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Paper 70
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

AMERICAN EXPRESS COMPANY, AMERICAN EXPRESS TRAVEL RELATED SERVICES COMPANY, INC., EXPEDIA, INC., HOTELS.COM LP, HOTELS.COM GP, LLC, HOTWIRE, INC., ORBITZ WORLDWIDE, INC., PRICELINE.COM, INC., TRAVELOCITY.COM LP, and YAHOO! INC.,
Petitioner,

v.

METASEARCH SYSTEMS, LLC
Patent Owner.

Case CBM2014-00001
Patent 8,326,924 B1

Before HOWARD B. BLANKENSHIP, KARL D. EASTHOM, and BARBARA A. BENOIT, *Administrative Patent Judges.*

BLANKENSHIP, *Administrative Patent Judge.*

FINAL WRITTEN DECISION
35 U.S.C. § 328(a) and 37 C.F.R. § 42.73

I. BACKGROUND

On October 1, 2013, American Express Company, et al. (collectively, "Petitioner") filed a petition requesting a review of U.S. Patent No. 8,326,924 B1 ("the '924 patent") under the transitional program for covered business method patents,[1] asserting that claims 1–12 are directed to unpatentable subject matter under 35 U.S.C. §§ 101 and 103(a). *See* Paper 20, Corrected Petition ("Petition" or "Pet."). The parties filed a joint motion, which the Board granted, to withdraw Petitioner's challenge of all claims except for claims 2, 6, and 8. Patent Owner filed a preliminary response on January 3, 2014. *See* Paper 26 ("Prelim. Resp."). We determined that Petitioner sufficiently demonstrated it was more likely than not that the challenged claims were unpatentable, and we instituted a trial on March 20, 2014. Paper 29, Decision to Institute ("Decision").

Patent Owner filed a patent owner response on July 15, 2014. *See* Paper 45 ("PO Resp."). Petitioner filed a reply to the patent owner response on September 11, 2014. *See* Paper 52 ("Pet. Reply"). Patent Owner filed a motion to amend the patent on July 15, 2014. *See* Paper 46 ("Mot. to Amend"). Petitioner filed an opposition to Patent Owner's motion to amend on September 11, 2014. *See* Paper 51 ("Opp. to Mot. to Amend"). Patent Owner filed a reply to the opposition on October 2, 2014 (Paper 57). Patent Owner filed a motion for observation on cross-examination on September 16, 2014. *See* Paper 60 ("Mot. for Observ."). Petitioner filed a response to Patent Owner's motion for observation on October 23, 2014. *See* Paper 61 ("Resp. to Mot. for Observ.") Each of Patent Owner and Petitioner requested an oral hearing under 37 C.F.R.

[1] Pursuant to Section 18 of the Leahy-Smith America Invents Act ("AIA") (Pub. L. No. 112-29, 125 Stat. 284 (2011)).

§ 42.70(a). Paper 63; Paper 64. The oral hearing was held on December 5, 2014. A transcript of the hearing is in the record. Paper 69, Record of Oral Hearing ("Tr.").

The Board has jurisdiction under 35 U.S.C. § 6(c). This is a final written decision under 35 U.S.C. § 328(a) and 37 C.F.R. § 42.73. For the reasons that follow, we determine that Petitioner has demonstrated by a preponderance of the evidence that claims 2, 6, and 8 are unpatentable, and we deny Patent Owner's motion to amend.

A. Instituted Grounds

The Board instituted trial as to claims 2, 6, and 8 of the '924 patent on the following grounds of unpatentability.

(1) Claims 2, 6, and 8 are directed to non-statutory subject matter under 35 U.S.C. § 101; and

(2) Claims 2, 6, and 8 would have been obvious under 35 U.S.C. § 103(a) over the following printed publications:

Mamma.com Web site captured by Internet Archives (May 5, 1998). (Ex. 1005) ("Mamma.com")

Uwe M. Borghoff et al., *Constraint-based Information Gathering for a Network Publication System*, PROC. PAAM '96, Apr. 22-24, 1996 (Ex. 1006)

Uwe M. Borghoff et al., *Agent-Based Document Retrieval for the European Physicists: A Project Overview*, PROC. 2ND INT'L CONF. ON THE

PRACTICAL APPLICATION OF INTELLIGENT AGENTS & MULTI-AGENT TECH. (PAAM '97), Apr. 21-23, 1997 (Ex. 1007).[2]

B. Related Matters

In compliance with 37 C.F.R. § 42.302(a), Petitioner certifies that it has been sued for infringement of the '924 patent. Pet. 1. The '924 patent is involved in the following U.S. District Court proceedings: *MetaSearch Sys., LLC v. Am. Express Co.*, No. 1:12-cv-01225-LPS (D. Del. filed Sept. 28, 2012); *MetaSearch Sys., LLC v. Expedia Inc.*, No. 1:12-cv-01188-LPS (D. Del. filed Sept. 21, 2012); *MetaSearch Sys., LLC v. Orbitz Worldwide, Inc*., No. 1:12-cv-01190-LPS (D. Del. filed Sept. 21, 2012); *MetaSearch Sys., LLC v. Priceline.com Inc.*, No. 1:12-cv-01191-LPS (D. Del. filed Sept. 21, 2012); *MetaSearch Sys., LLC v. Travelocity.com, LP*, No. 1:12-cv-01189-LPS (D. Del. filed Sept. 21, 2012); *MetaSearch Sys., LLC v. TravelZoo Inc.*, No. 1:12-cv-01222-LPS (D. Del. filed Sept. 28, 2012); *MetaSearch Sys., LLC v. Yahoo! Inc.*, No. 1:12-cv-01223-LPS (D. Del. filed Sept. 28, 2012); *MetaSearch Sys., LLC v. Kayak Software Corp.*, No. 1:12-cv-01224-LPS (D. Del. filed Sept. 28, 2012); and *MetaSearch Sys., LLC v. Bookit.com Inc.*, No. 1:12-cv-01226-LPS (D. Del. filed Sept. 28, 2012). Paper 18, 2. U.S. Patent No. 8,239,451 B1, which issued from a parent application of the '924 patent, is the subject of Case CBM2014-00050 (PTAB 2013).

[2] Consistent with the parties' references to the evidence, we refer to the Borghoff articles, collectively, as "Knowledge Broker" or "the Knowledge Broker references."

C. The '924 Patent

The '924 patent describes a method for metasearching[3] on the Internet that includes causing an advertisement associated with the search to be displayed along with the results of the search. Ex. 1001, Abstract.

