

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

STARBUCKS CORPORATION,

Petitioner,

v.

AMERANTH, INC.,

Patent Owner.

Case CBM2015-00091

Patent 6,384,850 B1

Before MEREDITH C. PETRAVICK, RICHARD E. RICE, and
STACEY G. WHITE, *Administrative Patent Judges*.

WHITE, *Administrative Patent Judge*.

DECISION

Institution of Covered Business Method Patent Review

37 C.F.R. § 42.208

I. INTRODUCTION

A. Background

Starbucks Corporation (“Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting covered business method patent review of claims 12–16 (“challenged claims”) of U.S. Patent No. 6,384,850 B1 (Ex. 1001, “the ’850 patent”) pursuant to § 18 of the Leahy-Smith America Invents Act (“AIA”). Ameranth, Inc. (“Patent Owner”) filed a Preliminary Response. Paper 7 (“Prelim. Resp.”). We have jurisdiction under 35 U.S.C. § 324, which provides that a covered business method patent review may not be instituted “unless . . . it is more likely than not that at least 1 of the claims challenged in the petition is unpatentable.”

Petitioner contends, with the support of its Declarant, Dr. Abdelsalam Helal (Ex. 1003), that the challenged claims are unpatentable under 35 U.S.C. §§ 101, 112, and 103 on the following grounds (Pet. 28–79):

Reference(s)	Basis	Claims Challenged
N/A	§ 101	12–16
N/A	§ 112 ¹	12–16
Brandt ² and NetHopper ³	§ 103	12–16
Brandt, Demers, ⁴ and Alonso ⁵	§ 103	12–16

¹ Petitioner asserts eight grounds based upon § 112. Grounds 1–3 focus on issues of enablement, indefiniteness, and lack of written description concerning the claim term “hospitality applications and data.” Grounds 4–6 focus on issues of enablement, indefiniteness, and lack of written description concerning the claim term “communications control module.” Ground 7 asserts lack of enablement of “software libraries.” Ground 8 focuses enablement of the claims as a whole. Pet. 28–44.

² Japanese Unexamined App. No. H10-247183 (published Sept. 14, 1998) (Ex. 1004) (certified translation, Ex. 1005, “Brandt”).

³ NetHopper Version 3.2 User’s Manual, 1–24 (1997) (Ex. 1006, “NetHopper”).

Our factual findings and conclusions at this stage of the proceeding are based on the evidentiary record developed thus far (prior to Patent Owner's Response). This is not a final decision as to the patentability of any of the claims for which a covered business method patent review is instituted. Our final decision will be based on the record as fully developed during trial. Upon consideration of the Petition and Preliminary Response, we determine that Petitioner has demonstrated that it is more likely than not that the challenged claims are unpatentable on the grounds discussed below. Accordingly, we institute a covered business method patent review of claims 12–16 of the '850 patent.

B. Related Matters

The parties indicate that the '850 patent is the subject of the following district court case: *Ameranth, Inc. v. Starbucks Corp.*, No. 3-13-cv-01072 (S.D. Cal.) filed May 6, 2013. Pet. 2 (citing Ex. 1045). Petitioner notes that Patent Owner has asserted the '850 patent against thirty-five other defendants in a number of civil actions that have been consolidated into *Ameranth, Inc. v. Pizza Hut*, No. 3-11-cv-01810 (S.D. Cal.). *Id.* at 3.

In a previous proceeding before the Board, claims 1–11 of the '850 patent were held to be unpatentable. *Agilysys, Inc. v. Ameranth, Inc.*, Case CBM2014-00015 (PTAB Mar. 20, 2015) (Paper 36). Petitioner also filed a petition for covered business method patent review of a related

⁴ Alan Demers, et al., *The Bayou Architecture: Support for Data Sharing Among Mobile Users*, Mobile Computing Systems & Applications, 1995. Proceedings., Workshop on. IEEE, 1–7, 1995. (Ex. 1009, “Demers”).

⁵ Gustavo Alonso et al., *Exotica/FMDC: A Workflow Management System for Mobile and Disconnected Clients*, Databases & Mobile Computing, 28–45, 1996 (Ex. 1012, “Alonso”).

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patent, U.S. Patent No. 6,871,325 B1. *Starbucks Corp. v. Ameranth, Inc.*, Case CBM2015-00099. Patent Owner identifies eleven covered business method patent reviews (both pending and completed) that it states are related to this Petition. Paper 5 (Notice of Related Matters). The previous and pending related petitions are summarized in the table below.

U.S. Patent No.	Previous CBM Reviews	Pending CBM Reviews
6,384,850 B1	CBM2014-00015	CBM2015-00080 CBM2015-00096
6,871,325 B1	CBM2014-00016	CBM2015-00082 CBM2015-00097 CBM2015-00099
6,982,733 B1	CBM2014-00013	
8,146,077 B1	CBM2014-00014	CBM2015-00081 CBM2015-00095

C. The '850 Patent

The '850 patent, titled “Information Management and Synchronous Communications System with Menu Generation” issued May 7, 2002 based on Application No. 09/400,413 filed September 21, 1999. Ex. 1001, at [21], [22], [45], [54]. The challenged claims are directed to an information management and synchronous communications system. *Id.* at 16:1–47. This system “results in a dramatic reduction in the amount of time, and hence cost, to generate and maintain computerized menus for, e.g., restaurants and other related applications that utilize non-PC-standard graphical formats, display sizes or applications.” *Id.* at 3:26–30.

The system includes a central database, multiple handheld devices, and a web server. *Id.* at 3:59–63. It also includes an application programming interface (“API”) that enables third parties, such as point-of-sale companies, affinity program companies, and internet content providers, to integrate fully with the computerized hospitality applications. *Id.* at 2:11–16; 3:64–67; 11:15–19. The system has a communications control module to “provide[] a single point of entry for all hospitality applications, e.g., reservations, frequent customer ticketing, wait lists, etc.[,] to communicate with one another wirelessly and over the Web.” *Id.* at 4:5–8. This communications control module is a layer that sits on top of any communication protocol and acts as an interface between hospitality applications and the communication protocol. *Id.* at 4:8–11; 11:24–30.

Claim 12 of the ’850 patent is illustrative of the claims at issue and read as follows:

12. An information management and synchronous communications system for use with wireless handheld computing devices and the internet comprising:
 - a. a central database containing hospitality applications and data,
 - b. at least one wireless handheld computing device on which hospitality applications and data are stored,
 - c. at least one Web server on which hospitality applications and data are stored,
 - d. at least one Web page on which hospitality applications and data are stored,
 - e. an application program interface, and
 - f. a communications control module,wherein applications and data are synchronized between the central data base, at least one wireless handheld computing

device, at least one Web server and at least one Web page; wherein the application program interface enables intergration of outside applications with the hospitality applications and wherein the communications control module is an interface between the hospitality applications and any other communication protocol.

II. ANALYSIS

A. *Grounds for Standing*

Section 18 of the America Invents Act created a transitional program, limited to persons or their privies that have been sued or charged with infringement of a “covered business method patent,” which does not include patents for “technological inventions.” AIA §§ 18(a)(1)(B), 18(d)(1), Pub. L. No. 112-29, 125 Stat. 284, 329–331 (2011); *see* 37 C.F.R. § 42.302.

Regarding the first requirement, Petitioner contends that it has been sued for infringement of the ’850 patent in *Ameranth, Inc. v. Starbucks Corp.*, No. 3-13-cv-01072 (S.D. Cal.). Pet. 2, 5. Petitioner also asserts that it is not barred or estopped from seeking covered business method patent review of the ’850 patent. *Id.* at 5.

