

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TERADATA OPERATIONS, INC.,
Petitioner

v.

BERKELEY*IEOR,
Patent Owner

Case No.: CBM2019-00011
U.S. Patent No. 8,612,316 B2

PETITIONER'S REQUEST FOR REHEARING
UNDER 37 C.F.R. § 42.71(c) AND (d)

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Pursuant to 37 C.F.R. 42.71(c) and (d), Petitioner respectfully requests reconsideration of the Board's Institution Decision ("ID"). First, the Board's claim construction is unduly narrow. Second, the Board misapprehended or overlooked Petitioner's argument that the claims, even as construed by the Board, recite nothing more than what was known and obvious over the prior art. Instead, the Board relied upon disputed testimonial evidence submitted by the Patent Owner interpreting the prior art in a manner that is contradicted by the text of that prior art, and which ignores the actual arguments presented in the Petition.

The Petition establishes that all of the primary references perform the profitability calculations in an RDBMS, and that, in any event, performing such calculations in an RDBMS was an obvious use of an RDBMS.

I. CLAIM CONSTRUCTION

The Board only construed one phrase - "using the RDBMS to ... calculate." *ID* at 8-11. However, the Board misapprehended or overlooked the correct meaning of this term under the broadest reasonable interpretation ("BRI") standard. The Board stated that "the term 'using the [RDBMS] to ... calculate' requires performing the recited calculations ***in the RDBMS***." *ID* at 9-11. At PO's suggestion, the Board looked to (1) the claim language, (2) the specification, and (3) the prosecution history as alleged support. None support the conclusion.

Written Description - The Board cites the following portion of the written

description: “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 the DPM.” *ID* at 10. But this statement is not about an RDBMS – it is about DPM, which is nothing more than a black-box made of “software.” The ’316 Patent explains that the “DPM” system, is “designed to be a computer database application (i.e. software) for profitability measurement.” Ex[1001] 5:64-65. And the patent repeatedly refers to this black-box DPM software as performing the calculations. Ex[1001] 10:12, 9:4-14, 12:66-67 (the calculation rules “designat[e] the methods DPM will use to calculate components of profit at the object level”). The Board misapprehended or overlooked the fact that the alleged specification support for PO’s construction actually refers to the DPM, not an RDBMS, and ignores the many ways the DPM can “use” an RDBMS without having the RDBMS itself perform all the profitability calculations.

The Board also misapprehends or overlooks Mr. Scarbrough’s characterization of the specification. *ID* at 10 (citing Ex[2001] ¶ 45). While Mr. Scarbrough asserts that the specification moves the calculation engine “to the RDBMS itself,” the citation from the specification simply states that “this approach **allows** for a [RDBMS] implementation.” Ex[2001] ¶ 45. Mr. Scarbrough further contradicts his unsupported assertion, stating that “Mr. Lepman

moved the profitability calculation *from the application server to the database server* where the data files reside.” Ex[2001] ¶ 68. It is the proximity of the logic to the data (in a hardware sense) that Mr. Scarbrough touts as the “improvement,” not that it is necessary for the RDBMS itself to perform the calculations. *Id.*

Patent Claims – The Board also points to the order of the claim language (specifically elements 1[d] and 1[e]) to support its construction. *ID* at 9-10. But 1[d] merely states that rules are stored in a *relational database*, while 1[e] refers to the use of the *RDBMS* in performing calculations. Nothing about storing rules in a *relational database* requires that a subsequent calculation step be performed in a different structure – the *RDBMS*.

Prosecution History - The Board also points to the prosecution history of the '316 Patent's parent application to make two points: (1) Claim 1 was amended to add the “using the [RDBMS] to ... calculate” language and (2) that Mr. Lepman filed a declaration that purports to support the narrow claim construction. *ID* at 10-11. As to the first point, the amended claim in that patent application recites “using the RDBMS,” while the preamble had recited “in the RDBMS.” Ex[2002] 83. Rather than using clear language (e.g., “independently calculating in the RDBMS”), the patentee added broadening and generic language “using the [RDBMS].” If the applicant wanted to limit the claims so that calculations must take place “in the RDBMS” it knew how to say that, as apparent from the language

that it deleted.

