

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TERADATA OPERATIONS, INC.,
Petitioner,

v.

BERKELEY*IEOR,
Patent Owner.

Cases CBM2019-00011 &
CBM2019-00014
Patent 8,612,316 B2

Before JOSIAH C. COCKS, MEREDITH C. PETRAVICK, and
JON B. TORNQUIST, *Administrative Patent Judges*.

TORNQUIST, *Administrative Patent Judge*.

DECISION

Denying Institution of Covered Business Method Patent Review
35 U.S.C. § 328(a), 37 C.F.R. § 42.208

I. INTRODUCTION

Teradata Operations, Inc. (“Petitioner”) filed Petitions requesting covered business method (“CBM”) patent review of claims 1, 3, and 8–24 (CBM2019-00011) and claims 2, 4–7, and 25–30 (CBM2019-00014) of U.S. Patent No. 8,612,316 B2 (Ex. 1001, “the ’316 patent”) under Section 18 of the Leahy-Smith America Invents Act (“AIA”). Paper 1 (“Pet.” or “Petition”);¹ -00014, Paper 1.² Berkley*IEOR (“Patent Owner”) filed Preliminary Responses to the Petitions. Paper 6 (“Prelim. Resp.”); -00014, Paper 6.

Upon consideration of the Petitions, the Preliminary Responses, and the evidence of record, we determine that Petitioner has not demonstrated that the ’316 patent is eligible for CBM patent review. Accordingly, we do not institute a CBM patent review of the ’316 patent in CBM2019-00011 or CBM2019-00014.

A. *Related Matters*

The parties inform us that the ’316 patent is currently the subject of *Berkeley*IEOR d/b/a B*IEOR v. WW Grainger, Inc.*, in the Northern District of Illinois, Case No. 1:17-cv-07472. Pet. 1; Paper 3, 2. Related U.S. Patent No. 7,882,137 B2 is at issue in CBM2019-00009 and CBM2019-00013 and related U.S. Patent No. 7,596,521 B2 is at issue in CBM2019-00015 and CBM2019-00016. Paper 3, 2.

¹ Because Petitioner’s and Patent Owner’s substantive arguments with respect to CBM patent eligibility are identical in each case, unless otherwise noted, we focus our analysis on the parties’ arguments in CBM2019-00011.

² Citations to CBM2019-00014 are preceded by “-00014.”

B. The '316 Patent

The '316 patent is titled “Process for Determining Object Level Profitability” and issued on December 17, 2013. Ex. 1001, (45), (54). The '316 patent characterizes its disclosed process as giving “management profit measures tailored to its need for accurate decision oriented profit information required to manage a large organization based on profit measurement.” *Id.* at (57). More specifically, the '316 patent expresses that “the present invention is concerned with a detail profit metric (DPM) designed to be a computer database application (i.e. software) for profitability measurement.” *Id.* at 5:62–65. The '316 patent further explains that:

[T]he invention is designed to utilize massively parallel computing operations using relational database management techniques enabling profit measurement at a level not available today in a large individual customer scale business. This invention does this through a consistent application of measures . . . to a class of business entities . . . which represent the smallest common component of profit measurement desired—the Profit Object.

Id. at 6:3–10. According to the '316 patent,

Different businesses have different objects of detailed profit measurement. Examples of profit measurement objects include an airline using “seat” as the profit object, an insurance company using a “policy” object or a bank using an “account” object—these objects represent the lowest level of detail required to support consistent internal multi-dimensional internal profit analyses.

Id. at 7:31–38.

Figure 4 of the '316 patent is reproduced below.

