard for Obviousness

A patent claim is invalid as obvious if the differences between the claimed subject matter 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." 35 U.S.C. § 103(a).

The ultimate determination of obviousness is a question of law, but that determination is based on underlying factual findings . . . . The underlying factual findings include (1) "the scope and content of the prior art," (2) "differences between the prior art and the claims at issue," (3) "the level of ordinary skill in the pertinent art," and (4) the presence of secondary considerations of nonobviousness such "as commercial success, long felt but unsolved needs, failure of others," and unexpected results. *In re Nuvasive, Inc.*, 842 F.3d 1376, 1381 (Fed. Cir. 2016) (citing, *inter alia*, *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966)).

In assessing the prior art, the Board must consider whether a person of ordinary skill would have been motivated to combine the prior art to achieve the claimed invention. *Nuvasive*, 842 F.3d at 1381. As stated in *Personal*

[12] Michael Rynderman et al., U.S. Patent No. 5,563,961, issued Oct. 8, 1996 (Ex. 1012, "Rynderman").
[13] Alan D. Clark, U.S. Patent No. 5,319,682, issued June 7, 1994 (Ex. 1013, "Clark").

Web Technologies, LLC v. Apple, Inc., 848 F.3d 987, 991–992 (Fed. Cir. 2017):

> The Supreme Court in *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 127 S. Ct. 1727, 167 L.Ed.2d 705 (2007), explained that, "because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known," "it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does." *Id.* at 418–19, 127 S. Ct. 1727.

"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")). This burden of persuasion never shifts to Patent Owner. *See Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (discussing the burden of proof in *inter partes* review). Furthermore, "[t]o 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." *In re Magnum Oil Tools Int'l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016); *see also KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. at 418 (obviousness grounds "must be [supported by] some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.").

Thus, in order to institute *inter partes* review, Petitioner must explain how the proposed combinations of prior art would have rendered at least one of the challenged claims unpatentable. At this preliminary stage, we determine whether, on this record, Petitioner has shown a reasonable likelihood that at least one challenged claim would have been obvious over the proposed combination of Chu and Fox. *See* 35 U.S.C. § 314(a).

1. Person of Ordinary Skill in the Art

Petitioner alleges "[a] person of ordinary skill in the art of the '908 patent would have had an undergraduate degree in computer science and two years of industry experience or a graduate degree in the field of computer science." Pet. 10 (citing Ex. 1016 ¶¶ 28–30). Patent Owner does not propose a level of ordinary skill or comment on Petitioner's proposal. On this record, we adopt Petitioner's proposal for the level of ordinary skill.

B. Obviousness Based on the Combination of Chu and Fox

All of Petitioner's challenges to the claims are based in the first instance on the combination of Chu and Fox. *See* Section I.E above. In connection with "Ground 1," Petitioner argues that Chu teaches "nearly all" of the limitations of independent claims 1, 21, and 25. Pet. 17. Petitioner continues discussing what Fox teaches, stating that "[t]o the extent that the Board concludes that Chu does not expressly disclose the limitations in Claims 1[f], 21[e], and 25[f], requiring compression and storage occur faster than if the data was stored in uncompressed form, the limitation is supplied by Fox." *Id.*

Our review of this record does not raise any reason for us to consider Chu alone in connection with "expressly disclos[ing] the limitations in Claims 1[f], 21[e], and 25[f]." *See* Pet. 17 (suggesting we might conclude

Chu expressly discloses the cited limitations). The Petition does not allege that Chu anticipates any claim of the '908 patent. Pet. 7. Neither is Chu alone argued as rendering obvious any claim of the '908 patent. *Id.* Thus, the Petition fails to identify specific statutory grounds on which a challenge based only on Chu is presented. *See* 37 C.F.R. § 42.104(b)(2). Our analysis is limited to the combination of Chu and Fox, upon which all of Petitioner's grounds are premised. Pet. 7.

1. Overview of Chu and Fox

a. Chu (Ex. 1004)

Chu is entitled "High Speed Lossless Data Compression System." Ex. 1004 (54). More specifically, Figure 4 depicts a block diagram for "a high speed lossless data compression and decompression process." *Id.* at 4:24–26, *see also id.* at 4:5–7 (describing Figure 4 as "a lossless data compression and decompression process"). In the context of a system, Figure 8's embodiment illustrates "a lossless data compression and decompression system." *Id.* at 4:15–17.

b. Fox (Ex. 1005)

In order to provide "meaningful" access to the Internet through "smart cellular phones and handheld wireless devices," Fox describes "how to perform on-demand datatype-specific lossy compression on semantically typed data, tailoring content to the specific constraints of the client." Ex. 1005, 160 (Abstract). The compression architecture, on-demand distillation, occurs "in the network infrastructure rather that at clients or servers." *Id.* at 160 (§ 1). Fox defines "distillation" as "highly lossy datatype-specific compression that preserves most of the semantic content of a data object while adhering to a particular set of constraints." *Id.* at 161

(§ 1.3.1). Three important data types are formatted text, images, and video streams. *Id.*

Table 4 of Fox is reproduced below.