1. *Covered Business Method*

We must determine whether the ’850 patent claims a covered business method, which is “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.” AIA § 18(d)(1); *see* 37 C.F.R. § 42.301(a). A patent need have only one claim directed to a covered business method to be eligible for review. *See* Transitional Program for Covered Business Method Patents—Definitions of Covered Business Method Patent and Technological Invention; Final Rule, 77 Fed. Reg. 48,734, 48,736 (Aug. 14, 2012) (“CBM Rules”) (Comment 8). The

“legislative history explains that the definition of covered business method patent was drafted to encompass patents ‘claiming activities that are financial in nature, incidental to a financial activity or complementary to a financial activity.’” *See id.* at 48,734, 48,735 (quoting 157 Cong. Rec. S5432 (daily ed. Sept. 8, 2011) (statement of Sen. Schumer)). Patents directed to technological inventions, however, are excluded from covered business method patent review. AIA § 18(d)(1); *see* 37 C.F.R. § 42.301(a).

2. *Financial Product or Service*

Petitioner contends that claim 12 establishes that the ’850 patent is eligible for covered business method patent review. Pet. 6. According to Petitioner, “[c]laim 12 is directed to ‘an information management and synchronous communications system . . .’ for computerizing hospitality activities such as ordering food for purchase.” *Id.* at 10 (citing Ex. 1001, 1:33–37, 2:33–36); *see also id.* at 10 n. 1 (citing Ex. 1002, 17:4–26 (claim 11 of a continuation of the ’850 patent wherein claim 11 is identical to claim 12 of the ’850 patent except for the addition of language specifying that the claimed synchronized data relates to orders)). We note that the specification describes using the system in the context of online or mobile ordering and paying in restaurant and other hospitality contexts. *See* Ex. 1001, 4:5–8 (listing hospitality applications such as “reservations, frequent customer ticketing, wait lists, etc.”), 1:20–24, 1:61, 3:43–52, Fig. 7. These activities are at least incidental to financial activity. Thus, on this record, we are persuaded that at least claim 12 of the ’850 patent meets the financial-in-nature requirement of § 18(d)(1) of the AIA.

3. *Technological Invention*

Petitioner also must show that the '850 patent is not directed to a “technological invention.” To determine whether a patent is for a technological invention, we consider “whether the claimed subject matter as a whole recites a technological feature that is novel and unobvious over the prior art; and solves a technical problem using a technical solution.”

37 C.F.R. § 42.301(b). The following claim drafting techniques, for example, typically do not render a patent a “technological invention”:

(a) Mere recitation of known technologies, such as computer hardware, communication or computer networks, software, memory, computer-readable storage medium, scanners, display devices or databases, or specialized machines, such as an ATM or point of sale device.

(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.

(c) Combining prior art structures to achieve the normal, expected, or predictable result of that combination.

Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,763–64 (Aug. 14, 2012).

Petitioner argues that claim 12 recites a list of well-known computer technologies such as a central database, wireless handheld devices, a web server, a web page, an API, and a communications control module and does not include a novel or unobvious technological feature. Pet. 12. The specification describes the recited hardware as “typical” and indicates that all of the recited devices were known. *See* Ex. 1001, 1:1–32; 5:37–55; 10:34–42; 10:63–11:3, 12:1–61. As to the software elements of claim 12, the specification states that “[t]he software applications for performing the

functions falling within the described invention can be written in any commonly used computer language. The discrete programming steps are commonly known and thus programming details are not necessary to a full description of the invention.” Ex. 1001, 11:43–48. Patent Owner argues that Petitioner overlooks the claim’s “synchronization functionality, application and data storage on a handheld device[, and] ‘integration’ with ‘outside applications.’” Prelim. Resp. 12–13. Patent Owner asserts that without a full analysis from Petitioner of these elements Petitioner failed to meet its burden to analyze the claim as a whole. *Id.*

We find Petitioner’s argument to be persuasive. As described in the specification, the software used to perform the synchronization, storage, and integration features discussed by the Patent Owner may be written in any software language and is composed of steps that are “commonly known” such that no discussion of the details of the software was necessary to describe the invention. Ex. 1001, 11:43–48. On this record, we are persuaded that the claimed subject matter does not recite a technological invention, but instead, the recited elements constitute “[m]ere recitation of known technologies” that, as noted in our Trial Practice Guide, do not give rise to a technological invention. 77 Fed. Reg. at 48,756.

For these reasons, we conclude that claim 12 does not “recite[] a technological feature that is novel and unobvious over the prior art,” and therefore is not directed to a “technological invention.” In view of the foregoing, we conclude that the ’850 patent is a covered business method patent under AIA § 18(d)(1) and is eligible for review using the transitional covered business method patent review program.

B. Claim Construction

As a step in our analysis for determining whether to institute a trial, we construe the claims. Consistent with the statute and the legislative history of the AIA, we analyze patentability using the broadest reasonable construction of the claims in light of the specification. 37 C.F.R. § 42.300(b); *In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1278, 1279 (Fed. Cir. 2015) (In considering the broadest reasonable interpretation standard for post-grant review proceedings, the Federal Circuit determined that “Congress implicitly approved the broadest reasonable interpretation standard in enacting the AIA” and “the standard was properly adopted by PTO regulation.”).

Petitioner proposes no specific constructions and only states that the terms “communications control module” and “hospitality applications” should be given their ordinary meaning—without stating explicitly what that meaning should be. Pet. 24. Patent Owner discusses twelve terms in its Preliminary Response. Prelim. Resp. 28–36. For purposes of this decision, we determine that only the claim terms discussed below require express construction. *See Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (“[O]nly those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy.”).

1. Web Page

Patent Owner notes that in a previous case involving the same patent we determined the broadest reasonable construction of this term to be “a document, with associated files for graphics, scripts, and other resources, accessible over the internet and viewable in a web browser.” Prelim. Resp. 29–30 (quoting *Agilysys, Inc. v. Ameranth, Inc.*, Case CBM2014-00015, slip

op. at 8 (PTAB Mar. 26, 2014) (Paper 20)). Patent Owner proposes that that construction should be adopted in this case. *Id.* As in the cited case, here we also are persuaded that the ordinary and customary meaning of “web page” is consistent with Patent Owner’s proposed construction.

Accordingly, on this record, we construe “web page” as “a document, with associated files for graphics, scripts, and other resources, accessible over the internet and viewable in a web browser.”

2. *Hospitality Applications*

Patent Owner argues that a previous Board decision, regarding a related patent, implicitly construed this term to mean “applications used to perform services or tasks in the hospitality industry.” Prelim. Resp. 32–33 (citing *Agilysys, Inc. v. Ameranth, Inc.*, Case CBM2014-00014, slip op. at 16–17 (PTAB Mar. 26, 2014) (Paper 19)). Patent Owner argues that one of ordinary skill in the art would have understood “hospitality” to exclude travel and transportation activities and in particular a car rental application would not be within the scope of the claimed “hospitality applications.” Prelim. Resp. 33.

Petitioner implicitly deals with this issue as part of its discussion of Brandt. Pet. 48–49. Petitioner asserts that “[t]he car rental applications described in Brandt are hospitality applications.” *Id.* at 49. In support of its position it cites a hospitality textbook. Paul R. Dittmer, *Dimensions of the Hospitality Industry*, Ex. 1035. This 1997 textbook includes a section titled “A Definition of Hospitality.” *Id.* at 5–6. Here, the authors of the text discuss a “traditional view” of hospitality that “refers to the act of providing food, beverages, or lodging to travelers.” *Id.* The authors then discuss a broader view of hospitality that includes “services primarily to travelers in a

broad sense of the term. By contrast, other service businesses ordinarily deal with customers who are local residents rather than travelers.” *Id.* at 6. The textbook notes that the definition of hospitality “is really quite broad.” *Id.* at 7; *see also id.* at 404 (listing car rental agencies as a business providing service to travelers). On this record, we are persuaded that the ordinary and customary meaning of hospitality is broad enough to encompass car rental activities.