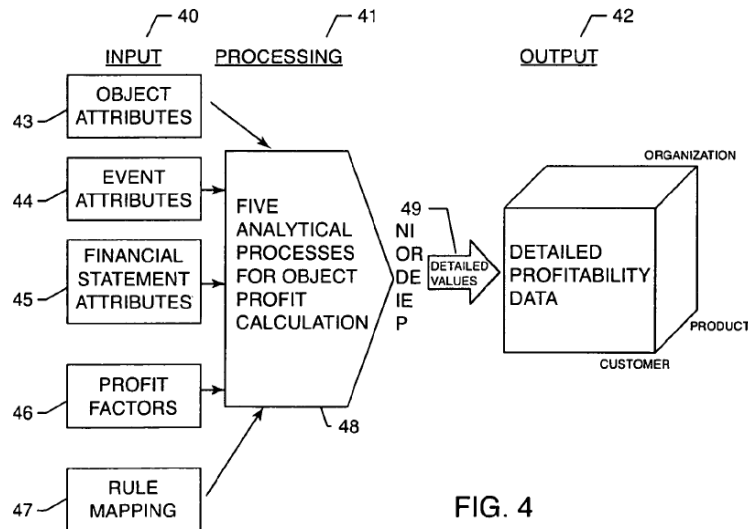


Figure 4 “shows the invention’s data relationships.” *Id.* at 5:44. The '316 patent explains that the DPM system is designed to apply rules to any object without loss of integrity of output. *Id.* at 10:35–36. According to the '316 patent:

This design features allows the user to incrementally migrate objects to increased measurement precision as justified. This valuable piecewise increase in functionality is possible due to DPM’s combination of rules and data in a mathematical set theoretic framework (41). This approach allows for a relational database management system implementation (42). It is nearly impossible to develop and maintain procedural based software with as much flexibility and with the capability to simultaneously support the number of calculation permutations required by DPM.

Id. at 10:36–47.

C. Illustrative Claims

Petitioner challenges claims 1, 3, and 8–24 of the '316 patent in CBM2019-00011 (Pet. 7) and claims 2, 4–7, and 25–30 of the '316 patent in CBM2019-00014 (-00014, Paper 1, 7). Independent claim 1 and dependent claim 2 are illustrative of the challenged claims and are reproduced below:

1. A process for determining object level profitability in a relational database management system, comprising the computer implemented steps of:

[a] providing a computerized profit database having profit information;

[b] providing a relational database management system operable in association with the computerized profit database;

[c] preparing the profit information to be accessed electronically through the relational database management system, including the step of calculating opportunity values for funds used or supplied by each object being measured;

[d] establishing, in the relational database, rules for processing the prepared information, including the steps of providing information necessary to select objects and performing a profit calculus;

[e] using the relational database management system to independently calculate at least one marginal value of profit for each object being measured using the established rules as applied to a selected set of prepared information; and

[f] combining the at least one marginal value of profit to create a measure for object level profitability.

Ex. 1001, 28:55–29:11 (letter designations [a]–[f] have been added to facilitate discussion of the claim elements).

2. The process of claim 1, wherein the relational database comprises a structured query language (SQL).

Id. at 29:12–13.

D. Asserted Grounds of Unpatentability

Petitioner asserts the claims challenged in CBM2019-00011 are unpatentable in view of the following grounds (Pet. 11):

Ground	References	Basis	Claims
1	n/a	§ 101	1, 3, 8–24
2	E&Y ³	§ 102	1, 3, 8–24
3	E&Y	§ 103	1, 3, 8–24
4	Blain ⁴	§ 102	1
5	Blain	§ 103	1
6	SAP-IS-B ⁵	§ 102	1, 3, 8
7	SAP-IS-B	§ 103	1, 3, 8
8	E&Y and Blain	§ 103	1, 3, 8–24
9	E&Y, Blain, and SAP-IS-B	§ 103	1, 3, 8–24
10	E&Y, Blain, and Kimball ⁶	§ 103	9–24
11	E&Y, Blain, SAP-IS-B, and Kimball	§ 103	9–24

Petitioner asserts the claims challenged in CBM2019-00014 are unpatentable in view of the following grounds (-00014, Paper 1, 11):

³ Ernst & Young, *The Ernst & Young Guide to Performance Measurement for Financial Institutions* (1995) (“E&Y”) (Ex. 1005).

⁴ ASAP World Consultancy and Jonathon Blain, Using SAP R/3 (1996) (“Blain”) (Ex. 1006).