Original Image (GIF)		Reduce to <8KB		Reduce, +map to 16 grays		Reduce, map, +convert to PICT	
size, KB	col-ors	size (%)	time	size (%)	time	size (%)	time
48	87	15.0	3.27	7.7	2.18	27.3	2.66
153	254	5.0	6.72	1.9	3.26	5.8	3.73
329	215	1.8	6.17	1.0	5.18	2.1	5.70
492	249	1.5	8.31	<1.0	6.25	1.4	6.75

Table 4

Ex. 1005, 163. Table 4 illustrates how much time, i.e., latency, it takes for an original GIF image to be distilled under three different distillation parameters, "size reduction to under 8KB, color quantizing to 16 grays, and format conversion to Macintosh PICT." *Id.* at 163 (§ 3.1). For example, where the original image is 48 KB, application of the parameters results in a "time" for distillation of 3.27, 2.18, and 2.66 seconds.

Figure 3 of Fox is reproduced below.

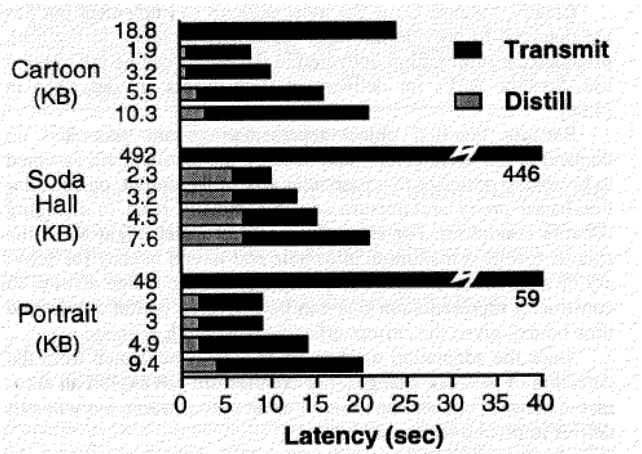

Figure 3: End-to-end latency for images with and without distillation. Each group of bars represents one image with 5 levels of distillation; the top bar represents no distillation at all. The y-axis number is the distilled size in kilobytes (so the top bar gives the original size). Note that two of the undistilled images are off the scale; the Soda Hall image is off by an order of magnitude.

Ex. 1005, 164. Figure 3 is a bar graph that illustrates how end-to-end latency (i.e., the sum of distillation time and transmission time) is impacted by distillation for three images, "Cartoon," "Soda Hall," and "Portrait." *Id.* The first bar for each image illustrates the latency without distillation, and the following four bars for each image illustrate the latency with different levels of distillation. For example, for the Cartoon, the latency for the un-distilled image, having a size of 18.8 KB, is approximate 23 seconds. When distilled to a size of 10.3 KB, the lowest bar for the Cartoon, distillation takes approximately three seconds and transmission another 18 seconds for a total latency of approximately 21 seconds.

2. Reasons to Combine Chu and Fox

As Petitioner has framed the challenge, "it would have been obvious for one of skill to modify Chu with Fox's teachings to arrive at the claimed invention." Pet. 17, *see also id.* at 18–20 ("Reasons to Combine Chu and Fox"). All of the grounds upon which Petitioner challenges the claims of the '908 patent require a person of ordinary skill to combine Fox's teaching of "a system with 'greatly reduced end-to-end latency' where data compression allows data to be transmitted and stored considerably faster than uncompressed data" with Chu's system or method. Pet. 20–21 (citing Ex. 1005, 164; Ex. 1016 ¶ 78) (Ground 1), 54 (Ground 2), 56–57 (Ground 3).

Petitioner argues that, although there are differences between the teachings of Chu and Fox, a person of ordinary skill would have "borrowed features from such designs that they thought were useful" and "the underlying data compression principles and desire to speed data compression are identical." Pet. 18 (citing Ex. 2016 ¶¶ 68, 70). Further, according to

Petitioner, both references teach "high-speed data compression" and each can be easily integrated into the other. *Id.* (citing Ex. 2016 ¶¶ 68, 70; Ex. 1004, 4:24–25; Ex. 1005, 160, 163). In addition, both references allegedly teach multiple data compression techniques applied to incoming data. *Id.* (citing Ex. 1004, 5:67–6:13; Ex. 1005, 163, Fig. 1).