Claim 2 is illustrative of the claims and is reproduced below.

> 2. A process for metasearching on the Internet, wherein the steps of the process are performed by a metasearch engine executing on a hardware device, the process comprising the steps of:
>
> (a) receiving a Hypertext Transfer Protocol request from a client device for the metasearch engine to send at least one search query to a plurality of unique hosts that provide access to information to be searched, wherein the Hypertext Transfer Protocol request from the client device is associated with at least one travel related item that may be ordered from a plurality of travel related items that may be ordered;
>
> (b) sending the at least one search query to the plurality of unique hosts in response to the Hypertext Transfer Protocol request received from the client device;
>
> (c) receiving search results from the plurality of unique hosts in response to the at least one search query sent to the plurality of unique hosts;
>
> (d) incorporating the received search results into a results list and incorporating the results list into a response;
>
> (e) causing at least one advertisement associated with the at least one item that may be ordered to be displayed in the response;

[3] A discussion of "metasearching" appears in our claim interpretation section, *infra*.

(f) communicating the response from the metasearch engine to the client device;

(g) receiving another Hypertext Transfer Protocol request from the client device for placing an order for the at least one item;

(h) processing the order.

II. ANALYSIS

A. Claim Interpretation

During a review before the Board, we construe the claims in accordance with the broadest reasonable interpretation in light of the specification. 37 C.F.R. § 42.300(b); Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,697–98 (Aug. 14, 2012). The claim language should be read in light of the specification as it would be interpreted by one of ordinary skill in the art. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). The Office must apply the broadest reasonable meaning to the claim language, taking into account any definitions presented in the specification. *Id*. (citing *In re Bass*, 314 F.3d 575, 577 (Fed. Cir. 2002)). There is a "heavy presumption" that a claim term carries its ordinary and customary meaning. *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002). The "ordinary and customary meaning" is that which the term would have to a person of ordinary skill in the art in question. *In re Translogic Tech., Inc*., 504 F.3d 1249, 1257 (Fed. Cir. 2007).

1. Metasearch Engine

For purposes of our Decision instituting trial, we adopted Petitioner's proposed construction of the term "metasearching." On that preliminary record,

we presumed that "metasearching" refers to an unstructured keyword query or queries to plural hosts, as requested by a user, and grouping, sorting, and returning to the user the results received from each host. Decision 9–11.

Patent Owner submits that the term "metasearching" in the late 1990s applied also in the context of both "semistructured" and "structured" data. PO Resp. 4. According to Patent Owner, metasearch engines queried sources of, for example, "structured" data such as relational databases. *Id.* at 5. Patent Owner advocates a broader definition of "metasearching" than that used for purposes of the Decision on Institution. Patent Owner contends that "metasearching," under the broadest reasonable interpretation in light of the known art at the time of the invention and the patent specification, means "sending at least one search query to plural hosts, and returning the results received from each host." *Id.* at 25.

The '924 patent issued December 4, 2012, claiming priority through a string of continuations and continuations-in-part to U.S. Patent Application No. 09/510,749, filed February 22, 2000. The '924 patent consists of 422 pages, containing 344 drawing sheets and 150 columns of text. *See* Ex. 1001. Other than the Title, Abstract, and reference list, the patent does not appear to use any form of the word "metasearch" prior to column 111. At column 111, the patent states that "[t]he client-server multitasking system 10 [Fig. 1] of the present invention comprises a metasearch engine, which is a search engine that sends user requests to several other search engines, servers, clients, and/or databases, and other suitable systems and/or devices, groups, sorts, and returns the results from each one." Ex. 1001, col. 111, ll. 58–63. Later text in the patent establishes that "the metasearch system of the present invention" is synonymous with the "client-server multitasking system" discussed in the

earlier 110 columns of text. *See, e.g.*, Ex. 1001, col. 112, l. 7 *et seq.* ("FIGS. 1 and 2 show the client-server multitasking system 10/metasearch system of the present invention. . . ."). Although the inventor referred to the invention as a "client-server multitasking" process or system in parent Application No. 09/510,749, in subsequent filings the Examiner recommended that the technology be described in terms of "metasearching." Prelim. Resp. 3. Patent Owner adopted the recommendation. *Id.*

In its Patent Owner Response, Patent Owner suggests at least tangentially that a "metasearch engine" does or requires more than "metasearching." In attempting to distinguish the '924 patent claims from the prior art, Patent Owner argues that metasearching "generally" required "on-the-fly search of multiple external databases (which had been previously populated by a spidering process) and combined their results, and/or sent the query to multiple external search engines and combined the results." PO Resp. 60 (citing Ex. 2006 ¶ 33). Patent Owner's expert, Dr. Jaime Carbonell testifies that a metasearch system requires "on-the-fly" search of multiple external databases "and/or" sending the query to multiple external search engines and combining the results. Ex. 2006 ¶ 34. Earlier in the Declaration, however, Dr. Carbonell states that "[m]etasearch or metasearching means the process of searching multiple databases and combining the results, *or* the process of issuing the same query to multiple search engines *or* database management systems, which

operate on the same or different data and again combining the results." *Id.* ¶ 15 (emphases added).[4]

Patent Owner also seems to suggest that a "metasearch engine" requires some kind of special hardware. "This 'metasearch engine' is integral to the claimed invention and covers specific hardware components for receiving and transmitting signals (the metasearch engine) over a specific transfer medium (the Internet))." PO Resp. 51; *see also id.* at 51–52 (referring to "the special hardware of the metasearch engine"). Such an interpretation of "metasearch engine" is not consistent with the '924 patent claims and other intrinsic evidence. The preamble of each of claims 2, 6, and 8 recites that the steps of the claimed process are "performed by a metasearch engine executing on a hardware device." The claims, thus, imply that the "metasearch engine" consists of software, as opposed to "hardware" that may somehow "execute" on "a hardware device." The '924 patent directs that the "metasearch engine" is to be interpreted broadly, that it may consist entirely of software, and that indeed it even should not be limited to "search engines." As we noted *supra*, the "metasearch system" is synonymous with the "client-server multitasking system." According to the '924 patent:

> The *client-server multitasking system* 10 [Fig. 1] of the present invention, the client-server multitasking process 99, and the multitasking process 104, which in itself is a process, the user interfaces $I_1 \ldots I_n$ (14), and/or the clients $C_1 \ldots C_n$ (16), and/or the server PS (18), and/or the servers $S_1 \ldots S_z$ (20), and/or the optional servers $SO_1 \ldots SO_p$ (22) *may be constructed of* hardware,

[4] Although Patent Owner does not appear to argue in the Patent Owner Response that the word "metasearch" in the context of the instant claims requires any kind of "on-the-fly" operation, to the extent it may so argue, we find the argument unpersuasive for the reasons expressed at pages 9 and 10 of our Decision on Institution.