⁵ Detailed Functions – *System R/3 – IS-B – The SAP Industry Solution For Banks* (“SAP-IS-B”) (Ex. 1007). SAP-IS-B is said to be a “Certified Translation of *Funktionen im Detail – Is-B-System R/3: Einzelgeschaftskalkulation/Meldewesean*, Waldorf, Germany: SAP AG (1996).” Pet. ii.

⁶ Ralph C. Kimball, *Calculating and Using Risk-adjusted ROE for Lines of Business, Bank Accounting & Finance* (Fall 1993) (“Kimball”) (Ex. 1010).

Ground	References	Basis	Claims
1	n/a	§ 101	2, 4–7, 25–30
2	E&Y	§ 102	2, 4–7, 25–29
3	E&Y	§ 103	2, 4–7, 25–30
4	Blain	§ 102	2, 4, 5, 25
5	Blain	§ 103	2, 4, 5, 25
6	SAP-IS-B	§ 102	2–6
7	SAP-IS-B	§ 103	2–6
8	E&Y and Blain	§ 103	2, 4–7, 25–30
9	E&Y, Blain, and SAP-IS-B	§ 103	2, 4–7, 25–30
10	E&Y, Blain, and Kimball	§ 103	29
11	E&Y, Blain, SAP-IS-B, and Kimball	§ 103	29
12	E&Y, Blain, and McKenzie ⁷	§ 103	30
13	E&Y, Blain, SAP-IS-B, and McKenzie	§ 103	30

In support of its unpatentability arguments, Petitioner relies on the declaration testimony of Dr. Bruce Weber. Ex. 1016. In support of its arguments, Patent Owner relies on the declaration testimony of Mr. Jon Scarbrough. Ex. 2001.

II. ANALYSIS

A. Claim Construction

We interpret claims in an unexpired patent using the “broadest reasonable construction in light of the specification of the patent in which [they] appear[.]” 37 C.F.R. § 42.300(b) (2018).⁸ In determining the

⁷ Kenneth J. McKenzie & Aileen J. Thompson, *Economic Effects of Dividend Taxation*, Tech. Committee on Bus. Tax’n, Working Paper 96–7 (Dec. 1996) (“McKenzie”) (Ex. 1011).

⁸ Because both Petitions were filed on November 12, 2018, a recent amendment to this rule does not apply here, *See* Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before

broadest reasonable construction, we presume that claim terms carry their ordinary and customary meaning. *See In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). A patentee may define a claim term in a manner that differs from its ordinary meaning; however, any special definitions must be set forth in the specification with reasonable clarity, deliberateness, and precision. *See In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994).

Petitioner provides a proposed construction for the term “profit information.” Pet. 16. Patent Owner proposes constructions for the terms “relational database management system,” “using the relational database management system to . . . calculate,” and “independently calculate.” Prelim. Resp. 23–34. Upon review of the parties’ arguments and supporting evidence, we determine only the term “using the relational database management system to . . . calculate” is in need of construction. *See Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (stating that “only those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy”).

*using the relational database management
system to . . . calculate*

Claim 1[e] requires “using the relational database management system to independently calculate at least one marginal value of profit for each

the Patent Trial and Appeal Board, 83 Fed. Reg. 51,340, 51,340 (Oct. 11, 2018) (to be codified at 37 C.F.R. pt. 42) (“This rule is effective on November 13, 2018 and applies to all IPR, PGR, and CBM petitions filed on or after the effective date.”).

object being measured.” Ex. 1001, 29:5–7. Petitioner does not provide an express construction of this claim phrase, but its patentability arguments appear to presume that the limitation requires only using a relational database management system (“RDBMS”) in the process of performing the claimed calculations. For example, as evidence that this claim limitation is disclosed in the prior art, Petitioner directs our attention to prior art disclosures of utilizing an RDBMS to access business data stored in a database, setting up rules in the RDBMS, and/or using a “Cost Accounting module” to perform profitability analyses and calculations. Pet. 26–27, 32–34, 55–57, 83 (“Specifically, *Blain*, uses a database to store transactions and a database management system to search the database and generate reports.”), 86–87, 91–92, 97–99; Ex. 1016 ¶¶ 143–146.