Petitioner alleges Chu and Fox use "similar lossless compression techniques." Pet. 18–19. For Chu, Petitioner cites to the descriptions of Huffman and Lepel-Ziv compression as being lossless methods. *Id.* at 18 (citing Ex. 1004, 4:48–60). For Fox, Petitioner cites to the disclosure of JPEG and MPEG for video compression in the disclosed distiller. *Id.* at 19 (citing Ex. 1005, 166). Petitioner asserts JPEG and MPEG apply Huffman encoding and Fox's disclosure of "14.4Kb/s modem with standard compression . . . V.42bis" uses Lempel-Ziv coding. *Id.* (citing Ex. 2016 ¶ 72). According to the testimony of Dr. Storer, incorporating Fox's techniques into Chu would be a routine optimization because Chu broadly teaches compressing incoming data and Fox teaches using compression on specific data types, image, text, audio, and video. *Id.* (citing Ex. 2016 ¶¶ 72–73; Ex. 1004, 3:48-53, 5:45–48; Ex. 1005, Fig. 1). Thus, Petitioner contends that Chu's versatility would be increased by Fox's "wide range of incoming data streams." *Id.* (citing Ex. 2016 ¶ 73).

Petitioner also argues a person of ordinary skill would have been motivated to use Fox's compression techniques with Chu because Fox shows empirically how compressed data is stored faster than uncompressed data. Pet. 19 (citing Ex. 2016 ¶ 74). Petitioner concludes this "would have improved Chu's performance by speeding the transmission and storage of data, which desirably would allow faster effective data transmission rates

and increase capacity of data storage devices." *Id.* at 19–20 (citing Ex. 2016 ¶ 74). Further, Fox teaches a wide variety of client devices and software and a person of ordinary skill would have looked to Fox to "expand" Chu's capabilities and would have had "a reasonable expectation of success." *Id.* at 20 (citing Ex. 2016 ¶¶ 68–75).

Patent Owner asserts that the Petition "fails to demonstrate how a person of ordinary skill in the art could combine the prior art." Prelim. Resp. 19. While Patent Owner does not, and need not,[14] articulate any support for this assertion, we agree.

We begin with Petitioner's assertion that both Chu and Fox teach "lossless" compression techniques. *See* Pet. 18–19. It is beyond dispute that both Chu and the '908 patent teach lossless systems and methods for compression. *See* Ex. 1004 (54) (Title: "High Speed *Lossless* Data Compression System"); Ex. 1001, Abstract ("Systems and methods for providing accelerated data storage and retrieval utilizing *lossless* data compression and decompression."), 4:5–8 (describing Figure 4 as a "*lossless* data compression and decompression process), 4:15–17 (describing Figure 8 as a "*lossless* data compression system") (all emphases added). Chu teaches "lossless" compression and discloses both Huffman and "LZ-type" (Lempel-Zev) compression as "within the scope of the principals" it teaches. *See* Ex. 1004, 4:38–45.

However, Fox describes "*lossy*" compression and is not described as "lossless." Ex. 1005, 160 (Abstract) (describing "how to perform on-

[14] In *inter partes* review, the burden of persuasion is on Petitioner and never shifts to Patent Owner. *See Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015).

demand datatype-specific *lossy* compression on semantically typed data, tailoring content to the specific constraints of the client") (emphasis added). Fox's "distillation" techniques are defined as "*highly lossy* datatype-specific compression that *preserves most of the semantic content of a data object* while adhering to a particular set of constraints." *Id.* at 161 (§ 1.3.1) (emphasis added).

The difference between "lossless" and "lossy" compression techniques is described in the '908 patent as follows:

> Many lossy data compression techniques seek to exploit various traits within the human senses to eliminate otherwise imperceptible data. For example, lossy data compression of visual imagery might seek to delete information content in excess of the display resolution or contrast ratio of the target display device.
>
> On the other hand, lossless data compression techniques provide an exact representation of the original uncompressed data. Simply stated, the decoded (or reconstructed) data is identical to the original unencoded/uncompressed data.

