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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

AMERICAN AIRLINES, INC. and SOUTHWEST AIRLINES CO.,
Petitioner,

v.

INTELLECTUAL VENTURES I LLC,
Patent Owner.

IPR2025-00785
Patent 7,257,582 B2

Before KEN B. BARRETT, GEORGIANNA W. BRADEN, and STEPHEN E. BELISLE, *Administrative Patent Judges*.

BELISLE, *Administrative Patent Judge*.

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

I. INTRODUCTION

American Airlines, Inc. and Southwest Airlines Co. (collectively, "Petitioner") filed a Petition (Paper 1, "Pet.") requesting an *inter partes* review of claims 1–14 ("Challenged Claims") of U.S. Patent No. 7,257,582 B2 (Ex. 1001, "the '582 patent"). Intellectual Ventures I LLC ("Patent Owner") filed a Preliminary Response. Paper 8 ("Prelim. Resp.").

We have authority to determine whether to institute an *inter partes* review. 35 U.S.C. § 314(b) (2024); 37 C.F.R. § 42.4(a) (2024). 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). The "reasonable likelihood" standard is "a higher standard than mere notice pleading" but "lower than the 'preponderance' standard to prevail in a final written decision." *Hulu, LLC v. Sound View Innovations, LLC*, IPR2018-01039, Paper 29 at 13 (PTAB Dec. 20, 2019) (precedential). When instituting *inter partes* review, the Board will authorize the review to proceed on all of the challenged claims and on all grounds of unpatentability asserted for each claim. 37 C.F.R. § 42.108(a).

Applying those standards, and based on the record before us, we determine that Petitioner has not demonstrated a reasonable likelihood of success in proving that any one of the Challenged Claims is unpatentable. *See* 35 U.S.C. § 314; 37 C.F.R. § 42.4(a). Accordingly, we deny institution of an *inter partes* review of the '582 patent.

Patent Owner EXHIBIT 2030
IPR2026-00104

II. BACKGROUND

A. Real Parties in Interest

Petitioner identifies American Airlines, Inc. and Southwest Airlines Co. as real parties in interest. Pet. 2. Patent Owner identifies itself as a real party in interest. Paper 4 (Patent Owner's Mandatory Notices), 2.

B. Related Matters

According to the parties, the '582 patent has been asserted in the following district court actions:

Intellectual Ventures I LLC v. American Airlines, Inc., No. 4:24-cv-980 (E.D. Tex. filed November 2, 2024); and

Intellectual Ventures I LLC v. Southwest Airlines, Co., No. 7:24-cv-277 (W.D. Tex. filed November 2, 2024). Pet. 3; Paper 4, 2.

C. The '582 Patent

The '582 patent is titled "Load Balancing With Shared Data," and issued August 14, 2007, from U.S. Patent Application No. 10/375,893, filed February 27, 2003. Ex. 1001, codes (10), (21), (22), (45), (54).
The '582 patent claims priority to U.S. Provisional Application No. 60/363,853, filed March 13, 2002. *Id.* at code (60).

The '582 patent generally relates to "sharing data and workload between possibly heterogeneous computer systems," and more specifically to "a way to split the performance of a given task among a plurality of processing units which can all access, directly or indirectly, the input data and the devices on which the output data is to be stored." Ex. 1001, 1:11–17. According to the '582 patent, its disclosed system "distributes the load of a [computer] process that normally reads an input file sequentially

and processes its records one by one between a plurality of potentially heterogeneous processors through the logical partition of the input and the activation of a plurality of sub tasks in said plurality of processors," where "each sub task process[es] the partitions defined by said logical partition *in a first come first serve basis*." *Id.* at 1:61–2:2 (emphasis added).

Figure 1 of the '582 patent is reproduced below.

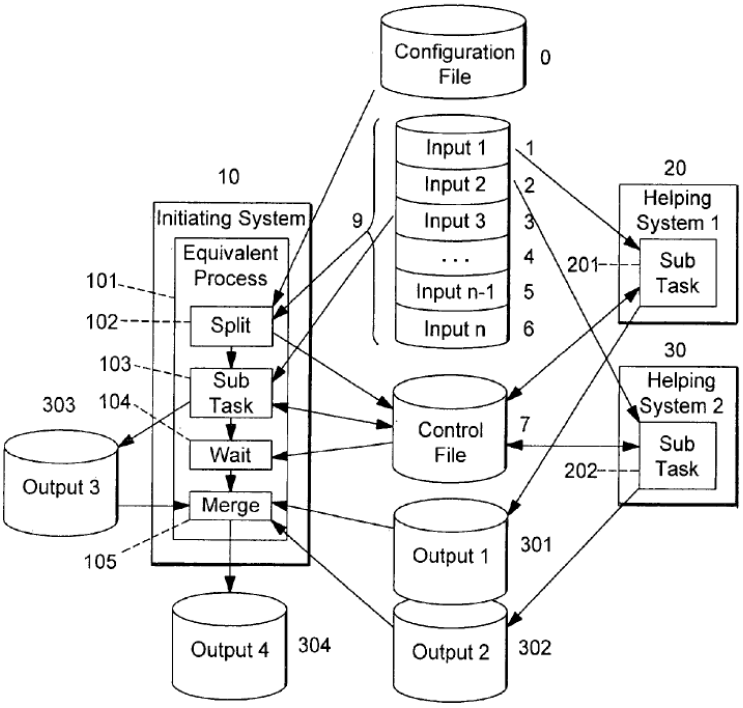

Fig. 1

Figure 1 is a block diagram showing "a top-level description of the invention and its workings".