> firmware, *software*, machines, and/or operating systems, and/or combinations thereof, and/or other suitable means, and/or other components and/or systems, and/or combinations thereof. Such hardware, firmware, software, machines, and/or operating systems, and/or combinations thereof, other components and/or systems, and/or other suitable means, and/or combinations thereof may have therein and/or be resident therein, but are not limited to computer components and/or systems, television and/or telecommunications components and/or systems, merger of television and computer systems, and/or merger of television and/or computer and/or telecommunications systems, networks, simulators, interactive technologies and/or systems, cybernetics and/or cybernetic systems, and/or combinations thereof.
>
> The clients $C_1 \ldots C_n$ (16), the server PS (18), the servers $SO_1 \ldots SO_z$ (20), and/or the optional servers $SO_1 \ldots SO_p$ (22) may be search engines, and/or sites, and/or servers, and/or clients, and/or URL's, and/or databases, and/or locations on the network, and/or other suitable components and/or systems, and/or other suitable means, and/or combinations thereof, which may be capable of communicating on the network 24. *The scope of the client-server multitasking system* 10 of the present invention, the client-server multitasking process 99, and the multitasking process 104, however, *is not limited to search engines*, and/or sites, and/or servers, and/or clients, and/or URL's, and/or databases, and/or locations on the network, and/or other suitable components and/or systems, and/or other suitable means, and/or combinations thereof, which may be capable of communicating on the network 24, as it is recognized that other components, systems, technologies, and/or operating systems exist and/or emerge that may make use of the benefits of the present invention, and are either on the horizon and/or are recognized to be forthcoming.

Ex. 1001, col. 106, l. 34 – col. 107, l. 6 (emphases added).

In short, a "metasearch engine" is at most "a search engine that sends user requests to several other search engines, servers, clients, and/or databases, and other suitable systems and/or devices, groups, sorts, and returns the results from each one." *Id.* at col. 111, ll. 58–63. In accordance with Patent Owner's

definition of "metasearching" (PO Resp. 25), we interpret a "metasearch engine" in the context of the '924 patent claims as *software for sending at least one search query to plural hosts, and returning the results received from each host*.

2. Results List

The claims include the phrase "incorporating the received search results into a results list." Patent Owner submits that "results list" should be interpreted in accordance with the plain and ordinary meaning of the term — simply, "a list of information." Prelim. Resp. 21–22.

We find Patent Owner's interpretation to be consistent with the required broadest reasonable interpretation of the term. The term "list" is not at issue. Accordingly, we interpret "results list" as a list of information. The phrase "incorporating the received search results into a results list" means incorporating the received search results into a list of information.

B. Section 101

1. 35 U.S.C. § 101— Principles of Law

"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." 35 U.S.C. § 101. Supreme Court precedents provide three specific exceptions to the broad categories of § 101: laws of nature, physical phenomena, and abstract ideas. *Bilski v. Kappos*, 561 U.S. 593, 601 (2010). "The 'abstract ideas' category embodies the longstanding rule that '[a]n idea of itself is not patentable.'" *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct.

2347, 2355 (2014) (citing *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972) (quotations omitted)).

In *Alice*, the Supreme Court referred to the framework set forth in *Mayo Collaboration Services v. Prometheus Laboratories, Inc.*, 132 S. Ct. 1289 (2012), "for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts." *Alice*, 134 S. Ct. at 2355. In the first step, "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). In the second step, 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).

2. Section 101 Analysis

Petitioner submits that the claimed invention is directed to the abstract idea of "marketing an item on a metasearch Web site with keyword ads and some way to order the item." Pet. 24; Pet. Reply 4. Patent Owner responds that Petitioner selectively focuses only on the claim elements directed to keyword advertisements and ordering, failing to consider the claims as a whole. PO Resp. 37.

Patent Owner's argument, however, disregards step one of the *Alice* analysis. Any novelty in implementation of the abstract idea is a factor to be considered only in the second step of the Alice analysis. *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 715 (Fed. Cir. 2014). In *Ultramercial*,[5] for example, the representative claim was directed to a method for distribution of products over the Internet, which included providing a media product for sale at an Internet website. 772 F.3d at 712. The claim recited eleven steps for displaying an advertisement in exchange for access to copyrighted media. 772 F.3d at 714–15. Yet, the U.S. Court of Appeals for the Federal Circuit found that this "ordered combination of steps" recited "an abstraction—an idea, having no particular concrete or tangible form." 772 F.3d at 715. "The process of receiving copyrighted media, selecting an ad, offering the media in exchange for watching the selected ad, displaying the ad, allowing the consumer access to the media, and receiving payment from the sponsor of the ad all describe an abstract idea, devoid of a concrete or tangible application." *Id.*

In this case, representative claim 2 recites eight steps for a search that is "associated with at least one travel related item," and which include receiving the search results, communicating the results along with an advertisement, receiving an order for the item, and processing the order. *See* Ex. 1001, col. 145, ll. 33–61. Although the claimed process requires computer hardware and software (e.g., step (a) of claim 2, "receiving a Hypertext Transfer Protocol request from a client device"), we agree with Petitioner that the claim embraces

[5] The Court's decision is sometimes referenced as *Ultramercial III*. The Federal Circuit heard the second appeal from the U.S. District Court after the Supreme Court vacated the Federal Circuit's first decision. 772 F.3d at 711–12.

the abstract idea of marketing an item on a metasearch Web site with keyword ads and providing a way to order the item.

Next, or in step two of the analysis, we 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. *Alice*, 134 S. Ct. at 2355. In this case, the claims recite, for the most part, an ordered combination of steps that contain Internet operations that were conventional at the time of invention. For example, the claims recite communicating with a client device using a Hypertext Transfer Protocol [HTTP]. Momma.com demonstrates that browsers on Internet client devices used such a protocol at the time of invention. *See* Ex. 1005, 10 (for "Microsoft Internet Explorer," go to the address "http://www.mamma.com").