Further, we are persuaded that the specification does not manifest a clear intention on behalf of the patentee to narrow the meaning of this term. The specification provides several generic examples of hospitality applications. Ex. 1001, 4:6–7 (“hospitality applications, e.g., reservations, frequent customer ticketing, wait lists, etc.”). These generic applications could be of use in a wide variety of hospitality businesses, including travel and tourist related businesses. *See* Ex. 1003 ¶¶ 75–76 (discussing computing technology in the hospitality industry including reservation applications used by travel businesses). We are not persuaded that the specification limits the term in a manner that would exclude travel and tourism applications such as a car rental application. On this record, we are persuaded that the broadest reasonable construction of “hospitality applications” is “applications used to perform services or tasks in the hospitality industry.” Our construction of hospitality includes businesses, such as car rental agencies, that provide services to travelers.

C. Asserted Ground Based on 35 U.S.C. § 101

Petitioner argues that claims 12–16 are unpatentable under 35 U.S.C. § 101, because “(1) they are directed to abstract hospitality activities such as ordering food and making reservations, and (2) they merely require generic

computer implementation.” Pet. 69. Patent Owner contends that this argument has already been presented and rejected in *Agilysys, Inc. v. Ameranth, Inc.*, Case CBM2014-00015 (PTAB Mar. 26, 2014) (Paper 20) and should be rejected here for the same reasons. Prelim. Resp. 76. Upon review of Petitioner’s analysis and supporting evidence, we have determined that on this record Petitioner has not demonstrated that it is more likely than not that claims 12–16 are directed to patent-ineligible subject matter.

Patent eligible subject matter is defined in § 101 of the Patent Act, which recites:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

There are, however, three limited, judicially created exceptions to the broad categories of patent-eligible subject matter in § 101: laws of nature; natural phenomena; and abstract ideas. *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1293 (2012).

While an abstract idea by itself is not patentable, a practical application of an abstract idea may be deserving of patent protection. *Id.* at 1293–94; *Bilski v. Kappos*, 130 S. Ct. 3218, 3230 (2010); *Diamond v. Diehr*, 450 U.S. 175, 187 (1981). To be patent-eligible, a claim cannot state simply the abstract idea and add the words “apply it.” *Mayo*, 132 S. Ct. at 1294. The claim must incorporate enough meaningful limitations to ensure that it claims more than just an abstract idea and is not merely a “drafting effort designed to monopolize the [abstract idea] itself.” *See id.* at 1297.

In *Alice Corp. v. CLS Bank International*, 134 S. Ct. 2347, 2355 (2014), the Supreme Court referred to the *Mayo* framework, “for

distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts.” First, “we determine whether the claims at issue are directed to one of those patent-ineligible concepts.” *Id.* “If so, we then ask, ‘[w]hat else is there in the claims before us?’” *Id.* (quoting *Mayo*, 132 S. Ct. at 1297). Second, we consider the elements of each claim both individually and as an ordered combination to determine whether the additional elements transform the nature of the claim into a patent-eligible application. *Id.* Step two of the analysis may be described as a search for an “inventive concept”—i.e., an element or combination of elements that is sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the ineligible concept itself. *Id.* (citing *Mayo*, 132 S. Ct. at 1294).

Petitioner contends that the claims “are directed to fundamental and abstract activities in the hospitality industry such as ordering food and making reservations.” Pet. 69. The challenged claims are system claims, however, that in itself is not determinative of whether a claim is directed to patentable subject matter. The Federal Circuit has indicated that “a machine, system, medium, or the like may in some cases be equivalent to an abstract mental process for [the] purposes of patent ineligibility.” *Bancorp Servs. L.L.C. v. Sun Life Assur. Co. of Canada (U.S.)*, 687 F.3d 1266, 1277 (Fed. Cir. 2012).

Independent claim 12 recites, in relevant part, a system comprising a central database, at least one wireless handheld computing device, at least one web server, at least one web page, an API, and a communications control module. Ex. 1001, 16:1–15. The claim also includes limitations regarding the interaction between these elements. *Id.* at 16:1–23. For

example, hospitality applications and data are synchronized between the above recited claim elements and in addition, the claimed API enables integration of outside applications with hospitality applications. *Id.* Claims 13–16 depend from claim 12 and add further limitations to the system of claim 12. For example, claim 13, in relevant part, further recites that the communications control module provides a single point of entry for all hospitality applications.

We are not persuaded by Petitioner’s argument. The claims include a hospitality application, but the claims as a whole are directed to an information management and synchronous computing system which is composed of concrete, tangible elements arranged to achieve data synchronization in line with the stated objects of the claimed invention. We do not view these claims as reciting merely the abstract ideas of ordering food and making reservations, but rather as a particular practical application of the idea of application and data synchronization. Thus, we conclude that Petitioner has not demonstrated that it is more likely than not that claims 12–16 are unpatentable under 35 U.S.C. § 101 as directed to non-statutory subject matter.

D. Asserted Grounds Based on “hospitality applications and data.”

Petitioner argues that claims 12–16 are unpatentable under 35 U.S.C. § 112 due to lack of enablement, indefiniteness, and lack of written description support for “hospitality applications and data.” Pet. 29–36.

1. Asserted Lack of Enablement

In order for a claim to be enabled, the specification must disclose adequately to one of ordinary skill in the art how to make the claimed invention without undue experimentation. *Genentech, Inc. v. Novo Nordisk*,

A/S, 108 F.3d 1361, 1365 (Fed. Cir. 1997). Petitioner argues that the challenged claims are not enabled because no system is described in which hospitality applications and data are stored in the four recited locations, (1) a central database, (2) at least one wireless handheld computing device, (3) at least one web server, and (4) at least one web page. Pet. 29. Petitioner also asserts that the specification is vague and abstract as to what it means for applications and data to be synchronized between these locations. *Id.* at 30.

We are not persuaded by that the specification fails to enable the disputed limitation. For example, the specification provides an example of synchronization and storage between these locations.

The single point of entry works to keep all wireless handheld devices and linked Web sites in synch with the backoffice server (central database) so that different components are in equilibrium at any given time and an overall consistency is achieved. For example, a reservation made online is automatically communicated to the backoffice server which then synchronizes with all the wireless handheld devices wirelessly. Similarly, changes made on any of the wireless handheld devices will be reflected instantaneously on the backoffice server and the other handheld devices.

Ex. 1001, 11:32–42; *see also id.* at 2:28–32 (“Similarly, changes made on any of the wireless handheld devices would be reflected instantaneously on the backoffice server, Web pages and the other handheld devices.”).

Petitioner also argues that the claims are not enabled because the “specification fails to teach how hospitality applications can be stored *in a database.*” Pet. 30. Patent Owner responds by stating that it is well-known in the art to be able to store software code and not just raw data in a database. Prelim. Resp. 40. We are not persuaded that one of skill in the art would have to undergo undue experimentation in order to save an executable

file in a database. Petitioner has not explained sufficiently why it would be beyond the knowledge of one of ordinary skill in the art at the relevant time to store an application file in a database as opposed to storing raw data.

Petitioner's Declarant testified that "it is not typical to store *applications themselves* in a database." Ex. 1003 ¶ 94. Describing an activity as atypical is not evidence that an activity is something that one of skill in the art would not have understood how to do. Thus, we are not persuaded by Petitioner's arguments on this point.