Ex. 1001, 2:46–47, 2:59–60, Fig. 1. As shown above in Figure 1, "[i]nput files 9 are . . . logically partitioned into n logical partitions where n is a number the split step 102 has decided upon," and in this example, "these

logical partitions are numbered as 1 to 6." *Id.* at 3:32–35. Such logical partitions may be defined as "consecutive ranges on the input or output, ranging from one relative byte address to another relative byte address or from one relative track address to another." *Id.* at 3:36–41. "Note that the logical partition does not rely on actual reading of the file. The actual reading of the file is reserved to the subtasks which read the partitions allocated to them." *Id.* at 52–54.

According to the '582 patent, "[w]hen the split step terminates, the various Sub Tasks (in this case: 103, 20[1], 20[2]) can be activated," and "[t]his activation can be initiated by the split step 102 itself or by an external scheduler." Ex. 1001, 3:64–67. After activation, each sub task is provided with a description of the subdivisions of the input file (reflecting the logical partitions) and uses such information "to allocate for itself and then process, an input partition that has not been allocated yet." *Id.* at 3:67–4:3. "[E]ach subtask read[s] and process[es] the partitions on a first come first serve basis." *Id.* at 2:10–11. After the sub tasks have terminated, merge step 105 merges "the outputs of the various Sub Tasks into the result output file or files," depicted by "Output 4" (#304). *Id.* at 4:40–61.

D. Illustrative Claim

The '582 patent includes fourteen claims, all of which are challenged. Claim 1, the sole independent claim, is illustrative of the claimed subject matter and is reproduced below with labels, such as "[1a]," added to limitations in the same manner as used by the parties.

> 1. [1pre] A method of effecting on a preexisting input file a computer-executable process comprised of a plurality of subtasks, the method comprising the steps of:

[1a] (a) automatically determining file allocation and logically subdividing records of said input file into a plurality of partitions;

[1b] (b) distributing descriptions of all of said partitions to each of a plurality of subtask processors[;]

[1c] [(]c) simultaneously executing at least a respective one of the subtasks of the computer-executable process in each of at least some of said processors on a respective one of the partitions with each subtask reading and processing the respective partition so as to process the respective partition and produce respective subtask output and;

[1d] [(]d) thereafter repeating step (c) in at least some of the subtask processors each with another unprocessed partition on a first-come/first-served basis; and

[1e] (e) generating at least one output combining all of the subtask outputs and reflecting the processing of all of said subtasks.

Ex. 1001, 6:44–64.

E. Evidence of Record

Petitioner relies on the following evidence.

Name	Patent Document	Exhibit
Chow	US 6,304,866 B1, issued October 16, 2001	1003
Reiffin	US 6,330,583 B1, issued December 11, 2001	1004
Kurowski	US 2002/0019844 A1, published February 14, 2002	1005

Pet. 7.

Petitioner also relies upon the Declaration of Michael Ian Shamos, Ph.D. (Ex. 1022).

Patent Owner relies upon the Declaration of Daniel Abadi, Ph.D. (Ex. 2013).

F. Asserted Challenges to Patentability

Petitioner challenges the patentability of claims 1–14 of the ’582 patent on the following bases (Pet. 7).

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1–14	103[1]	Chow, Reiffin
1–14	103	Chow, Reiffin, Kurowski

III. PATENTABILITY

A. Applicable Law

Petitioner challenges the patentability of claims 1–14 of the ’582 patent on grounds that the claims would have been obvious under 35 U.S.C. § 103 in light of various references, namely Chow, Reiffin, and Kurowski. “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).

[1] The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 287–88 (2011), amended 35 U.S.C. § 103 effective on March 16, 2013. Because the application of the ’582 patent was filed February 27, 2003, the pre-AIA version of § 103 applies.

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."[2] *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)).

The Supreme Court has made clear that we apply "an expansive and flexible approach" to the question of obviousness. *Id.* at 415. Whether a patent claiming a combination of prior art elements would have been obvious is determined by whether the improvement is more than the predictable use of prior art elements according to their established functions.

[2] Patent Owner has not presented objective evidence of non-obviousness.

Id. at 417. To reach this conclusion, however, requires more than a mere showing that the prior art includes separate references covering each separate limitation in a claim under examination. *Unigene Labs., Inc. v. Apotex, Inc*., 655 F.3d 1352, 1360 (Fed. Cir. 2011). Rather, obviousness requires the additional showing that a person of ordinary skill at the time of the invention would have selected and combined those prior art elements in the normal course of research and development to yield the claimed invention. *Id.* "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." *In re Magnum Oil Tools Int'l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016).

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 invention of the '582 patent:

> would have had a bachelor's degree in computer science, computer engineering, electrical engineering, or related field, and at least two years of experience in computer networking and parallel computing, or a person with a master's degree in one of the foregoing and at least one year of experience in the aforementioned fields. Additional education could substitute for professional experience, and vice-versa.

Pet. 7 (citing Ex. 1022 ¶ 44).

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Patent Owner states, "For purposes of this Patent Owner Preliminary Response only, Patent Owner does not contest Petitioner's proposed definition of [the skilled artisan]." Prelim. Resp. 13.

In determining the level of ordinary skill in the art, various factors may be considered, including the "type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field." *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (citation omitted). The level of ordinary skill in the art also may be reflected by the prior art of record. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001).

Neither party argues that the outcome of this case would differ based on our adoption of any particular definition of the level of ordinary skill in the art. Considering the subject matter of the '582 patent, the background technical field, the prior art, and Petitioner's unopposed definition of the skilled artisan, which is supported with testimony of Dr. Shamos (Ex. 1022 ¶ 44), we apply the level of skill set forth above.