The claims further recite a "metasearch engine," which also was conventional at the time of invention. *See id.* at 5 ("Mamma is a meta search engine"); *see also* Prelim. Resp. 3 (Patent Owner did not claim that "metasearching" was novel at the time of invention). Patent Owner argues that designing more than a "rudimentary" metasearch engine in the late 1990's was not a trivial task. PO Resp. 44. The argument is premised on the assumption that the claims require more than "rudimentary" metasearching. The claims recite, however, as in claim 2, a "metasearch engine to send at least one search query to a plurality of unique hosts"—e.g., a metasearch engine capable of sending a single search query to a plurality (e.g., two) different hosts. The claims are drawn to implementing the abstract idea of marketing an item on a metasearch Web site with keyword ads and some way to order the item with

routine, conventional activity. Such an implementation does not transform the abstract idea into patent eligible subject matter.

The invention here is unlike that in *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014). In *DDR Holdings*, the Federal Circuit found that although the patent claims at issue involved computers and the Internet, the claims addressed the problem of retaining website visitors that, if adhering to the routine, conventional functioning of Internet hyperlink protocol, would be instantly transported away from a host's website after "clicking" on an advertisement and activating a hyperlink. *DDR Holdings*, 773 F.3d at 1257. "[T]he claimed solution is necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks." *Id*. The Court went on to distinguish the invention from that in *Ultramercial*.

> Unlike the claims in *Ultramercial*, the claims at issue here specify how interactions with the Internet are manipulated to yield a desired result—a result that overrides the routine and conventional sequence of events ordinarily triggered by the click of a hyperlink. Instead of the computer network operating in its normal, expected manner by sending the website visitor to the third-party website that appears to be connected with the clicked advertisement, the claimed system generates and directs the visitor to the above-described hybrid web page that presents product information from the third-party and visual "look and feel" elements from the host website. When the limitations of the '399 patent's asserted claims are taken together as an ordered combination, the claims recite an invention that is not merely the routine or conventional use of the Internet.

DDR Holdings, 773 F.3d at 1258–59.

This case involves an invention more similar to that in *Ultramercial* than *DDR Holdings*. Illustrative claim 2 recites receiving a Hypertext Transfer Protocol (conventional Internet protocol) request, associated with a travel

related item, from a client device for a metasearch engine (known in the art) to send a search query to (conventional) hosts. The claim recites further that the received search results are displayed with an advertisement associated with an item that may be ordered, receiving a conventional Internet protocol request from the client device for placing an order, and processing the order. The Internet is used in its normal, expected, and routine manner for requesting, receiving, and processing data. The claim contains little more than a directive to "use the Internet" to implement the abstract idea embraced by the claims. The transformation of an abstract idea into patent-eligible subject matter "requires 'more than simply stat[ing] the [abstract idea] while adding the words "apply it."'" *Alice*, 134 S. Ct. at 2357 (quoting *Mayo*, 132 S. Ct. at 1294).

Patent Owner argues that the claims do not preempt the use of abstract ideas like keyword ads and online ordering. PO Resp. 40, 42–43. But limiting application of an abstract idea to a particular technological environment—such as the Internet—has long been held insufficient to save a claim. *See Alice*, 134 S. Ct. at 2358; *Mayo*, 132 S. Ct. at 1294; *Bilski*, 561 U.S. at 610–11; *Diamond v. Diehr*, 450 U.S. 175, 191 (1981); *see also Ultramercial*, 772 F.3d at 716 ("Narrowing the abstract idea of using advertising as a currency to the Internet is an 'attempt[ ] to limit the use' of the abstract idea 'to a particular technological environment,' which is insufficient to save a claim.") (quoting *Alice*, 134 S. Ct. at 2358).

Patent Owner submits, further, that the claims satisfy the machine-or-transformation test. PO Resp. 47. The Supreme Court instructs us that the "Court's precedents establish that the machine-or-transformation test is a useful

and important clue, an investigative tool, for determining whether some claimed inventions are processes under § 101." *Bilski*, 561 U.S. at 604.[6]

Patent Owner argues that the claims include "transformative" steps such as:

> (1) receiving a HTTP request to send at least one search query and sending the at least one search query to a plurality of unique hosts; (2) receiving search results from the plurality of unique hosts and communicating the response to the client device; and (3) receiving another HTTP request to place an order for at least one travel related item and processing the order.

PO Resp. 47. "Each of these transformative steps require[s] receiving data in an original syntax and transforming that data into an entirely different syntax in order to enable communication of the search request, results, or order." *Id.*

Searching, retrieving, and organizing data do not represent a type of "transformation" that has been determined sufficient to render a claimed method statutory by the Supreme Court or by the Federal Circuit. *See, e.g.*, *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1370 (Fed. Cir. 2011) (mere collection and organization of data regarding credit card numbers and Internet addresses is insufficient to meet the transformation prong of the test). The conventional computer operations, such as receiving data, sending data, searching for data, and processing data, do not transform the abstract idea into a patent-eligible application of the idea. *Cf. Mayo*, 132 S. Ct. at 1298 (purely "conventional or obvious" limitations are "normally not sufficient to

[6] Statements that may be read as questioning application of the test in the "Information Age" in Part II.B.2 of the opinion were not adopted by a majority of the Court. *See id.* at 596 n.1.

transform an unpatentable law of nature into a patent-eligible application of such a law").

C. Conclusion § 101 — Non-Statutory Subject Matter

We have considered the Petition and all of Patent Owner's rebuttal arguments and evidence relied upon in its Patent Owner Response. On this record, we conclude that Petitioner has demonstrated by a preponderance of the evidence that claims 2, 6, and 8 are unpatentable under 35 U.S.C. § 101 as being directed to non-statutory subject matter.

D. Section 103(a)

We instituted trial on the additional ground that claims 2, 6, and 8 are unpatentable under 35 U.S.C. § 103(a) over Knowledge Broker and Mamma.com.

1. Knowledge Broker and Mamma.com

Petitioner submits that each limitation of the '924 patent's claim 1 is taught by Knowledge Broker except for causing an "advertisement," associated with the item that may be ordered, to be displayed in the response. Pet. 75–77 (claim chart).[7] Petitioner refers to Mamma.com's teaching of advertisements being returned in addition to the descriptive information that is part of the search results. *Id*. at 76–77, 78; Ex. 1005, 7–9 (unnumbered pages). In particular, Mamma.com describes offering key word purchases for targeted

[7] Although Petitioner's claim chart addresses claim 1 as representative, the Petition elsewhere explains the basis on which the addition or deletion of language in otherwise similar claims (e.g., 2, 6, and 8) is deemed not to render the claimed subject matter nonobvious. Pet. 51–53.

advertising by third party buyers, such that an advertising banner of the buyer's choice can be shown according to words entered by the user of the metasearch engine. Ex. 1005, 8. Although the Knowledge Broker references are directed, in the main, to retrieval of physics publications, Petitioner submits that the references identify the need for a commercial application or business model. Pet. 78; Ex. 1007, 12–13 (the launch of a commercial service was pending, but different business models were being evaluated).