Finally, Petitioner asserts that "[t]he notion of storing applications on a web page is also ambiguous. Web pages can be part of an application but web pages do not *typically* store applications on them." Pet. 30 (emphasis added). Here again, arguing that something is atypical is not evidence that the activity would require undue experimentation. Patent Owner argues that storing an application on a web page was well-known by one of ordinary skill in the art. "Similarly, it is well-known that software code (again, applications) and data are temporarily stored in dynamic web pages when the page is generated; there is no requirement in the art (or in the patent specification) that a web page continue to exist permanently after it is generated." Prelim. Resp. 40. We find Patent Owner's argument to be persuasive. Petitioner has not shown sufficiently that one of ordinary skill in the art would have to undergo undue experimentation in order to store an application on a web page. Thus, we are not persuaded that the challenged claims should be held unpatentable due to lack of enablement of the term "hospitality applications and data."

2. *Asserted Indefiniteness*

Petitioner asserts that the term “hospitality applications and data” renders the challenged claims indefinite because the term, as used in the claims, does not specify the relationship between the hospitality applications and data in the four locations recited in the claim and the term also lacks sufficient antecedent basis. Pet. 30–31. The Federal Circuit stated “that a claim could be indefinite if a term does not have proper antecedent basis where such basis is not otherwise present by implication or the meaning is not reasonably ascertainable.” *Halliburton Energy Servs., Inc. v. M-I LLC*, 514 F.3d 1244, 1249 (Fed. Cir. 2008) (citing *Energizer Holdings, Inc. v. Int’l Trade Comm’n*, 435 F.3d 1366, 1370–71 (Fed. Cir. 2006)). Petitioner, however, has not shown sufficiently that one of ordinary skill in the art would not have been able to ascertain the meaning of this term.

Claim 12 recites “a central database containing hospitality applications and data.” Ex. 1001, 16:4–5. The claim includes a wireless handheld computing device, web server, and web page and for each of these elements the claim recites “on which hospitality applications and data are stored.” *Id.* at 16:6–12. Finally, claim 12 recites that the “applications and data are synchronized” between the above listed elements; the API “enables integration of outside applications with the hospitality applications;” and that “the communications control module is an interface between the hospitality applications and any other communications protocol.” *Id.* at 16:15–22.

Patent Owner asserts that “[a] central purpose of the claimed invention, as any POSA would understand, is to ‘synchronize’ said applications and data so that they thus are the same.” Prelim. Resp. 41 (citing Ex. 1001, 3:59–63). In light of the requirement that the recited

applications and data be synchronized we are persuaded that one of ordinary skill in the art would have understood that the recited applications and data are the same in each location. Petitioner contends that

[u]nder this interpretation, Claims 12[-]16 fail to particularly point out and distinctly claim the subject matter related to the four separately recited ‘hospitality applications and data’ at the four locations, *e.g.*, whether the four separately recited ‘hospitality applications and data’ at the four locations are different components of some larger scale hospitality applications or whether they are replicas of the same hospitality applications.

Pet. 32. Here again, we are persuaded that the synchronization aspect of the claim is instructive. If the applications and data are to be synchronized then we are persuaded that one of ordinary skill in the art would have understood that the applications would be the same and not different components of a larger application. Thus, we are not persuaded that the challenged claims are unpatentable due to indefiniteness of the terms “hospitality applications and data.”

3. Asserted Lack of Written Description

Petitioner contends that the term “hospitality applications and data” lacks written description support. Specifically, Petitioner asserts that “there is no description of any system in which hospitality applications and data are stored in the four recited locations and synchronized between those locations” and that “the vague references to ‘synchronization’ in the specification do not describe synchronization of *both applications and data.*” Pet. 34. As noted above, we are persuaded that the specification discusses this term. *See Ex. 1001, 11:32–42; 2:28–32.* Patent Owner also contends that the specification describes a preferred embodiment of this

invention with sufficient detail to allow a person of ordinary skill in the art to implement it. Prelim. Resp. 41 (citing Ex. 1001, 11:3–48). We are persuaded by Patent Owner’s argument that one of ordinary skill in the art would have understood that the inventors possessed the claimed invention. Thus, we are not persuaded that the challenged claims should be held unpatentable due to lack of written description support for the terms “hospitality applications and data.”

E. Asserted Grounds Based on “communications control module.”

Petitioner asserts that the challenged claims are unpatentable under 35 U.S.C. § 112 due to lack of enablement, indefiniteness, and lack of written description support for the term “communications control module.” Pet. 36–41.

1. Asserted Lack of Enablement

Petitioner argues that the challenged claims are unpatentable because the specification does not enable the claimed communications control module. Pet. 36–40. Specifically, Petitioner argues that the specification does not teach one of ordinary skill in the art “(a) how the module knows which device(s) should receive any given message, and (b) how the module actually communicates with a database, a web server, a web page, or a handheld device.” *Id.* at 36. Petitioner notes that the specification describes the communication control module as a “layer that sits on top of any . . . communication protocol and can be easily updated to work with a new communication protocol without modifying the core hospitality applications.” *Id.* at 37 (citing Ex. 1001, 4:9–13; 11:27–32). Petitioner argues that the specification’s description of the communications control module would lead one of ordinary skill in the art to understand the module

to be an abstraction layer, which shields the applications from the details of the communications protocols. *Id.* Petitioner states that one of skill in the art would not understand this design because an abstraction layer must be resident on each device and this contradicts the specification's teaching that the communications control module is a centralized component of the claimed system. *Id.* at 38 (citing Ex. 1001, 9:21–40; 11:24–36, Fig. 6).

Under Federal Circuit precedent, a claim is not enabled if it would require undue experimentation to practice the claimed invention. *See In re Wands*, 858 F.2d 731, 735–36 (Fed. Cir. 1988). Our reviewing court has stated that “[e]nablement is not precluded by the necessity for some experimentation.” *Id.* at 737. The key is not whether there is experimentation, but whether any such experimentation is undue. *Id.*

Here, Petitioner's Declarant testifies that a person of ordinary skill in the art “would have been familiar with the use of abstraction layers.” Ex. 1003 ¶ 121 (citing Ex. 1036, 31–51 (a software engineering textbook's discussion of abstraction layers)). Petitioner argues that the specification becomes unclear and contradictory because the module as described must be resident on each device and this is in direct contradiction to the specification's recitation of the control module as a centralized access point. Pet. 38. Patent Owner responds that the system that Petitioner describes with a distributed abstraction layer is “hypothetical” and “completely different from what is in the specification.” Prelim. Resp. 42. Patent Owner states that the communications control module is not a layer present on each device, but is a “‘single point of entry’ (*see* Exh. 1001 at 11:24[–]36) on the server side that ‘works to keep all wireless handheld devices and linked Web sites in synch with the backoffice server (central database) so that the

different components are in equilibrium at any given time and an overall consistency is achieved.” *Id.* at 42–43.

Petitioner has not provided evidence sufficient to persuade us that that the communications control module must be distributed to each device in the system. For example, the software engineering textbook cited by Petitioner describes several different software architecture models. Ex. 1036, 26–27. Petitioner does not explain sufficiently why a distributed model is the only architecture that would work with an abstraction layer. In addition, the textbook points out that there are a number of design choices that may be made when determining how the layers will interact. *Id.* at 38–41. Also, one of ordinary skill in the art would have been aware of methods for determining how to route messages to devices and methods for determining how a module could communicate with the various system components. *See e.g., id.*, at 44–45 (discussing message routing).

We note that the specification consistently refers to the communications control module as a single point of entry. *See* Ex. 1001, 4:5–8 (“The communication module also provides a single point of entry for all hospitality applications, e.g., reservations, frequent customer ticketing, wait lists, etc.[,] to communicate with one another wirelessly and over the Web.”), 4:14–24, 11:24–42. The specification does refer to the communications control module as a layer, but we have not been directed to sufficient evidence to persuade us that this layer must be distributed. Thus, we are not persuaded that one of ordinary skill in the art would need to perform undue experimentation to determine how to design a communication control module.