C. Claim Construction

We construe claims "using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b), including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent." 37 C.F.R. § 42.100(b); *see also Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc).

In this context, claim terms "are generally given their ordinary and customary meaning" as understood by a person of ordinary skill in the art in question at the time of the invention. *Phillips*, 415 F.3d at 1312–13; *see CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002) (noting "a 'heavy presumption' that a claim term carries its ordinary and customary meaning"). "In determining the meaning of the disputed claim limitation, we look principally to the intrinsic evidence of record, examining the claim language itself, the written description, and the prosecution history, if in evidence." *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1014 (Fed. Cir. 2006) (citing *Phillips*, 415 F.3d at 1312–17). Extrinsic evidence is "less significant than the intrinsic record in determining 'the legally operative meaning of claim language.'" *Phillips*, 415 F.3d at 1317.

Only those claim terms that are in controversy need to be construed, and only to the extent necessary to resolve the controversy. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (stating that "we need only construe terms 'that are in controversy, and only to the extent necessary to resolve the controversy'" (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

"Petitioners apply the [*Phillips*] . . . claim construction standard," and "do not believe explicit construction is needed to resolve this petition"—that is the full extent of Petitioner's submission on claim construction. Pet. 6. Yet, according to Patent Owner:

> In the district courts, Petitioners have taken the position that key claim terms of the '582 Patent are "indefinite under 35 U.S.C.

> § 112, ¶ 2" because they "fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention." Ex. 2009, 36-37 and Ex. 2010, 200-201. Yet, in this IPR, the Petitioners have abandoned those positions in favor of interpretations intended to support invalidity arguments in this IPR—without acknowledging, let alone justifying, the inconsistency.
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> * * *
>
> Petitioners' indefiniteness positions in the district courts are irreconcilable with those taken by Petitioners in this IPR because a claim term cannot be both "indefinite under 35 U.S.C. § 112, ¶ 2" because it fails "to inform, with reasonable certainty, those skilled in the art about the scope of the invention" and, at the same time, have an "ordinary and customary meaning" as understood by "a person of ordinary skill in the art in question at the time of the invention" [under *Phillips*].

Prelim. Resp. 9–10.

Under 37 C.F.R. § 42.104(b)(3), *petitioners* must clearly articulate *in the petition* "[h]ow the challenged claim is to be construed." If, according to Petitioner, many limitations in claim 1 are indefinite, then how does Petitioner propose that the Board construe such limitations to assess Petitioner's invalidity challenges—*Petitioner is silent*. This alone favors denial of institution. We also remind Petitioner's counsel of their duty of candor and good faith to the Office during the course of a proceeding pursuant to 37 C.F.R. § 42.11.

Nonetheless, we agree with both Petitioner (Pet. 6) and Patent Owner (Prelim. Resp. 8–9) that no express construction of any term is necessary to resolve this case in view of Petitioner's proffered patentability challenges. To be clear, we do not opine in this Decision on whether the Challenged Claims satisfy the requirements of 35 U.S.C. § 112.

D. Petitioner's Failure to Identify Patentability Challenges and Apply Asserted Prior Art With Particularity and Clarity

Petitioner must "[p]rovide a statement of the precise relief requested for each claim challenged," including "[t]he specific statutory grounds under 35 U.S.C. 102 or 103 on which the challenge to the claim is based and the patents or printed publications relied upon for each ground," and "[h]ow the construed claim is unpatentable under [such] statutory grounds," and do so with clarity and particularity. 37 C.F.R. § 42.104(b)(2), (b)(4); *see* 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify, "*with particularity* . . . the grounds on which the challenge to each claim is based, and the evidence that supports the grounds for the challenge to each claim" (emphasis added)).

In this case, Petitioner explicitly identifies its two "obviousness grounds" as (1) Chow *in view of* Reiffin, i.e., a two-reference *combination*, and (2) Chow *in view of* Reiffin and *further in view of* Kurowski, i.e., a three-reference *combination*. Pet. 7. But, in applying these references against claim 1, Petitioner instead alleges that each of Chow, Reiffin, and Kurowski *alone* (separately) "discloses," "teaches," or "suggests" each and every limitation of claim 1, where each such reference essentially anticipates claim 1.[3] Petitioner further alleges that "Chow and Reiffin both disclose or suggest" each limitation in claim 1, and that "claim 1 [would have been] obvious over Chow and Reiffin separately and over their combination"; and "Chow, Reiffin, and Kurowski disclose or suggest each limitation in

[3] *See, e.g.*, Pet. 15–16 ("Chow teaches or suggests claim [1b]." "Reiffin teaches or suggests claim [1b]."); *see also id.* at 12–19, 37–42.

claim 1," and thus, claim 1 would have been obvious over Chow, Reiffin, and Kurowski separately and over their combination.[4]

Petitioner's single-reference allegations do not align with its two "combination" challenges identified above. As for its "combination" allegations, Petitioner does not identify, for example: (1) which limitations in claim 1 are missing in any of Chow, Reiffin, and Kurowski; (2) which aspects of any of these references requires modification to achieve the invention of claim 1; (3) which specific reference Petitioner posits to teach any such missing limitation in another reference or as the basis to modify a specific feature in a given reference; or (4) a rational reason as to *why* the skilled artisan would have combined particular teachings from one of Chow, Reiffin, and Kurowski with particular teachings of another such reference to achieve the invention of claim 1 as a whole.[5] Instead, Petitioner improperly punts *its* burden to define *its* obviousness challenges *to the Board* (and Patent Owner). *See, e.g.*, Pet. 38 ("*To the extent the Board disagrees* that [any particular] limitation is disclosed by the Chow/Reiffin combination

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[4] *See, e.g.*, Pet. 16, 19 ("Thus, Chow and Reiffin both disclose or suggest claim [1b]." "Therefore, claim 1 was obvious over Chow and Reiffin separately and over their combination."); *see also id.* at 12–19, 37–42.