Patent Owner contends claim 1 requires not just using the RDBMS to retrieve data from a database, but using the RDBMS itself to perform the recited calculations. Prelim. Resp. 26–27.

In construing claim language under the broadest reasonable construction standard, we give priority to the intrinsic evidence of record, including the patent’s claims, written description, and prosecution history. *See WesternGeco LLC v. ION Geophysical Corp.*, 889 F.3d 1308, 1323 (Fed. Cir. 2018). Looking to the claims of the ’316 patent, claim 1[d] requires establishing rules in the relational database for processing prepared information. Ex. 1001, 29:1–4. Claim 1[e] then requires “using the relational database management system to independently calculate” at least one value of profit “using the established rules.” *Id.* at 29:5–9. This claim

structure suggests that it is the RDBMS itself that performs the recited calculations.

The written description of the '316 patent supports this interpretation. For example, the '316 patent explains that “[i]t is nearly impossible [to] develop and maintain procedural based software with as much flexibility and with the capability to simultaneously support the number of calculation permutations required by the DPM.” Ex. 1001, 10:43–47; *see also* Ex. 2001 ¶ 45 (Mr. Scarbrough testifying that the noted disclosure demonstrates that the calculation engine was moved from the software application server, where accounting calculations were traditionally performed, to the RDBMS itself).

The prosecution history also supports Patent Owner’s construction. During prosecution of the '316 patent’s parent application (Patent Application No. 11/354,798), the applicant amended then-pending claim 1 to specifically require “using the relational database management system to . . . calculate.” Ex. 2002, 83. With this amendment, the patentee submitted a declaration from Mr. Richard Lepman, the sole named inventor of the '316 patent. *Id.* at 114–121;⁹ *see E.I du Pont De Nemours & Co. v. Unifrax I LLC*, 921 F.3d 1060, 1070 (Fed. Cir. 2019) (“When a parent application includes statements involving ‘common subject matter’ with the terms at issue, those statement are relevant to construction of the terms in the child patent.”). In this declaration, Mr. Lepman testifies that the claimed invention “requires the use of an electronic relational database management

⁹ Our citations are to the page numbers added by Patent Owner.

system *having parallel operation and calculation capabilities*, which can be run using structured query language.” Ex. 2002, 119 (¶ 21) (emphasis added). Mr. Lepman also distinguishes a prior art reference from the claimed invention on the basis that the prior art system did not calculate the recited values in the “relational database management system itself.” *Id.* at 120 (¶ 26). This evidence supports Patent Owner’s argument that claim 1 requires that the RDBMS perform the recited calculations.

In view of the intrinsic evidence, and in the absence of any persuasive argument or evidence from Petitioner addressing this issue, we agree with Patent Owner that the term “using the relational database management system to . . . calculate” requires performing the recited calculations in the RDBMS.

B. Covered Business Method Patent Review Eligibility

Under § 18(a)(1)(E) of the AIA, we may institute a transitional review proceeding only for a covered business method patent. A “covered business method patent” is a patent that “claims a method or corresponding apparatus for performing data processing or other operations used in the practice, administration, or management of a financial product or service, except that the term does not include patents for technological inventions.” AIA § 18(d)(1); *see also* 37 C.F.R. § 42.301 (defining “[c]overed business method patent” and “[t]echnological invention”).

In determining whether a patent is eligible for a covered business method patent review, the focus is on the claims. *See Blue Calypso, LLC v. Groupon, Inc.*, 815 F.3d 1331, 1340 (Fed. Cir. 2016) (“[Section] 18(d)(1) directs us to examine *the claims* when deciding whether a patent is a

[covered business method] patent.”); *Unwired Planet, LLC v. Google Inc.*, 841 F.3d 1376, 1382 (Fed. Cir. 2016) (holding CBM patents “are limited to those with *claims* that are directed to methods and apparatuses of particular types and with particular uses ‘in the practice, administration, or management of a financial product or service’” (emphasis added));

Transitional Program for Covered Business Method Patents—Definitions of Covered Business Method Patent and Technological Invention, 77 Fed. Reg. 48,734, 48,736 (Comment 8) (Aug. 14, 2012). Moreover, because Petitioner bears the burden to “demonstrate that the patent for which review is sought is a covered business method patent,” it is Petitioner that must demonstrate that the claimed subject matter is directed to a financial product or service and does not include a technological invention. *See* 37 C.F.R. § 42.304(a).