2. *Asserted Indefiniteness*

Petitioner argues that the challenged claims are unpatentable because a person of ordinary skill in the art “would not [have understood] from the specification and prosecution history whether the communications control module is a centralized module or an abstraction layer.” Pet. 40–41. We are not persuaded that the communication control module is described in conflicting terms. As discussed above, we are persuaded that the specification describes the communications control module as a centralized module. Petitioner has not provided us with evidence sufficient to show that one of ordinary skill in the art would not have been able to ascertain the meaning of this term.

3. *Asserted Lack of Written Description*

Petitioner contends that the challenged claims are unpatentable as lacking proper written description support because the specification fails to describe how the communications control module serves as an interface between the hospitality applications and communications protocols. Pet. 41. Petitioner asserts that “this limitation is at odds with the statements in the specification indicating that the communications control module is a centralized system component. *Id.* As discussed above, Petitioner has not provided sufficient evidence to persuade us that the specification provides conflicting guidance as to whether the communications control module is distributed or centralized. Based on the current record, we are persuaded that the communications control module is described in the specification as a centralized component. *See* Ex. 1001, 4:5–23, 9:21–29, 11:24–48. Thus, we are not persuaded that the challenged claims should be held unpatentable due

to lack of written description support for the term “communications control module.”

F. Asserted Ground Based on Lack of Enablement of “Software Libraries.”

Petitioner argues that the challenged claims are unpatentable because the specification did not enable the software libraries discussed in the specification. Pet. 42; Ex. 1003 ¶ 56. None of the ’850 patent claims recites the term “software libraries.” See Ex. 1001, 14:48–16:47. Software libraries are only mentioned once in the specification. *Id.* at 11:7–12 (“In addition to the menu generation described above, a set of software libraries described herein in conformance with the present invention not only enhances the basic Windows CE® functionality by adding new features but also maximizes the full potential of wireless handheld computing devices.”).

In support of its argument, Petitioner cites *Union Pacific Resources Co. v. Chesapeake Energy Corp.*, 236 F. 3d 684 (Fed. Cir. 2001). Pet. 42–43. In *Union Pacific*, the inventors “purposely excluded” programming details not recited explicitly in the claims, but necessary to perform the recited methods. *Id.* at 690. Those details were excluded and maintained as a trade secret. *Id.* The Federal Circuit upheld the lower court’s finding of non-enablement based on a “record—including the patent itself, expert testimony and other trial evidence, and the prior art—show[ing] that one of skill in the art would not understand [how to perform the claimed method.]” *Id.* at 691.

In contrast, here we have a set of software libraries that conform with the invention and enhance existing Windows CE® functionality. Ex. 1001, 11:7–12. The steps are described as “commonly known” with

“programming details [that] are not necessary to a full description of the invention.” *Id.* at 11:45–48. Petitioner has not persuaded us that one of ordinary skill in the art would need to perform undue experimentation to determine how to design software libraries in accordance with this invention. Thus, we are not persuaded that the challenged claims are unpatentable due to a lack of enablement of software libraries.

G. Asserted Ground Based on Lack of Enablement of the Claims as a Whole

Petitioner asserts that its arguments regarding the alleged lack of enablement of “hospitality applications and data,” “communications control module,” and “software libraries” should be considered together to show that the full scope of the claim as a whole is not enabled. Pet. 43–44. As discussed above, we are not persuaded by any of these arguments individually, and we do not find these arguments to be any more persuasive when considered together. Thus, we are not persuaded that the challenged claims are unpatentable for lack of enablement of the claims as whole.

H. Asserted Obviousness over Brandt and NetHopper

Petitioner contends that claims 12–16 are unpatentable as obvious over Brandt and NetHopper. Pet. 45–64. In view of the arguments made in the Petition and Petitioner’s supporting evidence, we determine Petitioner has demonstrated that it is more likely than not that claims 12–16 would have been obvious under 35 U.S.C. § 103 over the combined teachings of Brandt and NetHopper.

1. Overview of Brandt

Brandt is a Japanese patent publication directed to “provid[ing] the capability to easily access many different application programs over the

[world wide web (“WWW”)] via a common user interface.” Ex. 1005, Abstract. Figure 3 of Brandt is reproduced below.

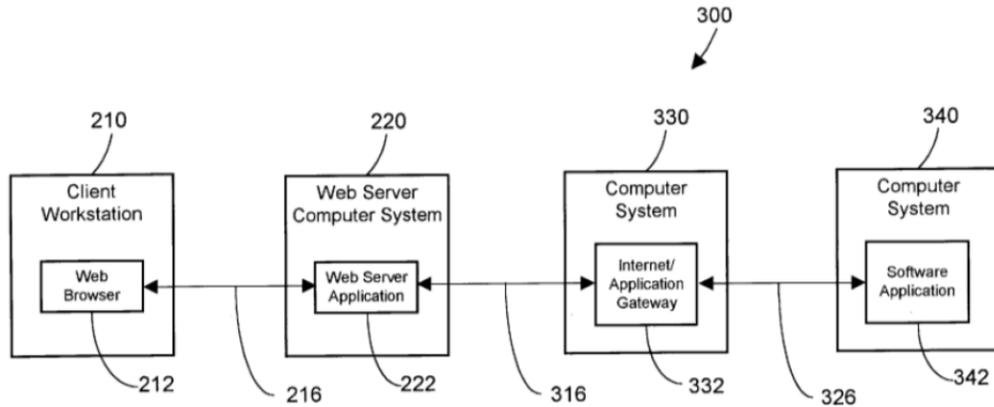


FIG. 3

Figure 3, reproduced above, is a block diagram of Brandt’s system that allows access to a software application over the WWW. *Id.* at Brief Description of Drawings. Client workstation 210 “may be any computer that is capable of providing access to the WWW by using web browser 212 [including] handheld, portable or laptop computers, standard desktop computer systems, [and] Personal Digital Assistants (PDAs).” *Id.* ¶ 14. Data such as HTML code, graphics, audio, and Java applets may be transmitted to and displayed on the client workstation 210. *Id.* ¶ 16.

Web server computer system 220 typically outputs pages of HTML data to web browser 212 in response to requests by web browser 212 that reflect action taken by the user at client workstation 210. In addition, as explained above, web server computer system 220 may output other types of data to web browser 212 as well.

Id. ¶ 17. This data output to the client workstations may include dynamic web pages. *Id.* When a user submits a request over the WWW, the web server application receives data from web browser 212. *Id.* ¶ 31, 79. If the

user request requires access to an application, the web server application will pass data to CGI 420. *Id.* ¶ 80. CGI 420 is a “Common Gateway Interface (CGI) module[]. CGI modules may be used as an interface between web server application 222 and other software applications.” *Id.* ¶ 19. “CGIs allow web servers to distribute dynamic data from other software applications.” *Id.* CGI 420 is a component of Gateway 332. *Id.* ¶¶ 77–78. Gateway 332 utilizes conversation identifiers “to control the flow of data between the various users and software application 342.” *Id.* ¶ 64. Brandt’s system also includes an API that is “used by program developers to provide access to certain features of a given software application. Each application program will have APIs that allow third parties to access certain features, to interface the application program with other programs, and to provide access for end-users.” *Id.* ¶ 22.