[5] Petitioner argues that the skilled artisan would have combined Reiffin with Chow for "increased computational power and the ability to solve larger problems." Pet. 11. These generic "reasons" to combine the alleged teachings of Chow and Reiffin (and Kurowski) lack rational underpinning, particularly because Petitioner does not even identify which teachings of which references are being combined to achieve any particular limitation in claim 1. *See* Prelim. Resp. 40 ("[Petitioner's] 'spaghetti on the wall' approach fails [to] explain how Petitioners' purported motivation for combining Chow and Reiffin fits with each of the at least 64 different possibilities for combining Chow and Reiffin.").

[(which itself is also placed before the Board to define)], Kurowski discloses [that limitation].”).

The burden of proof here lies with Petitioner, not Patent Owner, and we do not ourselves create and adopt unpatentability arguments on behalf of Petitioner as to whether or how any particular combination of Chow, Reiffin, and/or Kurowski might teach or suggest the invention of claim 1. *See Wasica Fin. GmbH v. Cont'l Auto. Sys., Inc.*, 853 F.3d 1272, 1286 (Fed. Cir. 2017) (“It is of the utmost importance that petitioners in the IPR proceedings adhere to the requirement that the initial petition identify with particularity the evidence that supports the grounds for the challenge to each claim.” (quoting *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369 (Fed. Cir. 2016))); *In re Magnum Oil Tools*, 829 F.3d at 1381 (“[W]e find no support for the PTO's position that the Board is free to adopt arguments on behalf of petitioners that could have been, but were not, raised by the petitioner during an IPR.”); *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 archeologist with the record.”).

In this case, Petitioner places the burden on the Board (and Patent Owner) to assess 64 possible permutations for applying disclosures in Chow and Reiffin against claim 1, and to assess 729 possible permutations for applying teachings in Chow, Reiffin, and Kurowski against claim 1. *See* Prelim. Resp. 19, 39–42, 52–53. Petitioner pins disclosures of three separate references onto a proverbial wall, and apparently hopes for the Board to select the best combination of teachings to apply against the Challenged Claims and explain why—we decline to do so. We find Petitioner does not identify its patentability challenges based on combinations of Chow and

Reiffin and of Chow, Reiffin, and Kurowski with sufficient particularity and clarity, and that this alone is fatal to institution of *inter partes* review in this case.

Nonetheless, for completeness, we discuss below additional deficiencies in Petitioner's patentability challenges.

E. Alleged Obviousness of Claims 1–14 over the Combination of Chow and Reiffin

Petitioner contends claims 1–14 would have been unpatentable under 35 U.S.C. § 103 as obvious over the combination of Chow (Ex. 1005) and Reiffin (Ex. 1004). Pet. 9–34. Patent Owner opposes Petitioner's contentions. Prelim. Resp. 13–17, 19–41. Based on our review of the record before us, we determine that Petitioner has not established a reasonable likelihood that it would prevail in showing that independent claim 1 (and thus any Challenged Claim) would have been unpatentable as obvious over the combination of Chow and Reiffin, as discussed below. We turn to overviews of Chow and Reiffin.

1. Overview of Chow (Ex. 1003)

Chow is directed to "performing an aggregate database processing task with multiple concurrently operating task execution units, using incremental and on-demand sub-task allocation," which according to Chow, is referred to as "'straw model' data processing." Ex. 1003, 1:10–16.

Figure 4 of Chow is reproduced below.