2. Placing and Processing an Order

Patent Owner responds that Knowledge Broker fails to teach steps (g) and (h) as recited in illustrative claim 2—"receiving another Hypertext Transfer Protocol request from the client device for placing an order for the at least one item" and "processing the order." PO Resp. 57. Patent Owner argues "there is no disclosure that Knowledge Broker processed the order for an item with the same capabilities of an e-commerce site." *Id.* We agree with Petitioner, however, that the argument is not commensurate with the scope of the claims. *See* Pet. Reply 1. Patent Owner has not established what may be required by the "capabilities" of an "e-commerce site," much less that the present claims are limited to such requirements. Under the broadest reasonable interpretation of the claims, each of Knowledge Broker and Mamma.com teaches steps (g) and (h). Pet. Reply 8; Ex. 1042 ¶¶ 32–42.

3. Incorporating a Results List

Patent Owner also argues limitations appearing in claims 2 and 6 with respect to incorporating the received search results into a results list and incorporating the results list into a response. PO Resp. 57–58. According to

Patent Owner, the references are silent as to whether they create a "results list." *Id*. at 58. Patent Owner's argument does not address, however, Knowledge Broker's teachings of presenting the results obtained from different servers, presenting information always in the same order, and the user being able to view results in various formats and rankings. Pet. 76; Ex. 1007, 8–12.

Moreover, Momma.com describes organizing query results into a uniform format and presenting the results "by relevance and source." Pet. 76; Ex. 1005, 3, 4. Momma.com, thus, teaches that the response to a query includes results in a uniform format with information as to relevance and source—i.e., a list of information.

Although the applied evidence might not contain the literal phrase "results list," each of Knowledge Broker and Mamma.com teaches, within the scope of claims 2 and 6, incorporating the received search results into a results list and incorporating the results list into a response. "What matters is the objective reach of the claim. If the claim extends to what is obvious, it is invalid under § 103." *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 419 (2007). Further, contrary to Patent Owner's assertion, the claims do not require that "unstructured and structured search results" be "presented in a combined 'results list.'" PO Resp. 58.

4. "Metasearch Engine" and Knowledge Broker

Patent Owner argues also that Knowledge Broker "was not a metasearch engine," referring to Dr. Carbonell's Declaration (Ex. 2006 ¶¶ 31–34). PO Resp. 22–23. Dr. Carbonell's testimony might reflect different uses and types of "metasearch engines" that were known to one of ordinary skill in the art, but it does not apply the broadest reasonable interpretation of the term to the

disclosure of Knowledge Broker. Although extrinsic evidence may be useful, "it is unlikely to result in a reliable interpretation of patent claim scope unless considered in the context of the intrinsic evidence." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1319 (Fed. Cir. 2005) (en banc). The '924 patent defines a "metasearch engine" as "a search engine that sends user requests to several other search engines, servers, clients, and/or databases, and other suitable systems and/or devices, groups, sorts, and returns the results from each one." Ex. 1001, col. 111, ll. 58–63. A "metasearch engine" in the context of the '924 patent claims is software for sending at least one search query to plural hosts, and returning the results received from each host. Section II.A.1, *supra*.

Figure 1 of Knowledge Broker (Ex. 1006, 8) is reproduced below.