The application of Brandt’s system is explained through the description of an exemplary application, FlowMark. *Id.* ¶ 75. FlowMark is a work flow application that may be used in many contexts, but the example provided describes using FlowMark to implement and improve on the existing car rental process. *Id.* ¶¶ 6, 78, 89–122. In this example, the user submits data via a reservation form on the rental car agency’s web site. *Id.* ¶ 90. The reservation form is generated from an HTML template sent from web server 222 to the browser on the client’s device. *Id.* ¶ 91. The user uses the form generated from the HTML template to submit data that is transmitted to the web server. *Id.* The HTML template also may contain variables including variables to substitute or replicate Java script variables or templates. *Id.* ¶¶ 95, 108. The variables could be used to start the FlowMark application or “retrieve information from different software

applications.” *Id.* An application may be invoked to perform a task such as querying FlowMark database 438 to determine if the person renting the car is an existing customer of the car rental agency, updating the database to indicate that a car has been reserved, or determining that a rental request should be routed to a human operator for further processing. *Id.* ¶¶ 101–102.

2. Overview of NetHopper

NetHopper is a user’s manual that discusses NetHopper version 3.2. Ex. 1006. The NetHopper application is a web browser for the Newton® PDA. *Id.* at 1. Petitioner provides a Declaration from Wayne Yurtin, an author of NetHopper, in which he testifies regarding the public accessibility of the NetHopper manual. Ex. 1007 ¶¶ 18–21. NetHopper discloses a mobile browser that is capable of viewing most HTML web pages, storing pages for later viewing, storing bookmarks, submitting forms via an HTML page, and retrieving email. Ex. 1006, 1. NetHopper discusses using and creating HTML templates. *Id.* at 15, 17, 18.

3. Analysis

On this record, Petitioner has established that it is more likely than not that claim 12 of the ’850 patent is unpatentable under 35 U.S.C. § 103 over the teachings of Brandt and NetHopper. As discussed above, Brandt teaches a system that includes a central database, a wireless handheld device, a web server, and a web page. Pet. 49–52. Brandt also teaches the existence of hospitality applications and data on these elements. *Id.* Specifically, Petitioner points to the car rental application and database as teaching hospitality applications and data. *Id.*; Ex. 1003 ¶¶ 172–173. Petitioner also directs us to Brandt’s discussion of dynamic web pages as teaching the claimed hospitality applications and data. Ex. 1003 ¶ 165 (quoting Ex. 1005

¶ 17 (“Web server application 222 may dynamically build output data (e.g., an HTML page) from parts that it retrieves from memory within web server computer system 220 or from other computer systems, or may simply pass through an HTML page or other information that has been developed at an earlier time or by another computer.”)); *see also id.* ¶ 169 (quoting Ex. 1005 ¶ 55 (“Gateway 332 then outputs the HTML template to web server 222 with the real data substituted for the substitution variables (step 731). Web server application 222 then provides the web server output data to web browser 212 (step 733).”). Petitioner also points out that Brandt’s web pages can include executable applications such as Java applets and/or JavaScript. Pet. 52 (citing Ex. 1005 ¶¶ 16, 107). Petitioner relies upon NetHopper’s discussion of caching a web page to teach storage of applications and data on a handheld device. Pet. 49–50 (citing NetHopper, 17–18). Petitioner argues that Brandt teaches the claimed synchronization through its discussion of HTML templates that include input and/or substitution variables. *Id.* at 55–56. These variables are used to pass data between the components of the system. *Id.* As noted in Brandt, the data transmitted between the elements of the system includes HTML code, graphics, audio, and Java applets. Ex. 1005 ¶ 16. Brandt teaches an API to facilitate communication between its system and “other programs.” *Id.* ¶ 22. Brandt also teaches the claimed communications control module through its discussion of Application Gateway 332. Pet. 53–54. Brandt’s gateway includes CGI module 420 and FlowMark/Internet Gateway (FMIG) 430. Pet. 54 (citing Ex. 1005 ¶¶ 77–78, 82–83, 87, Figs. 4, 10). Petitioner asserts that the gateway “enables communication over a network between the clients and the software applications.” *Id.* (citing Ex. 1005 ¶¶ 56, 64, 68).

Patent Owner argues that the challenges based on Brandt should fail because Petitioner's asserted grounds would require a change in Brandt's principles of operation. Prelim. Resp. 48–51. This argument is premised on Brandt's usage of a common user interface being inconsistent with the '850 patent's core purpose of providing synchronization and consistency across an entire system of handheld devices and non PC standard displays. *Id.* at 48. The claims at issue, however, are not directed to a user interface and instead focus on the back end communications between the various system elements. We are not persuaded that Brandt's use of a common user interface impedes the application of Brandt's teachings regarding communication between the various system elements. As such, we are not persuaded by Patent Owner's argument regarding the inapplicability of Brandt's teachings due to a purported change in Brandt's principles of operation.

Patent Owner argues that the proposed combination does not teach a central database containing hospitality applications and data. Prelim. Resp. 51–53. Patent Owner also asserts that Brandt does not teach hospitality applications and that the database in Brandt is not centralized. *Id.* at 52. As discussed above in Section II.B.2, on this record, we are persuaded that the broadest reasonable construction of hospitality applications is broad enough to include a car rental application. Thus, under our construction Brandt's discussion of using the FlowMark application in the context of car rental activities would have taught the claimed hospitality application. In that same vein, Brandt's discussion of car rental data in a database would have taught the claimed data. On this record, we also are persuaded that Brandt's database is a centralized database because the reference teaches that data for

the web page and applications is pulled from the same database. Ex. 1005 ¶¶ 78, 99, 101.

Patent Owner also contends that the cited references fail to teach hospitality applications and data which are stored on a wireless handheld computing device and a web page. Prelim. Resp. 53–57. In addition, Patent Owner argues that Petitioner fails to show that the proposed combination teaches the claimed synchronization. *Id.* at 58–61. Patent Owner points out that the claims require that the hospitality applications and data be stored on both a handheld device and a web page. *Id.* at 53. Under Patent Owner’s view, Petitioner’s reliance upon teachings directed to web pages is insufficient to teach *both* the handheld device and web page elements. *Id.* at 54. We disagree.

As to the web page element, Petitioner relies upon Brandt’s discussion of dynamically generated web pages. Pet. 51–52. These web pages may receive input in the form of applications, such as Java applets or JavaScript. *Id.* at 52 (citing Ex. 1005 ¶¶ 16, 21, 107). These web pages also receive application data. *Id.* (citing Ex. 1005 ¶¶ 55, 57, 62). This evidence is consistent with Patent Owner’s assertion that “it is well-known that software code (again, applications) and data are temporarily stored in dynamic web pages when the page is generated; there is no requirement in the art (or in the patent specification) that a web page continue to exist permanently after it is generated.” Prelim. Resp. 40. On this record, we are persuaded that one of ordinary skill in the art would have understood Brandt’s disclosure to teach a dynamic web page that stored applications and data for at least long enough to create the web page. As to the handheld device, Petitioner relies upon NetHopper’s disclosure of web pages cached on a handheld device. Pet. 49–

50 (citing NetHopper 17–18). Thus, Brandt teaches the creation of a dynamic web page, which is relied upon to teach storage on a web page and NetHopper teaches the caching of that web page, which is relied upon to teach storage on a handheld device.

As to the synchronization limitation, Brandt’s web pages pull data (which may include Java executables) from the data entered by the user on the handheld device and from the database. *See e.g.*, Ex. 1005 ¶¶ 90–91 (data from the user), 78 (data from the database). This passage of information may occur through the use of HTML templates that include input and/or substitution variables. Pet. 55–56. Brandt’s web server receives the dynamic web pages from the application gateway and transmits it to the user device. *See e.g.* Ex. 1005 ¶¶ 31, 54–55. Therefore, on this record, we are persuaded that the combined teachings of Brandt and NetHopper teach the recited web page and handheld device and the storage and synchronization of applications and data upon each.