The Board also points to Mr. Lepman's declaration in the parent Application. *See ID* at 10-11 (citing Ex[2002] 119-120 (¶¶ 21, 26)). But these statements are about Claims 2 and 7, not Claim 1. *Id.* And they were overcoming a reference – Price – that had “no discussion” of an RDBMS at all. *Id.* As for Claim 2, it recites that “the **relational database** comprises a structured query language,” with no mention of an RDBMS. Moreover, Mr. Lepman's statement about Claim 2 only “requires **the use** of an electronic RDBMS,” it does not specify the location of any calculations. *Id.* Similarly, Claim 7 does not recite any relational database or RDBMS limitations. Mr. Lepman's declaration is not characterizing the limits of his invention, but distinguishing the prior art's use of “ledgers” and “internal transfers” to calculate a fully absorbed profit adjustment value as opposed to “dynamic data” in an RDBMS. *Id.*, at 120 (¶ 26). Neither of these statements disavows systems where the RDBMS of **Claim 1** does not itself perform the profitability calculations.

The Board misapprehended and misapplied the BRI standard in construing the term “using the RDBMS to ... calculate.” Nothing in the specification or prosecution history evidences a disavowal of claim scope with “expressions of manifest exclusion or restriction.” *Continental Circuits LLC v. Intel Corp.*, No. 2018-1076, pp. 11-12 (Fed. Cir. Feb. 8, 2019) (applying the more rigorous *Phillips*

standard). Any use of the RDBMS is sufficient, as set forth in the Petition.

The ID relied on the erroneous construction of “using the RDBMS to ... calculate.” Rejecting it removes the only basis to deny the Petition because the ID acknowledges that the references show an RDBMS used to calculate profit by at least accessing data for calculations. *ID* at 9, 14-15. Nevertheless, even if the Board’s construction were correct, the petition should have been instituted.

II. THE BOARD MISAPPREHENDS THE STANDARD FOR CBMR ELIGIBILITY AND INCORRECTLY APPLIES THE STANDARD

The single question upon which the ID hinged is whether calculating profitability using a relational database management system is a “technological invention.” The Board misapprehended and misapplied the CBMR eligibility standard in concluding that it was.

A. The Board Misapprehended or Overlooked the “Technological Invention” Standard for CBMR Eligibility

A patent is directed to a “technological invention” only if “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).

The Federal Circuit has made clear that claims that merely include general

descriptions of desired functionality using traditional prior art structures do not constitute a technological invention. *Apple*, at 1239 (claims not technological, because “the claims did not recite a solution to this problem, as they do not include recitations about how to [perform the claimed function]”).

Additionally, the PTAB’s Trial Practice Guide expressly states that claims are not saved from review by “claim drafting techniques” such as “(a) *Mere recitation of known technologies, such as computer hardware, ... or databases...*” or “(b) Reciting *the use of known prior art technology to accomplish a process or method, even if that process or method is novel and non-obvious.*” *TPG*, 77 Fed. Reg. 48756 at 48763-48764 (Aug. 14, 2012).

The Board’s analysis failed to apply the standard set forth in the *TPG* and the controlling precedent, and instead expressly relied upon the claim’s recitation of database and computer hardware to carry out the claimed method. *ID* at 14-16. Thus, the Board performed precisely the type of analysis that the Federal Circuit and the *TPG* have stated is inappropriate when assessing a technological invention.

B. The Board Incorrectly Applied the “Technological Invention” Standard

No Technological Feature - The “technological feature” that the Board’s *ID* recited was an RDBMS, explaining that “*using an RDBMS to perform the claimed profit calculations* would [not] have been an obvious modification to any of the prior art systems.” *ID* at 16. This reasoning defies Federal Circuit

precedent, legislative intent, and the USPTO's own guidance on technological inventions. The USPTO guidance specifically states that “***the use of known prior art technology*** to accomplish a process or method, ***even if that process or method is novel and non-obvious***,” is not a technical invention. *TPG* at 48763-48764. The Board ignored this guidance when it found that the use of ***known RDBMS technology*** to calculate profit transforms the claims into a technological invention.

As discussed in Section III, the Board further misapprehended and overlooked several portions of the petition showing how the “technical feature” of using the RDBMS to calculate profit was well-known, and not “novel or unobvious over the prior art.”

No Technical Problem Using a Technical Solution - Further, the claims do not solve a technical problem using a technical solution. The '316 Patent and Mr. Scarbrough's declaration both point out that the claims are directed to solving a business problem using a business solution. The '316 Patent states that:

The present invention ***gives management profit measures*** tailored to its need for accurate decision oriented profit information required to manage a large organization based on profit measurement. This invention ***gives businesses the ability to resolve profit measures at a level of detail necessary*** for all types of application of profit oriented performance measurement.