As noted above, the determination of whether a patent is eligible for CBM review requires two distinct inquiries: (1) whether the claims are directed to a financial product or service; and (2) whether the claims are directed to a technological invention. Because the technological invention inquiry is dispositive in this case, we focus our analysis on that issue.

1. Technological Invention

To determine whether a patent is for a technological invention, we consider “whether the claimed subject matter as a whole [(1)] recites a technological feature that is novel and unobvious over the prior art; and [(2)] solves a technical problem using a technical solution.” 37 C.F.R.

§ 42.301(b). Both prongs must be satisfied in order to exclude the patent from CBM review as a technological invention. *See Apple Inc. v. Ameranth*,

Inc., 842 F.3d 1229, 1240 (Fed. Cir. 2016); *Versata Dev. Grp. v. SAP Am., Inc.*, 793 F.3d 1306, 1326–27 (Fed. Cir. 2015).

a. Petitioner’s Arguments on CBM Eligibility

Petitioner contends the only elements recited in the claims of the ’316 patent that are arguably directed to a “technological feature” are the “database,” “relational database management system,” and the “structured query language (SQL).” Pet. 6. Petitioner contends, however, that these elements represent “well-known and established technologies” that are disclosed in at least E&Y and Blain, and do not support a finding that the claims of the ’316 patent recite a technological feature that is novel and unobvious over the prior art. *Id.* at 6–7.

With respect to the second prong of the inquiry, Petitioner asserts the claims of the ’316 patent are directed to calculating profit using a general ledger, which is a business problem and not a technical problem, and the use of well-known database structures to solve this business problem is not a technical solution to a technical problem. *Id.* at 6–7 (citing Office Trial Practice Guide, 77 Fed. Reg. 48,756, 48,763–64 (Aug. 14, 2012) (noting that claim drafting techniques, such as the mere recitation of known technologies, does not typically render a patent a technological invention)).

b. Patent Owner’s Arguments on CBM Eligibility

Patent Owner contends using the RDBMS, rather than conventional application software, to perform the recited profit calculations was not known in the art. Prelim. Resp. 29, 36–39, 59–61, 65–68. Patent Owner further contends that by shifting the calculation engine to the RDBMS, the claimed system provides “improved computational efficiencies” (*id.* at 29)

and improved “performance relative to procedural based software” (*id.* at 39–40) (citing Ex. 1001, 10:43–47). Patent Owner also contends that using the RDBMS to “independently calculate” a marginal value of profit facilitates “massively parallel computing capability” and allows the computer to “achieve greater speed and efficiency in calculating profitability.” *Id.* at 40 (citing Ex. 2001 ¶¶ 75, 81–85; Ex. 1001, 2:11–12). In view of these technical improvements, Patent Owner asserts the claims of the ’316 patent (1) recite a technical feature that is novel and unobvious over the prior art, and (2) solve a technical problem using a technical solution. *Id.* at 4, 39–41 (citing Ex. 2001 ¶¶ 33, 75, 81–85, 103).

c. Discussion

(1) Technological Feature that is Novel and Unobvious over the Prior Art

In asserting that the ’316 patent is directed to a novel and unobvious invention, Patent Owner focuses on the limitations of claim 1[e]. Prelim. Resp. 36–39.

Petitioner contends the subject matter of claim 1[e] was not novel or unobvious over the prior art, as E&Y, SAP-IS-B, and Blain teach or suggest using an RDBMS to independently calculate the recited profit values. Pet. 7, 55–57, 86–87, 97–99. Specifically, Petitioner contends E&Y discloses using an RDBMS to aggregate data from multiple product-account-based databases, and then using this data to calculate profit values. *Id.* at 48–49, 55–57. Petitioner further contends that Blain discloses “using rules, established in a relational database, to perform profit calculations,” and asserts the overall system of Blain “automatically updates a subtotal of a balance sheet account for every business transaction.” *Id.* at 32 (citing Ex.