As to the claim communications control module, Patent Owner asserts that the cited art does not teach this module because the only communication protocols discussed in the cited references are those generated by web browsers. Prelim. Resp. 58; *see also* Ex. 1005 ¶ 81 (“Although the current preferred embodiment of the invention uses the ‘CGI Post’ (stdin) format for data transmission from web browser 212 to CGI 420, any other data transmission formats that may be generated by web browser 212 are contemplated and are within the scope of this invention”). Claim 12 recites that the communications control module “is an interface between the hospitality applications and any other communication protocol.” The only specific protocol discussed in the specification is HTTP, a web based

communications protocol. *See* Ex. 1001, 12:7–12. Patent Owner has not directed us to persuasive evidence requiring the use of non-web based protocols. On this record, we are not persuaded that claim 12 requires more than the web based communications protocols discussed in the cited art.

Finally, Patent Owner argues that Petitioner ignores the requirement that the API enable integration of outside applications with the hospitality applications. Prelim. Resp. 62–63. We note that the claims do not require that the API integrate the outside applications and hospitality application. The claims instead require that such integration be *enabled*. Brandt teaches “APIs that allow third parties to access certain features, to interface the application program with other programs, and to provide access for end-users.” Ex. 1005 ¶ 22. On this record, we are persuaded that Brandt’s disclosure of allowing access to and interface with third parties and “other programs” teaches enabling integration as recited in claim 12.

With respect to the dependent claims 13–16, we have reviewed Petitioner’s supporting evidence and determine that Petitioner has met the threshold standard of 35 U.S.C § 324. Claim 13 recites that the communications control module provides a single point of entry for all hospitality applications and that the single point of entry allows synchronization so that the recited handheld device, web page, and database are consistent. Petitioner relies upon Brandt’s teaching of a gateway that provides an interface to “a plurality of software applications” and connects multiple clients to multiple applications. Pet. 62. Patent Owner reiterates its argument that the cited references do not teach hospitality applications and thus, cannot teach a single point of entry for hospitality applications. Prelim. Resp. 63. As discussed above, on this record we are persuaded that Brandt

teaches hospitality applications and thus, we are not persuaded by Patent Owner's arguments. We find Petitioner's interpretation of Brandt's teachings to be reasonable, and we are persuaded that Petitioner has shown sufficiently that Brandt and NetHopper teach the limitations of claim 13.

Claims 14 and 15 recite the automatic communication of information from a web page (claim 14) or a handheld device (claim 15) to the central database and other system components. Petitioner argues that Brandt teaches these limitations through its discussion of submission of a reservation request from a web page via handheld device and the reflection of that request in the database. Pet. 63–64. Patent Owner argues that there is no evidence that this information is communicated *automatically*. Prelim. Resp. 64. According to Patent Owner, the broadest reasonable construction of automatic is “done or produced as if by machine.” *Id.* at 35. We are persuaded that the term automatic is at least broad enough to encompass Patent Owner's proposed construction. Brandt recites that the data is moved between the handheld device and database via machines such as a web server. Ex. 1005 ¶ 14. On the current record, we are persuaded that Petitioner's interpretation of Brandt's teaching is reasonable and that the cited references teach these disputed limitations.

Claim 16 recites that the claimed synchronization be performed by digital data transmission. Patent Owner argues that at the time the cited references were published not all data transmission occurred digitally and thus, Petitioner has not submitted sufficient evidence of the claimed digital data transmission. Prelim. Resp. 64–65. Patent Owner argues that “[w]hile ‘all digital’ system deployments may well be viewed as the norm today, that was not the case at the time of the invention, when high speed digital access

was rarely available.” *Id.* at 35. The question, however, is not whether *all* data transmissions occurred digitally, but rather would one of ordinary skill in the art have been aware of digital data transmission such that the claimed digital transmission would have been obvious to the person of ordinary skill in light of the teachings of the cited references. Petitioner’s Declarant testified that Brandt disclosed digital transmissions including direct connections, internet connections, intranet connections, infrared connections, and high speed connections over T1 lines. Ex. 1003 ¶ 242 (citing Ex. 1005 ¶¶ 15, 86). On this record, we are persuaded that Brandt’s discussion of transmission via digital transport media such a T1 lines would have rendered obvious the claimed digital data transmission.

Thus, for all of the foregoing reasons, we are persuaded that Petitioner has shown sufficiently that claims 12–16 would have been rendered obvious by teachings of Brandt and NetHopper.

I. Asserted Obviousness over Brandt, Demers, and Alonso

Petitioner contends that claims 12–16 are unpatentable as obvious over Brandt, Demers, and Alonso. Pet. 64–69. In view of the arguments made in the Petition and Petitioner’s supporting evidence, we determine Petitioner has demonstrated that it is more likely than not that claims 12–16 would have been obvious under 35 U.S.C. § 103 over the combined teachings of Brandt, Demers, and Alonso.

1. Overview of Demers

Demers is a publication titled “The Bayou Architecture: Support for Data Sharing among Mobile Users.” Ex. 1009, 2. “The Bayou System is a platform of replicated, highly available, variable-consistency, mobile databases on which to build collaborative applications.” *Id.* The system is

intended to run on portable machines including PDAs. *Id.* The intent was to present to mobile users what appears to be “a centralized, highly-available database service.” *Id.* Demers discussed using anti-entropy protocols to perform reconciliation to synchronize file systems. *Id.* at 3. “Anti-entropy ensures that all copies of a database are converging towards the same state and will eventually converge to identical states if there are no new updates.” *Id.* Eventually all servers in such a system will be in a “mutually consistent state.” *Id.* In order to provide stability for database updates that may be occurring throughout the system “each Bayou database has one distinguished server, the ‘primary,’ which is responsible for committing writes. The other, ‘secondary’ servers tentatively accept writes and propagate them toward the primary using anti-entropy.” *Id.* at 5.

2. *Overview of Alonso*

Alonso is a publication titled “Exocita/FMDC: A Workflow Management System for Mobile and Disconnected Clients.” Ex. 1012, 27. Alonso discusses the same FlowMark application described in Brandt. *Id.* at 29, 31. One of the goals of the paper is to address methods to “maintain the overall correctness and consistency of the processes being executed” on disconnected mobile devices. *Id.* at 28. Applications and data are loaded on “powerful portable and home desktop computers” that are then disconnected from the centralized server while users perform business tasks using the FlowMark application. *Id.* at 28–29. Performance of these tasks is described as a process that consists of activities and relevant data that is transferred between activities. *Id.* at 30. APIs are used to access and return data. *Id.* “[P]ersistent data resides in a single database server, ObjectStore.” *Id.* at 32. Applications and data are stored and executed locally on the

mobile devices. *Id.* at 34. When the user reconnects with the system, the central database is updated to reflect the work done on the mobile device. *Id.* at 35.

3. *Analysis*

On this record, Petitioner has established that it is more likely than not that claims 12–16 of the '850 patent are unpatentable under 35 U.S.C. § 103 over the teachings of Brandt, Demers, and Alonso. Petitioner relies upon the previously discussed disclosures of Brandt in conjunction with the teachings of Demers and Alonso regarding database synchronization and Alonso's teaching of an application locally resident on a mobile device. Thus, instead of relying on NetHopper to teach storing applications and data on a mobile computing device Petitioner relies on Alonso's local client application that is updated and synchronized with the other mobile devices in the system and the central database. Pet. 66–67. Petitioner asserts that one of ordinary skill in the art would have been motivated to combine the teachings of these references because Brandt and Alonso are directed to increasing accessibility of the same FlowMark workflow management system. Petitioner contends that Demers's teaching also would have been combined with Brandt and Alonso because Demers is directed to a well-known project that those skilled in the art would have looked to for teachings regarding mobile database replication. *Id.* at 65–66.