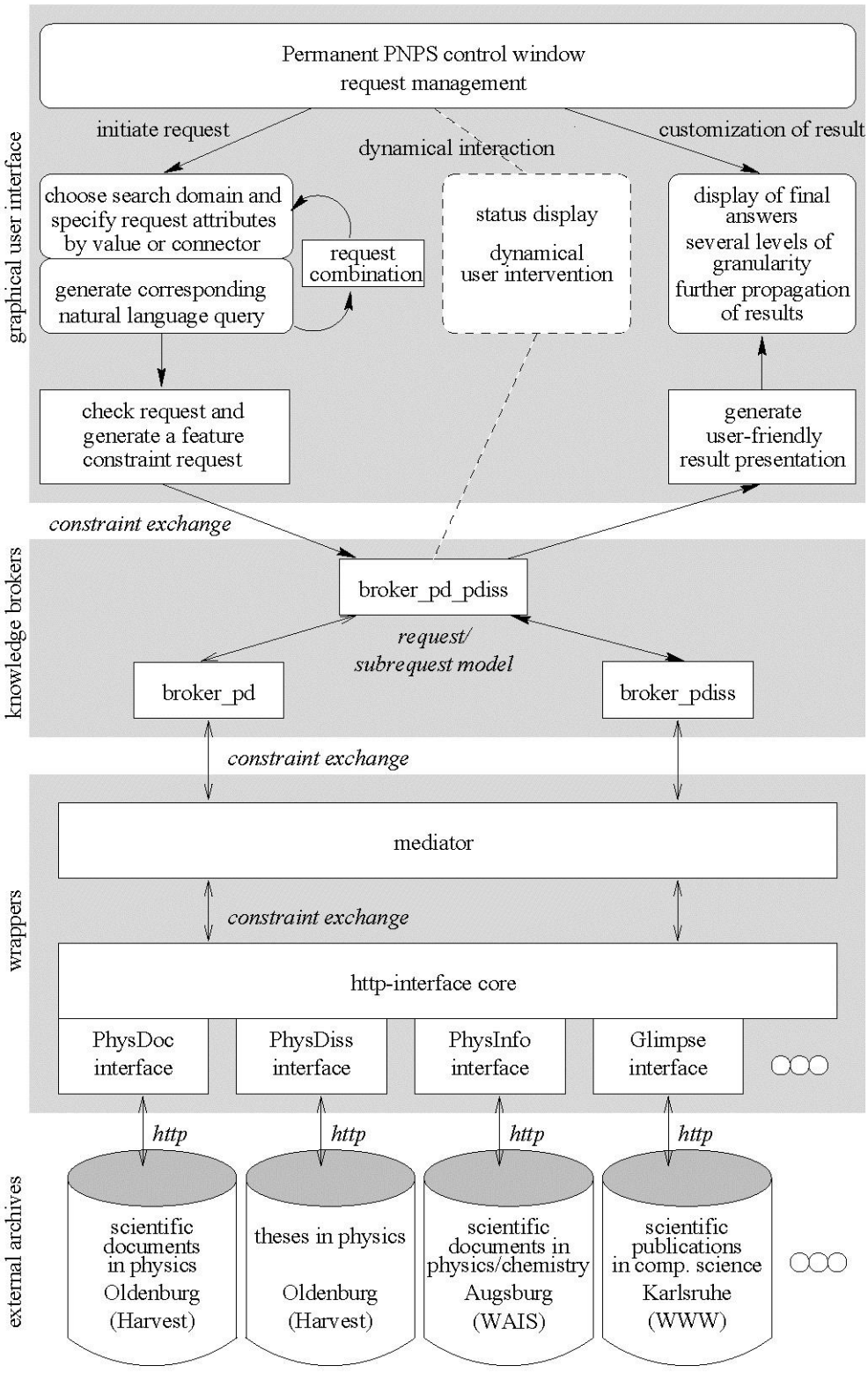

Figure 1: Architecture

Figure 1 shows the architecture of the Constraint Based Knowledge Brokers (CBKB) system for the Physicists Network Publishing System (PNPS), which includes: (1) the graphical user interface; (2) the knowledge brokers which handle constrained requests and corresponding answers; (3) wrappers that include an independent data repository that mediates between constraint-based knowledge brokers and several database-dependent components; and (4) the external archives (information repositories) that are accessible via the corresponding interface using a variety of supported protocols such as HTTP. Ex. 1006, 7.

Counsel for Patent Owner was questioned at the oral hearing as to how Patent Owner's definition of "metasearching" (PO Resp. 25) might distinguish over Knowledge Broker as depicted in its Figure 1.

> JUDGE BLANKENSHIP: So what does this require that Knowledge Broker does not do?
>
> MR. MARTINEZ: Well, for starters, Knowledge Broker doesn't return the results. I mean, that part is absolutely clear. And that was a key part of the Metasearch engine. You have to be able to return the results.
>
> JUDGE EASTHOM: What does it return in Knowledge Broker?
>
> MR. MARTINEZ: You would simply get a listing of - - or the subset of articles, or the article that had been found with that topic.

Tr. 64:20 – 65:5.

As shown in Figure 1 of Knowledge Broker (reproduced *supra*), however, the graphical user interface customizes display of the results,

generating a "user-friendly result presentation." Knowledge Broker provides further details of the results of a query.

> After the complete request has been submitted by the user, a check is performed to ensure that sufficient, and only valid attributes, are chosen. If this is not the case, the user is immediately informed, before a time-consuming external request is initiated.
>
> The final results of a single or complex query are displayed via the WWW-based user interface. For this reason, the constraint representation of the answer is retransformed into a more user-friendly attribute/value format which may be presented to the user at different levels of granularity. For each answer given, the maximal available information (which may also include abstracts, matched lines of plain text) can be accessed by a provided hyperlink.

Ex. 1006, 12.

Knowledge Broker, thus, does return the results of a query. Upon further questioning, Patent Owner's counsel indicated that the definition of "metasearch engine" that would distinguish over Knowledge Broker is provided by the Declaration of Petitioner's expert Dr. Oren Etzioni (Ex. 1008), because Dr. Etzioni lists a variety of metasearch engines but does not include Knowledge Broker, and further indicated at his deposition that he had not heard of Knowledge Broker. *See* Tr. 67:4–18.

> JUDGE BLANKENSHIP: Where is the definition of Metasearch engine that you are relying on that would distinguish over Knowledge Broker?
>
> MR. MARTINEZ: Well, I would just start with, you know, Professor Etzioni as a person of skill in this field, and in Metasearching in particular, not identifying it as a search engine - - as a Metasearch engine, I 'm sorry.

JUDGE BLANKENSHIP: So the evidence is that declaration?

MR. MARTINEZ: Yes.

Tr. 67:20 – 68:5.

Patent Owner does not allege, let alone show, however, that Dr. Etzioni purported to list every known metasearch engine in his Declaration or ever expressed the opinion that Knowledge Broker did not describe a metasearch engine. Further, Petitioner's expert Mr. Gary Liao applies Patent Owner's definition of "metasearching" to the specific disclosure of Knowledge Broker (Pet. Reply 9; Ex. 1042) and concludes that Knowledge Broker meets all the requirements (Ex. 1042 ¶ 17). Dr. Carbonell's Declaration (Ex. 2006) speaks of different things that metasearch engines were known to do, but does not address the required broadest reasonable interpretation of "metasearch engine." Moreover, upon cross-examination, Dr. Carbonell agreed that Patent Owner's definition of "metasearching" was met by Knowledge Broker. Pet. Reply 9.

Q. And then returning to the text below figure 3, the second sentence states, quote: 12 hits were found in the global preprint 17 service, paren, Augsburg mirror, close paren, and the Oldenburg server all together, period, close quote.

Do you see that?

A. Yes, I see that.

Q. And does this indicate that the internal Knowledge Broker system returned results from two of the external data repositories?

A. It doesn't say what the distribution of the hits were. But yes, to your question.

> Q. And those results combined had 12 hits, namely, 12 documents that were found in this search for documents with the title containing the word "laser," is that correct?
>
> A. Yes.
>
> Q. So is that portion of Exhibit 1007, does that disclose sending at-least-one search query to plural hosts and returning the results received from each host, is that an example?
>
> MR. MECHELL: Objection to form.
>
> THE WITNESS: It sends the result of processing a query to multiple ones. That is correct.

Ex. 1041, 14 (Carbonell Deposition, 55:14 – 56:15).

We, thus, are not persuaded that Knowledge Broker fails to teach a metasearch engine.

5. Combining Knowledge Broker and Mamma.com

Patent Owner argues that a person of ordinary skill in the art would not have been motivated to combine the "disparate technologies" of Mamma.com and Knowledge Broker and would not have known how to do so "without complex, lengthy, and uncertain experimentation." PO Resp. 62. According to Patent Owner, the "two technologies" of "metasearch engines and structured e-commerce comparison shopping services providing product purchase functionality and associated advertisements—were vastly different technologies during the late 1990s and in particular in 1999-2000." *Id.* at 59. A person of ordinary skill in the art would "not have been motivated to combine metasearch engines with structured e-commerce comparison shopping sites due to numerous other technical challenges present at the time." *Id.* at 63.

We agree with Petitioner, however, that the claims do not require addressing the "technical challenges" submitted by Patent Owner. Pet. Reply 11–12. Adding advertisements to Knowledge Broker would not require combining a metasearch engine with other "technologies" such as "structured e-commerce comparison shopping sites." For example, the advertisements could be supplied from the hosts. Patent Owner acknowledges there is no limitation as to where the advertisement comes from. Tr. 61:20–25.