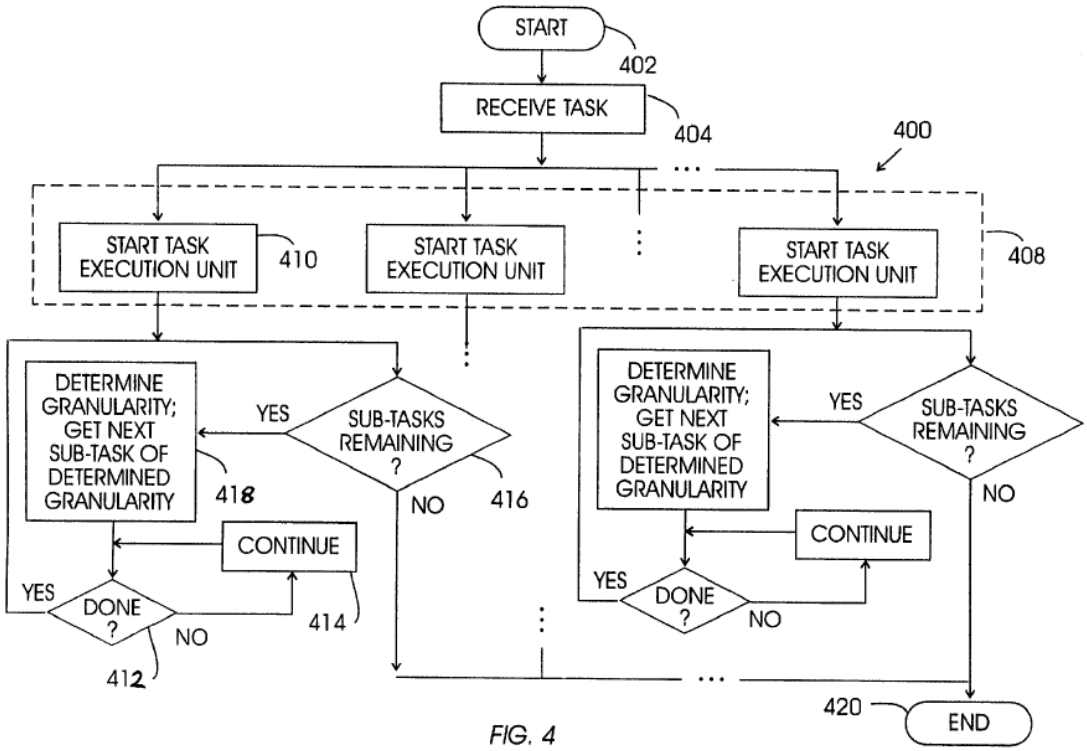

FIG. 4

Figure 4 depicts a "method for aggregate database processing task performance in a multiprocessing system by incremental and on-demand task allocation among multiple concurrently operating task execution units."

Ex. 1003, 2:66–3:3, Fig. 4. As shown in Figure 4 above, "method sequence 400 is used to perform an aggregate database processing task, by breaking the task down into smaller units, and executing the units with multiple concurrently operating task execution units." *Id.* at 5:5. Chow summarizes the operation of its "straw model" data processing system as follows:

> In a multiprocessing system, multiple concurrently operating task execution units are operated to perform an aggregate task by using incremental and on-demand sub-task allocation. A command is received to perform a machine-executed task divisible into multiple sub-tasks, i.e., an

> "aggregate task". A granularity is then established, for dividing the aggregate task into sub-tasks. Preferably, the granularity is not too large to permit potentially uneven sub-task allocation, and not too small to incur excessive overhead in allocating sub-tasks. Having established the granularity, multiple task execution units are independently operated on-demand to sequentially self-allocate and execute sub-tasks of the aggregate tasks. Each sub-task is sized according to the established granularity. Operating "on-demand", each task execution unit sequentially allocates and executes one sub-task at a time, then proceeding to the next unexecuted sub-task. Thus, the multiprocessing system operates like multiple people drinking water from a common glass through individual straws--although each drinker works independently, all finish simultaneously, thus completing the aggregate task as expeditiously as possible.

Id. at code (57).

We further discuss below the disclosures of Chow in connection with the parties' arguments.

2. Overview of Reiffin (Ex. 1004)

Reiffin is directed to "a distributed parallel processing network system wherein a large compute-intensive task may be partitioned into subtasks which are then distributed among a plurality of personal computer or workstations for parallel execution of the subtasks in the background concurrently with the execution in the foreground of the respective local tasks of the individual workstations." Ex. 1004, 1:7–14.

We further discuss below the disclosures of Reiffin in connection with the parties' arguments.

3. Analysis of Independent Claim 1

Claim 1 recites, in relevant part, "[1a] automatically determining file allocation and *logically subdividing records of said [preexisting] input file*

into a plurality of partitions" ("Partitioning Limitation"); and "[1b] distributing descriptions of *all* of said partitions *to each* of a plurality of subtask processors" ("Descriptions Limitation"). Ex. 1001, 6:44–51 (emphases added). The parties dispute whether the combination of Chow and Reiffin would have taught or suggested these features to the skilled artisan. *See* Pet. 13–16; Prelim. Resp. 20–25, 28–41.

a. Partitioning Limitation

Petitioner argues that "Chow discloses [the Partitioning Limitation]," and quotes various passages in Chow. Pet. 13–14. For example, Petitioner identifies that, *under "Description of the Related Art,"* Chow states: "Typically, workload is apportioned by somehow logically dividing the data to be processed. For example, a block of data might be divided evenly into a number of parts equal to the number of available threads, so that each thread can independently process a separate portion of the data. This is called 'static' or 'a priori' partitioning." Pet. 13 (citing Ex. 1003, 1:38–42; Ex. 1022 ¶ 144). Petitioner also identifies that Chow describes "aggregate tasks" divisible into "multiple sub-tasks," and "multiple task execution units are independently operated on-demand to sequentially self-allocate and execute sub-tasks of the aggregate task." Pet. 13–14 (citing Ex. 1003, 1:66–2:15). After presenting such quoted passages from Chow, Petitioner proffers the conclusion that Chow discloses the Partitioning Limitation, but does so without sufficiently explaining *why* such passages allegedly teach or suggest the features of the Partitioning Limitation not only *within the context of claim 1 as a whole*, but given that Chow itself disparages such "static" or "a priori" partitioning as posing "a significant problem" (Ex. 1003, 1:52–58).

Patent Owner persuasively responds (and we agree for the same reasons):

> [I]n purporting to map Chow to [the Partitioning Limitation,] which recites "logically subdividing records of said *input file* into a plurality of partitions", the Petition attempts to link aspects of (i) Chow's description of "static" or "a priori" partitioning systems (*disparaged* by Chow) where "*a block of data* might be divided evenly into a number of parts equal to the number of available threads" and (ii) aspects of Chow's disclosed *solution* which *divide an aggregate task* into sub-tasks. . . . [I]n the '582 Patent, an "input *file*" and "*subtasks*" are *different*. In purporting to bridge this difference and allege that Chow alone meets [the Partitioning Limitation], the Petition erroneously attempts to link Chow's discussion of dividing a *block of data* (which the Petition appears to analogize to an "*input file*") in the systems *disparaged* by Chow with aspects of Chow's disclosed *solution* that divide *an aggregate task* into *subtasks*. However, the Petition has failed to explain how these disparate aspects of Chow are arranged as claimed. Moreover, other than relying on an erroneous linkage between the "static" or "a priori" partitioning systems disparaged by Chow and Chow's proposed solution, the Petition fails to offer any explanation whatsoever how Chow's disclosure of dividing *an aggregate task* into *subtasks* equates to "logically *subdividing records* of said *input file* into a plurality of partitions" as recited in [the Partitioning Limitation].