Patent Owner provided a combined response to both asserted grounds of obviousness and as such, we do not find Patent Owner's arguments persuasive for reasons discussed above. *See* Prelim. Resp. 46. Patent Owner's combined response did include a few arguments directed

specifically to the combination of Brandt, Demers, and Alonso and we address those arguments in turn.

Patent Owner argues that by removing NetHopper and instead relying on the additional teachings of Demers and Alonso the cited combination is inoperable. Prelim. Resp. 46–47. Brandt’s client devices operate using a web browser to connect to the recited system, and neither Demers nor Alonso recites a web browser. *Id.* On this record, we are not persuaded that the absence of a web browser on the mobile device would have rendered the combination inoperable. Brandt’s mobile devices were defined as “any computer that is capable of providing access to the WWW by using web browser 212.” Ex. 1005 ¶ 14. Demers discusses mobile devices connected to a network via “a wireless communication device, such as a cell modem or packet radio transceiver” or a computer with “a conventional modem requiring it to be physically connected to a phone line.” Ex. 1009, 2. The computing devices in Alonso are connected via an unspecified network. *See* Ex. 1012, Fig. 2. On this record, we are not persuaded that the devices discussed in Alonso and Demers would not be *capable* of providing access to the WWW via a web browser. In addition, on the current record, we are not persuaded that the differences between Brandt’s connection via a web browser and the direct connections discussed in Demers and Alonso would present any difficulties for one of ordinary skill in the art seeking to combine the relevant teachings of these references.

Patent Owner also asserts that the database teachings of Brandt, Demers, and Alonso may not be combined in a manner that would render obvious the claimed centralized database. Prelim. Resp. 52. Petitioner asserts that Brandt discloses a central database and that teaching is

complemented by Demers's teaching of a "primary database" and Alonso's teaching of a central database. Pet. 66. Demers's primary database is a database with particular responsibility for ensuring database synchronization and consistency. Ex. 1009, 3, 5. Data committed to the primary database is replicated throughout the system, and application settings can be used to determine whether a particular application would interact with any of the less reliable other databases in the system. *Id.* at 5. Thus, while Demers may have multiple databases there is a single centralized primary database with a particular responsibility for ensuring synchronization and consistency. On this record, we are persuaded that Demers's primary database would teach the claimed central database. Alonso discusses the use of FlowMark with all "persistent data resid[ing] in a single database server, ObjectStore." Ex. 1012, 32. Patent Owner relies upon another document's discussion of the Bayou system at issue in Alonso to support its argument that data in Alonso is not stored in a central database. Prelim. Resp. 52–53 (citing Ex. 2034, 1). A reference, however, is relied upon for what it discloses. That another document may discuss the underlying system in a different manner does not take away from the disclosures in the cited reference. This ground is based on the printed publication and not the underlying product, and as such, the proper inquiry is whether the cited publication teaches the claim element and not whether it can be shown that the underlying product may have a different structure. Therefore, we are not persuaded by Patent Owner's arguments regarding the databases in Brandt, Demers, and Alonso.

Patent Owner contends that the Petition does not show sufficiently why Demers, Alonso, and Brandt would have rendered obvious the claimed storage of hospitality applications and data on a handheld device. Prelim.

Resp. 56. Alonso discusses a use of Flowmark with a local client application and local data that is synchronized with the broader system. Pet. 65 (citing Ex. 1012, Abstract, 27–28, 34–38). Petitioner combines this teaching with Brandt’s teaching of using FlowMark for car rental processes and Demers’s teaching of disconnected PDAs and mobile applications. *Id.* at 65 (citing Ex. 1009, 3, 4–5), 66–67. We are persuaded that one of skill in the art would have learned the usage of a local application from Alonso’s teachings and would have combined that with Brandt’s teaching of using the same software to implement a hospitality application. Demers would have supplemented these teachings by showing that the local application could be resident on a PDA and by providing a detailed teaching as to how data consistency and synchronization could be achieved on this disconnected device. On this record, we are persuaded that Petitioner has shown sufficiently that the combined teachings of these references would have rendered obvious the claimed handheld device that stored hospitality applications and data.

Thus, for all of the foregoing reasons, we are persuaded that Petitioner has shown sufficiently that claims 12–16 would have been rendered obvious by teachings of Brandt, Demers, and Alonso.

J. Objective Evidence of Non-Obviousness

We now turn to Patent Owner’s submission of evidence that it asserts to provide objective evidence of non-obviousness. Prelim. Resp. 65–75. Factual inquiries for an obviousness determination include secondary considerations based on evaluation and crediting of objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). Notwithstanding what the teachings of the prior art would have suggested to

one with ordinary skill in the art at the time of the invention, the totality of the evidence submitted, including objective evidence of nonobviousness, may lead to a conclusion that the claimed invention would not have been obvious to one with ordinary skill in the art. *In re Piasecki*, 745 F.2d 1468, 1471–72 (Fed. Cir. 1984). For objective evidence of nonobviousness to be accorded substantial weight, there must be a nexus between the merits of the claimed invention and the evidence. *In re GPAC Inc.*, 57 F.3d 1573, 1580 (Fed. Cir. 1995). “Nexus” is a legally and factually sufficient connection between the objective evidence and the claimed invention, such that the objective evidence should be considered in determining obviousness. *Demaco Corp. v. F. von Langsdorff Licensing Ltd.*, 851 F.3d 1387, 1392 (Fed. Cir. 1988). The burden of showing that there is a nexus lies with the patent owner. *In re Paulsen*, 30 F.3d 1475, 1482 (Fed. Cir. 1994); *Demaco Corp.*, 851 F.2d at 1392; *Sega of Am., Inc. v. Uniloc USA, Inc.*, Case IPR2014-01453, 2015 WL 1090311, at *10–11 (PTAB Mar. 10, 2015).

Patent Owner argues that “[u]nprecedented and nearly instantaneous industry-wide recognition followed for the breakthrough products/technology embodying the inventions described in the patents, attesting to the novel and innovative nature of the patented technology.” Prelim. Resp. 65. Patent Owner supports this statement with a secondary factors declaration provided as part of the prosecution of a related patent, U.S. Patent No. 8,146,077 B2. Exs. 2020–2023. These Exhibits, however, are not sufficient to show a nexus between the challenged claims of the ’850 patent and the praise ascribed to Ameranth’s 21st Century product. For example, Patent Owner contends that Exhibit 4 of Exhibit 2022 evidences the nexus between the challenged claims and Ameranth’s product. Prelim.

Resp. 68. This document is an advertisement for Ameranth's 21st Century Restaurant. Ex. 2022 (Ex. 4). This document, however, does not discuss several elements recited in the challenged claims such as the web server, web page, API, and communications control module. Thus, we are not persuaded on the current record that Patent Owner has provided sufficient evidence of secondary considerations.

III. CONCLUSION

For the foregoing reasons, we determine that the information presented in the Petition establishes that it is more likely than not that Petitioner would prevail in establishing the unpatentability of claims 12–16 of the '850 patent under 35 U.S.C. § 103 as being unpatentable over the combinations of Brandt and NetHopper and of Brandt, Demers, and Alonso. At this juncture, we have not made a final determination with respect to the patentability of the challenged claims, nor with respect to claim construction.

IV. ORDER

For the reasons given, it is:

ORDERED that a covered business method patent review is instituted as to claims 12–16 as being unpatentable under 35 U.S.C. § 103 over the combination of Brandt and NetHopper;

FURTHER ORDERED that a covered business method patent review is instituted as to claims 12–16 as being unpatentable under 35 U.S.C. § 103 over the combination of Brandt, Demers, and Alonso;

FURTHER ORDERED that no other grounds are authorized; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 324(d) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial on the

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grounds of unpatentability authorized above, the trial commencing on the entry date of this Decision.

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