1016 ¶¶ 143–146, 432–438, 487–492; Ex. 1006, 221; Ex. 1007, 10, 36, 60), 86–87. Petitioner fails to explain persuasively, however, why the identified disclosures teach or suggest using an RDBMS to perform the recited profit calculations, as opposed to using the RDBMS to facilitate the retrieval of data that is used ultimately by a different component to calculate profit values. Pet. 83 (“Specifically, *Blain*, uses a database to store transactions and a database management system to search the database and generate reports.”).

With respect to SAP-IS-B, Petitioner contends this system “uses an RDBMS to perform profit calculations,” and relies on paragraphs 470–472 of Dr. Weber’s declaration to support this conclusion. Pet. 97–99 (citing Ex. 1016 ¶¶ 470–472). In the recited testimony, which is directed to claim 1[b], Dr. Weber testifies that SAP-IS-B contains an RDBMS that carries out “the functions of accessing the database.” Ex. 1016 ¶ 470 (“*SAP-IS-B* is describing an RDBMS when it describes a database server, hosting a relational database instance, to carry out the functions of accessing the database.”). Dr. Weber does not, however, demonstrate persuasively that the RDBMS in the SAP-IS-B system actually performs any calculations. *Id.* ¶¶ 470–472, 487–492. In contrast, Mr. Scarbrough analyzes SAP-IS-B’s three-tiered architecture and concludes that the cost accounting and profitability calculations are performed within the “applications servers,” not the RDBMS. Ex. 2001 ¶¶ 58–62 (“[I]t is clear that SAP-IS-B’s ‘application servers’ tier performed the cost accounting and profitability calculations, rather than the RDBMS.”).

In view of the lack of persuasive evidence demonstrating that the subject matter of claim 1[e] was known in the art, or persuasive evidence that using an RDBMS to perform the claimed profit calculations would have been an obvious modification to any of the prior art systems, we are not persuaded that Petitioner has carried its burden to show that the use of an RDBMS to calculate profit values is not novel and obvious.

(2) Solving a Technical Problem Using a Technical Solution

Petitioner contends the claims of the '316 patent are not directed to a technical problem, but to the business problem of calculating profit using a general ledger, and the use of well-known database elements does not provide a technical solution to this problem. Pet. 7 (citing Ex. 1016 ¶ 115).

Patent Owner contends using an RDBMS to perform profitability calculations significantly improves performance relative to procedural based software, which represents a solution to a technical problem using a technical solution. Prelim. Resp. 39–41 (citing Ex. 2001 ¶¶ 75, 81–85). The evidence of record supports Patent Owner's arguments. For example, the '316 patent explains that the disclosed invention provides a level of flexibility that is nearly impossible to achieve in procedural based software, and enables "profit measurement at a level not available today in a large individual customer scale business." Ex. 1001, 4:5–4:9, 6:3–7, 10:43–47. Likewise, Mr. Scarbrough and Mr. Lepman testify that moving the calculation engine from the server to the RDBMS (where the files reside), avoids "inefficiencies" and reduces processing time (Ex. 2001 ¶ 68),

allowing information “to be analyzed in hours instead of days for a major Bank using parallel calculations processes” (Ex. 1015, 412 (¶ 27)).

Petitioner does not explain why improving the speed and efficiency of profit calculations is not a technical problem, or why the claimed improvements to database technology do not represent a technical solution to that problem. Thus, Petitioner has not demonstrated that the claims as a whole do not solve a technical problem using a technical solution.

2. Conclusion

For the reasons discussed above, we determine that Petitioner has failed to carry its burden to show that the ’316 patent claims, considered as a whole, are not directed to a technological invention that is novel and unobvious. Thus, Petitioner fails to demonstrate that the ’316 patent is a CBM patent eligible for review.

III. ORDER

It is hereby ORDERED that a covered business method patent review of the ’316 patent in CBM2019-00011 and CBM2019-00014 is *denied*.

CBM2019-00011
CBM2019-00014
Patent 8,612,316 B2

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