Ex[1001] 5:24-30; *see also* Ex[2001] ¶¶ 39-40. The only technical improvements Mr. Scarbrough describes are:

(1) moving the calculation engine from the software application server to the [RDBMS] itself; and (2) decomposing profitability factors into ‘independent’ calculations capable of being processed simultaneously on separate processors (i.e. in parallel).

Ex[2001] ¶ 44. The second of these “technological improvements” is achieved by simply using well-known financial formulas for calculating NI, OR, DE, and P that are not interdependent. See Ex[2001] ¶¶ 81-84. Multiple humans solving these equations in parallel on paper would achieve the same supposed improvement. This is not a technical solution to a technical problem – it is math performed in parallel.

Adopting Mr. Scarbrough’s first alleged improvement, the ID states that “the speed and efficiency of profit calculations” is the technical problem and “moving the calculation engine from the server to the RDBMS” is the technical solution. *ID* at 16. The Board further asserts that Petitioners have not explained “why the ***claimed improvements to database technology*** do not represent a technical solution.” *ID* at 17. However, the claims do not recite a technical improvement to databases; they only recite “using the RDBMS to ... calculate” profit values by simply “[t]aking advantage of an RDBMS’s calculation capabilities.” Ex[2001]

11. There is no modification made to the RDBMS, the invention merely uses one.¹ As the TPG explains, “reciting the use of known prior art technology to accomplish a process or method, even if that process or method is novel and non-obvious” does not “render a patent a technological invention.” *TPG* at 48764.

Mr. Scarbrough admits that the '316 Patent's “technological invention” was simply moving profitability calculations to the “database server where the data files reside.” Ex[2001] ¶ 68. Note he is referencing the physical location of files and logic, not identifying a specific component to perform the calculations. This does not constitute a technical improvement to the database server by Mr. Scarbrough's own admission. He explains that mainframe systems of the 1980s had both application and database servers on the same physical machine. Ex[2001] ¶ 63. Accepting that as true, the supposed “technological invention” was well-known by the 1980s. *Id.* Importantly, nowhere does the '316 Patent explain *how* the RDBMS itself performs the profit calculations. The '316 merely relies upon prior art RDBMS functionality to carry out the described mathematical formulas. See Ex[1001] 6:5, 8:33-37, 10:42-43; 11:24-28.

¹ As explained throughout the Petition, using an RDBMS to itself calculate values was an inherent capability of RDBMSs by the 1990s, using functions such as stored procedures and triggers. See Pet. at 30-31; see also Section III.C.

III. THE BOARD MISAPPREHENDED OR OVERLOOKED PETITIONER'S ARGUMENTS THAT PERFORMING PROFITABILITY CALCULATIONS IN THE RDBMS WAS KNOWN AND OBVIOUS

The Board's conclusion appears to be based on its finding that the Petition lacked "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." *ID* at 16. This reasoning suggests the Board overlooked or misunderstood petitioner's argument, because all of the petition's primary references teach an RDBMS performing profit calculations, and Petitioner's obviousness grounds are directed to performing the calculations in an RDBMS.²

A. *Blain* and *SAP-IS-B* show the SAP R/3 RDBMS itself performing profitability calculations

As explained below, the SAP R/3 system described in *Blain* and *SAP-IS-B* is *itself an RDBMS*. When *Blain* discloses different "modules" performing calculations, those modules are themselves part of the RDBMS. Ex[1016] ¶¶ 87-89; Ex[1006] 41 (cited at Pet. at 12-13). The IS-B (Industry Systems – Banking) module described in *SAP-IS-B* is itself integrated into the SAP R/3 RDBMS to perform profitability calculations for the banking industry. Ex[1007] 18-20 (cited