E. Patent Owner's Motion for Observation on Cross-Examination of Mr. Gary Liao

We have considered Patent Owner's Motion for Observation (Paper 60) and Petitioner's Response to the Motion (Paper 61) in making our determinations.

Patent Owner filed the Motion for Observation on cross-examination of Petitioner's witness Mr. Gary Liao. Mr. Liao submitted two Declarations, Exhibit 1009 accompanying the Petition and Exhibit 1042 accompanying Petitioner's Reply. Mr. Liao, however, was not deposed until Patent Owner's second discovery period.

> The Office Trial Practice Guide describes two discovery periods for a patent owner, the first occurring between the decision to institute and the filing of the patent owner response and motion to amend and the second occurring after the petitioner's reply to the patent owner's response and [before] the patent owner's reply to petitioner's opposition to the motion to amend.

Respironics, Inc. v. Zoll Medical Corp., Case IPR2013-00322, slip op. at 2 (PTAB May 7, 2014) (Paper 26) (citing Office Trial Practice Guide, 77 Fed. Reg. at 48,757–58). It is improper to introduce issues into the proceeding that

could have been presented during the first discovery period after Petitioner's Reply has been filed. *See id.* at 4 ("We recognize Petitioner's concern that Patent Owner may have chosen to defer deposing [the witness] until after filing the Patent Owner Response in an attempt to introduce new issues into the proceeding after Patent Owner's response period and after first discovery period had concluded.").

Some of Patent Owner's observations on cross-examination relate to matters that should have been raised in Patent Owner's Response such that Petitioner would have had the opportunity for rebuttal in Petitioner's Reply. For example, Patent Owner submits testimony that is "relevant to Mr. Liao's qualifications as an expert presented by Petitioners in Exhibit 1042 at paragraph[s] 1-3." Mot. for Observ. 1, item 1. Yet, paragraphs 1 through 3 of Exhibit 1042 appear to be identical to paragraphs 1 through 3 of Exhibit 1009 (Mr. Liao's first Declaration). Similarly, item 3 (Mot. for Observ. 1–2) challenges Mr. Liao's "qualifications and experiences" to testify as an expert, which presumably did not change between the filing of his first and second Declarations. We, therefore, have not considered the merits of Patent Owner's item 1 and item 3.

F. Secondary Considerations —"Long Felt Need"

Patent Owner relies on Dr. Carbonell's Declaration (Ex. 2006 ¶ 40) as demonstrating a "long-felt need" in the art. PO Resp. 65. Dr. Carbonell testifies that there was a "long-felt need" in the art "for combining online searches that provided the most current, up-to-date, and complete product purchasing information to the consumer and e-commerce for purchasing the product. Shopping options that later became available on Google and Yahoo!

in the 2000s supports the desirability of combined search and shopping functionality." Ex. 2006 ¶ 40. The need "remained unmet in the late 1990s to 2000." *Id.*

The Declaration does not point to any evidence in the record in support of the allegations. Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight. 37 C.F.R. § 42.65(a).

Moreover, Dr. Carbonell does not allege, let alone show, that others tried and failed to solve the problem allegedly solved by the '924 patent. *See Tex. Instruments, Inc. v. U.S. Int'l Trade Comm'n*, 988 F.2d 1165, 1178 (Fed. Cir. 1993) ("[L]ong-felt need is analyzed as of the date of an articulated identified problem and evidence of efforts to solve that problem."); *In re Beattie*, 974 F.2d 1309, 1313 (Fed. Cir. 1992) (declarations that failed to show a long-felt need and failure of others to meet that need, and which offered only opinion evidence that has little value without sufficient support, were insufficient to establish nonobviousness).

Further, on this record, the "desirability of combined search and shopping functionality" (Ex. 2006 ¶ 40) was not unmet at the time of invention. Patent Owner acknowledges that e-commerce services that allowed a user to query structured databases predated the invention. *E.g.*, PO Reply 8–9, 12, 62 (discussing "SoftBot" and "ShopBot" e-commerce services).

For the foregoing reasons, we find that Patent Owner's evidence in support of a long-felt but unmet need is entitled to little weight in support of nonobviousness.

G. Conclusion — Unpatentability under § 103(a)

On this record, we conclude that Petitioner has demonstrated by a preponderance of the evidence that claims 2, 6, and 8 are unpatentable for obviousness under 35 U.S.C. § 103(a).

H. Patent Owner's Motion to Amend

Contingent upon the Board's determination that original claims 2 and 8 are unpatentable, Patent Owner requests that substitute claims 13 and 14 replace those claims. Proposed substitute claim 13 has pricing information in the database and a results list, and substitute claim 14 does not. Mot. to Amend 4.

Proposed substitute claim 13 is reproduced below, with changes with respect to claim 2 shown by insertions underlined and deletions bracketed.

> 13 [2]. A process for metasearching on the Internet, wherein the steps of the process are performed by a metasearch engine executing on a hardware device, the process comprising the steps of:
>
> (a) receiving a Hypertext Transfer Protocol request from a client device for the metasearch engine to send at least one search query to a plurality of unique hosts that provide access to information to be searched, wherein the Hypertext Transfer Protocol request from the client device is associated with at least one travel related item that may be ordered from a plurality of travel related items that may be ordered;
>
> (b) sending the at least one search query to the plurality of unique hosts in response to the Hypertext Transfer Protocol request received from the client device;
>
> (c) sending at least one database query to a database in response to the Hypertext Transfer Protocol request received from

the client device, wherein the database comprises at least one previously stored search result comprising price information received in response to at least one previous search query sent by the metasearch engine;

(d[c]) receiving search results from the plurality of unique hosts in response to the at least one search query sent to the plurality of unique hosts;

(e) receiving at least one database result comprising at least a portion of the price information of the at least one previously stored search result from the database in response to the at least one database query sent to the database;

(f) combining the received search results with the at least one database result into combined search results;

(g[d]) incorporating the [received] combined search results into a results list and incorporating the results list into a response;

(h[e]) causing at least one advertisement associated with the at least one item that may be ordered to be displayed in the response;

(i[f]) communicating the response from the metasearch engine to the client device;

(j[g]) receiving another Hypertext Transfer Protocol request from the client device for placing an order for the at least one item;

(k[h]) processing the order.