Prelim. Resp. 21 (emphases in original).

Patent Owner also persuasively points out that Petitioner relies on inconsistent mappings to Chow for the "partitions" recited throughout claim 1. *See* Prelim. Resp. 22–23. In particular, Patent Owner argues:

> [I]n mapping "*the* partitions" referenced in Element [1c] to Chow, the Petition does *not* reference back to its mapping of "partitions" in [the Partitioning Limitation] to "*the number of parts*" of the "block of data" (in the systems disparaged by Chow), or its mapping of "said partitions" in Element [1b] to

> Chow's "*common partition*" or Chow's *division of an aggregate task into subtasks*, but instead identifies yet another aspect of Chow, namely, Chow's *execution units*, as the claimed partitions.

Id. at 23 (emphases in original). We agree with Patent Owner's assessment here, and find Petitioner does not sufficiently explain (i.e., justify) these inconsistent mappings to Chow for the same "partitions" feature across various limitations in claim 1.

Petitioner likewise argues that "Reiffin also discloses [the Partitioning Limitation]," and quotes various passages in Reiffin. Pet. 14–15. For example, Petitioner identifies that Reiffin states: "If a computer has a task which is both large and compute-intensive, the task is partitioned into a plurality of smaller subtasks to be executed simultaneously in parallel by the other computers of the network. Each of these subtasks is assigned its respective identifier." Pet. 14–15 (citing Ex. 1004, 2:19–23). Again, after presenting such quoted passages from Reiffin, Petitioner proffers the conclusion that Reiffin discloses the Partitioning Limitation, but does so without sufficiently explaining *why* such passages allegedly teach or suggest the features of the Partitioning Limitation, particularly given that Reiffin on its face describes partitioning "tasks" into "subtasks," not partitioning a preexisting "input file" as recited in claim 1.

Patent Owner submits that the preamble of claim 1 "separately introduces a 'preexisting input *file*' and '*subtasks*,' indicating that the two are different," and that "[t]he body of the claim goes on to explain the differences between the two." Prelim. Resp. 28. Patent Owner further submits that the Partitioning Limitation "recites that *the input file includes records that are logically partitioned*, while Element (c) *the subtasks*

process the logical partitions," and that "the logical partitions correspond to 'well-defined' portions of the preexisting input file such as 'ranging from one relative byte address to another.'" *Id.* at 28–29 (citing Ex. 1001, 3:36–41). With that context, Patent Owner persuasively argues (and we agree for the same reasons):

> The Petition fails to offer *any* explanation whatsoever why, in the context of the claim language which clearly distinguishes between a *file* and *subtasks*, Reiffin's division of *tasks* and *subtasks* equates to the logical the [sic] partitioning of the "preexisting input *file*" as recited in [the Partitioning Limitation]. Moreover, the specification of the '582 Patent makes clear that the file partitions resulting from [the Partitioning Limitation] correspond to "*well-defined*" portions of the preexisting input file such as "ranging from one relative byte address to another." Ex. 1001, 3:36-41. Completely absent from the Petition's purported mapping of Reiffin to [the Partitioning Limitation] is *any* explanation as to how Reiffin's subtasks correspond to portions of a preexisting input file such as "ranging from one relative byte address to another."

Id. at 30 (emphases in original).

As for the *combined* teachings of Chow and Reiffin, the full extent of Petitioner's argument is the conclusion that these references "separately and over their combination" teach the features of the Partitioning Limitation. *See* Pet. 19. Petitioner does not sufficiently explain what is missing in Chow that Reiffin allegedly would add (or vice versa) to achieve the Partitioning Limitation. *See supra* § III.D. Patent Owner addresses this deficiency at length. *See* Prelim. Resp. 32–41.

We have considered Petitioner's arguments and cited evidence concerning whether the combination of Chow and Reiffin would have taught or suggested to the ordinarily skilled artisan the features of the Partitioning

Limitation, and do not find them sufficiently persuasive on the record before us. Rather, we agree with Patent Owner's arguments and cited evidence outlined above, and find it sufficiently persuasive to demonstrate Petitioner failed to meet its burden of proof in this case. Accordingly, for the reasons expressed above and based on the record before us, we determine that Petitioner has not established a reasonable likelihood that it would prevail in showing that independent claim 1 is unpatentable as obvious over the combination of Chow and Reiffin.

b. Descriptions Limitation

Petitioner argues that "Chow teaches or suggests [the Descriptions Limitation]," and quotes various passages in Chow. Pet. 15–16. For example, Petitioner argues:

> Chow discloses that partitions are accessible by all subtask processors. For example, Chow discloses that "*[t]he common partition* is accessible by all task execution units 101-104." Ex.1003 (9:37-38). As such, each of the task execution units have access to information about *the partition*." Ex.1022 ¶ 149.

Pet. 15 (emphases added). But the Descriptions Limitation requires *more* than distributing a description of "the partition" to all of the subtask processors; it instead requires distributing *all of the plurality of partitions* to *all* of the subtask processors. *See* Prelim. Resp. 24 (Patent Owner arguing same). Petitioner does not sufficiently explain *why* such passages in Chow allegedly teach or suggest the features of the Descriptions Limitation within the context of claim 1 as a whole. *See id.* ("The Petition fails to explain how Chow's disclosure of <u>*a common partition*</u> (<u>*singular*</u>) or providing task execution units access to information about <u>*only a single partition*</u> meets the

claim language, which explicitly requires distribution of information describing a *plurality* of partitions.”).