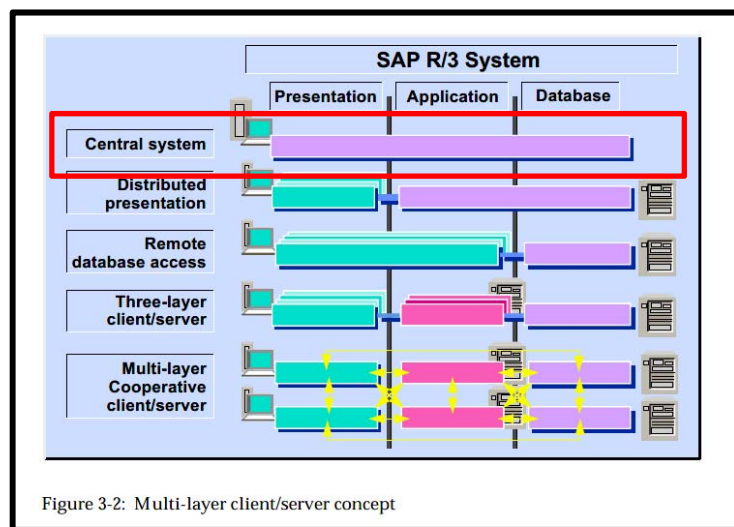
² The Petition's treatment of the technological invention prong incorporated §VII.A.3(ii)-(iv) (Ground 1) and VII.B-VII.F (Grounds 2-11), which set forth the non-inventive, conventional and obvious nature of the claims. Pet. at 6-7.

at Pet. at 90-92). Moreover, Ground 9 of the Petition expressly combines *Blain's* RDBMS with the calculations of *SAP-IS-B*. Pet. at 114-115 (*SAP-IS-B* describes the “integration of the IS-B module into the SAP-R/3 system of *Blain*.”).

The ID misapprehended or overlooked the Petition's explicit statements that the SAP R/3 system is an RDBMS: “*Blain's* database system management system for relational databases **is an RDBMS** and the use of concurrency in a distributed database system shows that SAP-R/3 acts as a RDBMS.” Pet. at 84. Dr. Weber's report further explains that “[b]y disclosing SAP R/3 using an internal lock manager for controlling user access, *Blain* is disclosing that **SAP R/3 acts as a database management system for the relational tables.**” Ex[1016] ¶414-415 (cited by Pet. at 83-84). Indeed, at one point, the Board cites to the Petition stating that “[s]pecifically, ***Blain, uses*** a database to store transactions and **a database management system to** search the database and **generate reports,**” (*ID* at 15) yet seems to overlook the fact that when the database management system (DBMS) generates reports using profitability rules, it is the RDBMS itself calculating profit. By disclosing that SAP R/3 is an RDBMS, and SAP R/3's integrated modules which themselves are part of the RDBMS perform profitability calculations, *Blain* discloses the '316 patent's “technological feature.”

The Board, relying solely on Mr. Scarbrough's disputed testimony, which Petitioner did not have an opportunity to challenge pre-Institution, appears to

conclude that “SAP-IS-B’s three-tiered architecture” requires that the profitability calculations be “performed within the ‘application servers,’ not the RDBMS.” *ID* at 15. This simply ignores the Petition’s contention that the three essential services of SAP R/3 (the core RDBMS on which *SAP-IS-B* runs) can be implemented either “on different processing systems, or in ‘*a central system by itself*.’” Pet. at 82-83 (citing Ex[1006] 41). Indeed, Mr. Scarbrough’s analysis is belied by Figure 3-2 of *SAP-IS-B*, which shows the various different ways that the three-tiered structure of SAP R/3 and *SAP-IS-B*, can be configured, including as a single system:



Ex[1007] 20 (cited by Pet. at 90-91, 94) (emphasis added). Notably, the Presentation Server, Application Server, and Database Server are all shown as being present on a single “central system.” Mr. Scarbrough admits that such a central system provides the same “marshalling” benefits as the ’316 Patent by performing the calculations on “the database server where the data files reside.”

Ex[2001] ¶ 68. Mr. Scarbrough’s flawed reasoning, which the Board appears to rely upon, simply ignores this disclosure of *SAP-IS-B* and the theory presented in the Petition, which relies on the features being embodied in a “central system by itself.” Pet. at 83. The Board erred in relying on the Patent Owner’s flawed testimony, and in disregarding Petitioner’s analysis. See 37 C.F.R. § 42.208 (c) (“a genuine issue of material fact created by [pre-institution testimonial evidence] will be viewed in the light most favorable to the petitioner...”).

B. *E&Y* shows the RDBMS itself performing profitability calculations

E&Y teaches that a “repository database” is “used to ... prepare detailed performance measurement reports.” Pet. at 47. “***E&Y discloses using relational databases and using the database to process information. In fact, much of E&Y focuses on the types of rules that financial professionals would want to establish in a database to determine product profitability.***” Ex[1016] ¶ 262 (cited in Pet. at 50-51). Moreover, Grounds 8-11 of the Petition describe “using the SAP-R/3 system of *Blain* to implement the profitability teachings of *E&Y*.” Pet. at 114.