Ex. 1001, 1:66–2:8. Thus, the '908 patent draws a sharp distinction between "lossless" and "lossy" compression. *Id.* Neither the Petition nor the Storer Declaration address the distinction, as it applies to the proposed combination of Chu and Fox. Indeed, the Petition suggests that Fox is "lossless" because the compression techniques it discloses are allegedly "lossless." Pet. 18 ("Chu and Fox both describe using similar *lossless* compression techniques.") (emphasis added). We are left to question whether Petitioner understood, but did not discuss, the distinction between "lossless" and "lossy" compression when it alleged generally there are "some differences between the teachings of Chu and Fox." *Id.*

Relying on the Storer Declaration, Petitioner asserts Fox discloses JPEG and MPEG data, which use Huffman encoding, which Petitioner argues is a lossless compression method. Pet. 19 (citing Ex. 2016 ¶ 72). However, by definition, JPEG is "lossy." *See* MICROSOFT COMPUTER DICTIONARY, 297 (5TH ed. 2002) (Ex. 3001) (JPEG: "An ISO/ITU standard for storing images in a compressed form . . . trades off compression against loss; it can achieve a compression ratio of 100:1 with significant loss and 20:1 with little noticeable loss.").

Petitioner also cites to Fox's disclosure of "14.4Kb/s modem with standard compression . . . V.42bis," which "uses a form of Lempel-Zev compression when transferring data" as support for its position that Fox discloses "lossless" compression methods. Pet. 19 (citing Ex. 2016 ¶ 72). But the testimony does not explain sufficiently what "form" of Lempel-Zev compression Fox uses in teaching V.42bis compression or whether that "form" is lossless. Given that Fox plainly describes its "distillation" and compression as "lossy," Petitioner's argument and supporting evidence suggesting that V.42bis is *only* lossless does not include sufficient underlying facts for us to afford it any weight. *See* 37 C.F.R. § 42.65(a).

Because there is no explanation concerning why a person of ordinary skill would combine a "lossless" technique with a "lossy" technique, let alone whether such a combination would entail a reasonable expectation of success, Petitioner has not made a sufficiently persuasive showing that a person of ordinary skill would have found it obvious to combine Fox with Chu. We are not persuaded by Petitioner's argument that both Chu and Fox use Huffman and Lempel-Ziv "lossless" compression techniques, in light of

Fox's prevalent discussion of lossy compression and distillation. *See* Pet. 18–19.

The failure of Petitioner to address, let alone argue, why a person of ordinary skill would combine a reference that teaches only "lossless" compression with one that teaches "lossy" compression is enough to deny the Petition. Regardless, we are not persuaded that the other reasons stated in the Petition for combining Fox with Chu provide sufficient reasons to make the combination.

According to the testimony of Dr. Storer, incorporating Fox's techniques into Chu would be a routine optimization because Chu broadly teaches compressing incoming data and adding Fox's specific data types would make Chu more versatile to a "wide range of incoming data streams." Ex. 2016 ¶¶ 72–73. We disagree because, as Petitioner recognizes, Chu broadly teaches compressing incoming data, which would include the data types Fox discusses specifically, text, image, audio, and video. *See* Pet. 19. Given Chu's breadth, Petitioner does not explain what a person of ordinary skill would learn from Fox that would provide a reason or motivation to make the combination.

Petitioner argues the speed of Fox's compression techniques is a rationale for combining Fox with Chu. *See* Pet. 19 (citing Ex. 2016 ¶ 74). This argument uses Patent Owner's own invention, the "faster than" limitation, as a basis for the combination. There can be no reason to combine based on what a person of ordinary skill would have known from the claimed device and methods. *Kinetic Concepts, Inc. v. Smith & Nephew, Inc.*, 688 F.3d 1342, 1369 (Fed. Cir. 2012). Reasons to combine based on this reasoning are improper hindsight. *Id.* Moreover, Petitioner has not

addressed adequately whether a person of ordinary skill in the art would have had any reasonable expectation of success in increasing speed when combining Fox's lossy teachings with Chu's lossless system. We find it unsurprising that a lossy technique is faster than a lossless one. The central question that Petitioner failed to address, however, is whether those speed advantages would carry over to the proposed combination with a lossless system, or whether such a combination would have required some amount of loss to be realized in Chu's system or method. Petitioner provides no compelling evidence addressing whether a person of ordinary skill in the art would have found such a combination obvious, in light of these considerations.

The remainder of Petitioners' arguments broadly allege that both Chu and Fox relate to compression methods. *See, e.g.*, Pet. 18 (a person of ordinary skill would have "considered competitive data compression system designs and would have borrowed features from such designs"). We do not find broad similarities alone to be enough of a reason to make the combination argued. Again, Chu teaches compression generally and there is no sufficiently persuasive reason in the record for why a person of ordinary skill would consult Fox for its teachings of compression of particular data types.

IV. CONCLUSION

On this record, we determine that Petitioner has not shown a reasonable likelihood that a person of ordinary skill would have had reason to combine Chu and Fox. Accordingly, we need not address Patent Owner's other arguments. We deny institution.

V. ORDER

Accordingly, it is

ORDERED that the Petition is denied as to all challenged claims of the '908 patent.

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