In addition, Patent Owner responds (as it did regarding the Partitioning Limitation):

> [I]n mapping “said partitions” referenced in [the Descriptions Limitation] to Chow, the Petition does not reference back to the “partitions” identified in connection with the mapping of [the Partitioning Limitation] to Chow (e.g., “the number of parts” of the “block of data” in the systems disparaged by Chow) but instead appears to map “said partitions” in [the Descriptions Limitation] to entirely different disclosures in Chow, namely, Chow’s “common partition” or Chow’s division of an aggregate task into subtasks.

Prelim. Resp. 22. We agree with Patent Owner, and find that Petitioner’s unexplained, inconsistent mapping of “partitions” as recited in claim 1 renders Petitioner’s argument unpersuasive.

Petitioner likewise argues that “Reiffin teaches or suggests [the Descriptions Limitation],” and quotes various passages in Reiffin. Pet. 16. For example, Petitioner argues:

> Reiffin discloses that “[i]f a computer has a task which is both large and compute-intensive, the task is partitioned into a plurality of smaller subtasks to be executed simultaneously in parallel by the other computers of the network. Each of these subtasks is assigned its respective identifier. *One of the network disk drives has a directory constituting a pool for storing all of the subtask identifiers, preferably in the form of a queue.*” Ex.1004 (2:19-25). Reiffin therefore discloses providing descriptions of the partitions to each of the subtask processors. Ex.1022 ¶ 150.

Pet. 16 (emphasis added). Again, after presenting such quoted passages from Reiffin, Petitioner proffers the conclusion that Reiffin “therefore” discloses the Descriptions Limitation, but does so without sufficiently

explaining *why* such passages allegedly teach or suggest the features of the Descriptions Limitation, particularly *distributing descriptions* of *all* partitions to *all* subtask processors.

As noted by Patent Owner, Reiffin explains that "[i]f no remote subtask is being concurrently executed then the computer searches the network directory pool for *the next subtask identifier waiting in the queue*, copies from the originating computer the subtask program corresponding to said next identifier, and then proceeds with the execution of this remote subtask." Ex. 1004, 2:52–58 (emphasis added); *see* Prelim. Resp. 31. Thus, in Reiffin, the only "description" of a "partition" accessed by the computer is "the next subtask identifier waiting in the queue." *See* Ex. 1004, 2:52–58. We find Petitioner does not show sufficiently how a computer accessing "the next subtask identifier waiting in the queue" teaches or even fairly suggests the Descriptions Limitation, which requires *distribution* of descriptions of *all* of the plurality of partitions to all subtask processors. *See* Prelim. Resp. 31.

As for the *combined* teachings of Chow and Reiffin, the full extent of Petitioner's argument is the conclusion that these references "separately and over their combination" teach the features of the Descriptions Limitation. *See* Pet. 19. Petitioner does not sufficiently explain what is missing in Chow that Reiffin allegedly would add (or vice versa) to achieve the Descriptions Limitation. *See supra* § III.D. Patent Owner addresses this deficiency at length. *See* Prelim. Resp. 32–41.

We have considered Petitioner's arguments and cited evidence concerning whether the combination of Chow and Reiffin would have taught or suggested to the ordinarily skilled artisan the features of the Descriptions

Limitation, and do not find them sufficiently persuasive on the record before us. Rather, we agree with Patent Owner's arguments and cited evidence outlined above and find them sufficiently persuasive to demonstrate Petitioner failed to meet its burden of proof in this case. Accordingly, for the reasons expressed above and based on the record before us, we determine that Petitioner has not established a reasonable likelihood that it would prevail in showing that independent claim 1 is unpatentable as obvious over the combination of Chow and Reiffin.

4. Dependent Claims 2–14

Claims 2–14 depend, directly or indirectly, from independent claim 1. Ex. 1001, 6:65–8:19. Based on the record before us, we determine that Petitioner's analysis for claims 2–14 does not remedy the deficiencies identified above with respect to independent claim 1. *See* Pet. 20–34. Thus, for the same reasons discussed in connection with the challenge to independent claim 1, we determine that Petitioner has not established a reasonable likelihood that it would prevail in showing that any of claims 2–14 is unpatentable as obvious over the combination of Chow and Reiffin.

F. Alleged Obviousness of Claims 1–14 over the Combination of Chow, Reiffin, and Kurowski

Petitioner contends claims 1–14 would have been unpatentable under 35 U.S.C. § 103 as obvious over the combination of Chow (Ex. 1005), Reiffin (Ex. 1004), and Kurowski (Ex. 1005). Pet. 34–44. Patent Owner opposes Petitioner's contentions. Prelim. Resp. 13–19, 41–54. Based on our review of the record before us, we determine that Petitioner has not

established a reasonable likelihood that it would prevail in showing that independent claim 1 (and thus any Challenged Claim) would have been unpatentable as obvious over the combination of Chow, Reiffin, and Kurowski, as discussed below. We discuss Chow and Reiffin above in Sections III.E.1 and III.E.2, and turn next to an overview of Kurowski.

1. Overview of Kurowski (Ex. 1005)

Kurowski is directed to "large-scale network-distributed computing." Ex. 1005 ¶ 3. Kurowski summarizes its 339 paragraphs of disclosure as follows:

> A distributed computing system achieves a highly distributed environment where very large computation intensive tasks are broken down into thousands of sub-tasks and then distributed to thousands of clients running on a variety of computers across the Internet. The idle CPU time of each of these thousands of client computers is used to perform these computations by running custom application modules in a low priority. A task server keeps track of information associated with each of the clients and uses the information to assign one or more tasks associated with a computing problem to each client computer. A file server provides the application modules to the client computers for executing their assigned tasks. An application server provides input data for the application modules and receives output data from the application modules. Status and performance information for machines, accounts and teams is collected by the task server and displayed on a background page of each client. Incentives for commitments of computing time are provided to users of potential client computers.