Moreover, while the Board found that the order of elements 1[d] and 1[e] implied that the RDBMS is itself calculating profitability in claim construction, it refused to use the same logic where *E&Y* discloses storing rules for calculating profitability in a database, and “using” the database to calculate profit. Rather, the Board appears to require explicit language in the prior art that calculations are

performed in the RDBMS itself, even when the claims lack such specificity.

Additionally, *E&Y* teaches to “independently calculate” profit: “direct allocation approach consists of **concurrent, independent allocations** and distributes all expenses directly to the final beneficiaries.” Pet. at 55. This disclosure in *E&Y* teaches the independent and parallel computation (claimed by the ’316 Patent) performed in the same fashion by separating the direct allocation of expenses so they can be calculated concurrently. Thus, *E&Y* provides the same solution for the same problem identified by the ’316 Patent, confirming that the ’316 Patent claims do not recite a technological invention.

C. Performing Profitability Calculations in the RDBMS Was Obvious

The obviousness ground set forth in Ground 3 of the Petition also establishes that it would be obvious “to use the well-known elements of rules (such as SQL schema...), **established in a database**, to perform” the profit calculations disclosed in the references, and that “the use of relational databases, using rules to calculate profit values, and **calculating [Marginal Value of Profit]**” were “known and predictable uses **of a financial database**.” Pet. at 54-57 (Ground 3).³

The *Database Systems* book, relied upon extensively in the Petition as

³ The § 101 analysis of lack of inventive concept was expressly adopted into the “technological invention” analysis test. Pet. at 6-7 (“And the claimed database features are well-known and established technologies. [citing Ground 1]”).

setting forth the knowledge of a POSA, provides ample evidence that using an RDBMS to itself calculate values was an essential feature of prior art RDBMS systems. Pet. at 30 (citing Ex[1014] 79-99 (“Establishing rules for processing information is an essential component of relational databases, and a fundamental feature of any RDMS ...”)). For example, the inclusion of stored procedures and triggers in most RDBMSs, and supported by SQL, demonstrate that using the RDBMS to itself perform calculations was a well-known feature inherent to most RDBMSs. Pet. at 30 (citing Ex[1014] 15-17 (“Specifically, SQL provides the capability to ***define, in the database, stored procedures (executable programmatic logic)***, stored functions, macros, triggers, views and indexes”)).

The Board failed to address Petitioner’s evidence and reasoning establishing that calculating profit in an RDBMS was an obvious use of RDBMS technology.

IV. CONCLUSION

The Petition established how calculating business profit in a database was neither an inventive concept, novel, nor non-obvious. The Board disregarded this analysis in its ID. Rehearing is respectfully requested so that the Board can institute this proceeding, during which time, any extant factual disputes about whether a claim directed to a technological invention can be properly assessed on a full evidentiary record.

Respectfully Submitted, /Eliot D. Williams/, Eliot D. Williams (Reg. No. 50,822)

Respectfully submitted,

BAKER BOTTS L.L.P.

Date: July 19, 2019

/Eliot D. Williams/

Eliot D. Williams (Reg. No. 50,822)
Baker Botts LLP
1001 Page Mill Road, Bld. 1, Suite 200
Palo Alto, California 94304-1007
650.739.7511

Jamie Lynn (Reg. No. 63,666)
Baker Botts LLP
1299 Pennsylvania Ave. NW
Washington, DC 20004
639.786.7700

Attorneys for Petitioner, Teradata Operations, Inc.

CERTIFICATE OF SERVICE

The undersigned certifies that on July 19, 2019, a complete and entire copy of the **PETITIONER'S REQUEST FOR REHEARING UNDER 37 C.F.R. § 42.71(c) AND (d)**, was served upon the lead counsel for the patent owner via electronic service:

Matthew A. Werber
Nixon Peabody LLP
mwerber@nixonpeabody.com

Jennifer Hayes
Nixon Peabody LLP
jenhayes@nixonpeabody.com

Date: July 19, 2019

/Eliot D. Williams/

Eliot D. Williams (Reg. No. 50,822)
Jamie R. Lynn (Reg. No. 63,666)
Baker Botts L.L.P.
1001 Page Mill Road, Bld. 1, Suite 200
Palo Alto, California 94304-1007
650.739.7511

Attorneys for Petitioner, Teradata Operations, Inc.