I. Motion to Amend — Patentability of Substitute Claims Over the Prior Art

A motion to amend claims in a covered business method patent review is not an amendment as in patent examination or reexamination. As the moving

party, Patent Owner bears the burden of proof to establish that it is entitled to the relief requested. 37 C.F.R. § 42.20(c). As such, Patent Owner's proposed substitute claims 13 and 14 would be entered only upon Patent Owner demonstrating the patentability of the proposed substitute claims by a preponderance of the evidence. *See, e.g.*, 37 C.F.R. § 42.1(d) (the "default evidentiary standard [in proceedings before the Board] is a preponderance of the evidence").

Patent Owner bears the burden of proof in demonstrating the patentability of proposed substitute claims 13 and 14 over the prior art of record, as well as the other prior art known to Patent Owner. *See Idle Free Sys., Inc. v. Bergstrom, Inc.*, Case IPR2012-00027, slip op. at 7 (PTAB June 11, 2013) (Paper 26) (informative) (providing guidance on motions to amend in an *inter partes* review, which has substantially similar requirements as motions to amend in a post-grant review (*compare* 37 C.F.R. § 42.221, *with* 37 C.F.R. § 42.121)). In its motion to amend, Patent Owner must show that the conditions for novelty and nonobviousness are met. Patent Owner should present and discuss facts, which are pertinent to the first three underlying factual inquiries set forth in *Graham*, which include: (1) the scope and content of the prior art; (2) differences between the claimed subject matter and the prior art; and (3) the level of ordinary skill in the art. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). Patent Owner should provide some discussion and analysis regarding the specific technical disclosure of the closest prior art known to Patent Owner, as well as the level of ordinary skill in the art, in terms of ordinary creativity and the basic skill set of a person of ordinary skill in the art.

In its motion, Patent Owner submits that proposed substitute claims 13 and 14 are nonobvious over the prior art. Mot. to Amend 8–10. Patent Owner relies on the Declaration of Dr. Kevin Almeroth (Ex. 2027).

Dr. Almeroth testifies that he has "considered the state of the art in metasearching and database storage with caching, both generally and as they relate to each other as of the late 1990s." Ex. 2027 ¶ 13. Dr. Almeroth "use[s] the phrase 'caching' as a way to refer to the proposed substitute claims' use of a database." *Id.* Dr. Almeroth refers to three references, two of which relate to "basic caching of static web documents" and a third, which relates to the recognition that metasearch engines likely would increase the number of queries submitted to search engines. *Id.* ¶ 14 (referring to Exs. 2023, 2024, 2025). Dr. Almeroth opines that it would not have been obvious to use caching to improve response time because the substitute claims require waiting for results from a plurality of unique hosts, thereby adding a source of delay that caching could not resolve fully. *Id.* ¶ 15. Similarly, in his opinion, the use of caching would not significantly eliminate performance bottleneck. *Id.*

Petitioner characterizes the argument that it would not have been obvious for a metasearch engine to use caching as "odd" because, according to Petitioner, the substitute claims expressly preclude caching. Opp. to Mot. to Amend 13. Petitioner argues that caching first searches a repository of data for user-requested data and, if that data is found and valid, it retrieves and uses that data *in lieu of* re-retrieving that same data from the original (usually remote) source. *Id.* (referring to Ex. 2023, 7 (Fig. 5) & 13 (10:38–45); Ex. 1044, 29:23–30:5, 35:5–36:4; Ex. 2025, 2). Petitioner argues that the substitute claims, on the other hand, recite instead of first searching a cache and only sometimes searching the plural hosts, unconditionally sending a query to the plural hosts

and unconditionally waiting for results from those hosts and combining those results with results from the database search. Opp. to Mot. Amend 13.

We note that in its Motion to Amend, Patent Owner emphasizes that the substitute claims differ from the original claims in "the use of a cache database." Mot. to Amend 4. In showing support for the "database" of the substitute claims, Patent Owner points to the "optional database" described in parent U.S. Application No. 09/510,749 (Ex. 2017). Mot. to Amend 12–13. Although neither the parent application nor the '924 patent appears to describe or refer to the "optional" database as a "cache" database— nor do the original or substitute claims recite a "cache" database—Patent Owner's chart for showing support for the newly claimed feature refers to the database as a "cache" database. *Id.* In its Reply in support of the Motion to Amend, Patent Owner does not argue that the "optional" database is a cache database but states that "[t]he use of the term 'cache' in the Motion was simply shorthand to refer to the database that stored the previous search results." Paper 57, 3.

Although Dr. Almeroth uses the word "caching" as referring to the substitute claims' use of a database (Ex. 2027 ¶ 13), his Declaration next turns to references relating to "caching" as the term was known in the art (*id.* ¶ 14) and concludes that it would not have been obvious to use such prior art "caching" in the context of the substitute claims (*id.* ¶ 15). Patent Owner submits that the closest known prior art to the substitute claims is Knowledge Broker and the three references that Dr. Almeroth refers to as "caching" references. Mot. to Amend 9; Ex. 2027 ¶ 14. However, because there is no apparent reason to use "caching" in the context of the subject matter of the substitute claims (Ex. 2027 ¶ 15), Patent Owner has provided insufficient explanation as to how "caching" references might represent the closest prior art.

Further, Patent Owner has not explained the relevance of the allegation that the substitute claims are nonobvious because prior art caching would not be applicable to the claimed subject matter, when the claims do not require any database operations for which prior art caching would be appropriate. Or, if one assumes that the substitute claims require some particular type of "caching," why that "caching" would not have been obvious in view of the closest types of "caching" in the prior art.

We conclude that Patent Owner has not demonstrated by a preponderance of the evidence that the proposed substitute claims are patentable over the prior art. Accordingly, we deny Patent Owner's motion to amend.

J. Other Challenges to Proposed Substitute Claims

Petitioner contends also that the proposed substitute claims are indefinite, not enabled, lack written description support, and are not patent eligible. Opp. to Mot. to Amend 1–11. Because we deny Patent Owner's motion to amend on the basis of its insufficient showing of patentability over the prior art, we do not reach or decide Petitioner's other challenges with respect to the substitute claims.

III. CONCLUSION

This is a final written decision of the Board under 35 U.S.C. § 328(a). We determine, by a preponderance of the evidence, that claims 2, 6, and 8 are unpatentable under 35 U.S.C. §§ 101 and 103(a).

ORDER

In consideration of the foregoing, it is hereby

ORDERED that claims 2, 6, and 8 of the ’924 patent are unpatentable;

FURTHER ORDERED that Patent Owner’s motion to amend the patent is denied; and

FURTHER ORDERED that, because this is a final written decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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