Ex. 1001, code (57); *see* 37 C.F.R. § 1.72 ("The purpose of the abstract is to enable the Office and the public generally to determine quickly from a cursory inspection the nature and gist of the technical disclosure.").

We further discuss below the disclosures of Kurowski in connection with the parties' arguments.

2. Analysis of Independent Claim 1

The parties dispute whether the combination of Chow, Reiffin, and Kurowski would have taught or suggested to the skilled artisan the features of the Partitioning Limitation and the Descriptions Limitation. *See* Pet. 38–39; Prelim. Resp. 41–54.

a. Partitioning Limitation

Petitioner argues that "Kurowski discloses [the Partitioning Limitation]," and quotes various passages in Kurowski. Pet. 38–39. In particular, Petitioner identifies that Kurowski states:

> The client 200 is one of the pieces in the larger picture of how the distributed computing system 100 described herein provides a highly distributed environment for large scale computing problems. One goal of all these different pieces is to enable the system to take on a very large computing problem, break it down into thousands of *tasks* and distribute it to tens of thousands of computers across the internet so this large computation could be performed by tens of thousands of parallel sub-computations and the results brought back from all these different clients 200.

Pet. 38–39 (quoting Ex. 1005 ¶ 192 (emphasis added)). After presenting these quoted passages from Kurowski, Petitioner proffers the conclusion that Kurowski discloses the Partitioning Limitation, but does so without sufficiently explaining *why* such passages allegedly teach or suggest the features of the Partitioning Limitation within the context of claim 1 as a whole.

Patent Owner persuasively responds (and we agree for the same reasons):

> Rather than addressing the language of [the Partitioning Limitation] which expressly refers to logically subdividing a preexisting input *file*, the Petition simply points to Kurowski's division of "a very large computing problem" into *tasks*. The Petition fails to offer *any* explanation whatsoever why, in the context of the claim language which clearly distinguishes between a *file* and *subtasks*, Kurowski's division of "a very large computing problem" into *tasks* equates to the logical the [sic] partitioning of the "preexisting input *file*" as recited in [the Partitioning Limitation].

Prelim. Resp. 43 (emphases in original). Thus, we find Petitioner does not show sufficiently how Kurowski's breaking down of a computer problem into "tasks" teaches or suggests the Partitioning Limitation.

b. Descriptions Limitation

Petitioner argues that "Kurowski teaches or suggests [the Descriptions Limitation]," and quotes one sentence in Kurowski, namely:

> Specifically, all machine, user, team, and task information, summaries of such information, or subsets of such information, may be made available through reports and interactive pages on an "integrated" web site.

Pet. 39 (quoting Ex. 1005 ¶ 188). After presenting this sentence from Kurowski, Petitioner proffers the conclusion that Kurowski discloses the Descriptions Limitation, but does so without sufficiently explaining *why* this disclosure allegedly teaches or suggests the features of the Descriptions Limitation within the context of claim 1 as a whole. Indeed, as argued by Patent Owner, "[t]he Petition's reliance on Kurowski's web interface that allows *users* to view summary reports has no relevance to the machine-level distribution of descriptions of all partitions to each of the subtask *processors*

as required by [the Descriptions Limitation]. Prelim. Resp. 44. Thus, we find Petitioner does not show sufficiently how this cited disclosure in Kurowski (i.e., its website reports and interactive pages) teaches or suggests the Partitioning Limitation.

c. Combined Teachings and Summary

As for the *combined* teachings of Chow, Reiffin, and Kurowski, the full extent of Petitioner's argument is the conclusion that "[i]t would have also been routine to add *the features* of Kurowski to Chow and Reiffin." Pet. 35 (emphasis added). But Petitioner does not sufficiently explain what is missing in the combination of Chow and Reiffin that Kurowski allegedly would add to achieve the Partitioning Limitation and Descriptions Limitation. *See supra* § III.D.

We have considered Petitioner's arguments and cited evidence concerning whether the combination of Chow, Reiffin, and Kurowski would have taught or suggested to the ordinarily skilled artisan the features of the Partitioning Limitation and Descriptions Limitation, and do not find them sufficiently persuasive on the record before us. Rather, we agree with Patent Owner's arguments and cited evidence outlined above, and find them sufficiently persuasive to demonstrate Petitioner failed to meet its burden of proof in this case. Accordingly, for the reasons expressed above and based on the record before us, we determine that Petitioner has not established a reasonable likelihood that it would prevail in showing that independent claim 1 is unpatentable as obvious over the combination of Chow, Reiffin, and Kurowski.

3. Dependent Claims 2–14

Based on the record before us, we determine that Petitioner's analysis for dependent claims 2–14 does not remedy the deficiencies identified above with respect to independent claim 1. *See* Pet. 43–44. Thus, for the same reasons discussed in connection with the challenge to independent claim 1, we determine that Petitioner has not established a reasonable likelihood that it would prevail in showing that any of claims 2–14 is unpatentable as obvious over the combination of Chow, Reiffin, and Kurowski.

IV. CONCLUSION

Petitioner has not demonstrated a reasonable likelihood of prevailing with respect to any of claims 1–14 of the '582 patent under any of its proffered challenges.

V. ORDER

For the reasons given, it is hereby

ORDERED that the Petition is *denied*, and an *inter partes* review of U.S. Patent No. 7,257,582 B2 is not instituted.

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