

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE INC.
Petitioner,

v.

NETWORK-1 TECHNOLOGIES, INC.,
Patent Owner.

Case CBM2015-00113
Patent 8,904,464 B1

Before KEVIN F. TURNER, LYNNE E. PETTIGREW, and
JON B. TORNQUIST, *Administrative Patent Judges*.

TURNER, *Administrative Patent Judge*.

DECISION

Institution of Covered Business Method Patent Review
37 C.F.R. § 42.208

I. INTRODUCTION

A. Background

Google Inc. (“Petitioner”) filed a Petition (Paper 2, “Pet.”) requesting a review under the transitional program for covered business method patents of U.S. Patent No. 8,904,464 B1 (Ex. 1001, “the ’464 Patent”). Network-1

Technologies, Inc. (“Patent Owner”) filed a Preliminary Response (Paper 5, “Prelim. Resp.”). We have jurisdiction under 35 U.S.C. § 324.

The standard for instituting a covered business method patent review is set forth in 35 U.S.C. § 324(a), which provides as follows:

THRESHOLD.—The Director may not authorize a post-grant review to be instituted unless the Director determines that the information presented in the petition filed under section 321, if such information is not rebutted, would demonstrate that it is more likely than not that at least 1 of the claims challenged in the petition is unpatentable.

Petitioner challenges the patentability of claims 1–34 (“the challenged claims”) of the ’464 Patent under 35 U.S.C. §§ 101, 103, and 112. Taking into account Patent Owner’s Preliminary Response, we determine that the Petition demonstrates that it is more likely than not that at least one of the challenged claims is unpatentable. Pursuant to 35 U.S.C. § 324, we institute a covered business method patent review of all of the challenged claims of the ’464 Patent.

B. Related Matters

The parties inform us that the ’464 Patent is the subject of the following lawsuit: *Network-1 Technologies, Inc. v. Google Inc. and YouTube, LLC*, Case No. 1:14-cv-09558 (S.D.N.Y.). Pet. 76–77; Paper 4, 2–3. YouTube, LLC is a subsidiary of Petitioner, and is acknowledged as a real party-in-interest. *Id.* In addition, four additional patents, U.S. Patent Nos. 8,640,179, 8,205,237, 8,010,988, and 8,656,441, all issuing from applications related to the ’464 Patent, are subject to pending trials for *inter partes* review, namely IPR2015-00343, IPR2015-00345, IPR2015-00347, and IPR2015-00348, respectively.

C. The '464 Patent

The '464 Patent relates to identifying a work, such as a digital audio or video file, without the need to modify the work. Ex. 1001, 1:41–46, 4:42–51. This identification can be accomplished through the extraction of features from or about the work, and comparison of those extracted features with records of a database or library. *Id.* at Abs. Thereafter, an action may be determined based on the identification determined. *Id.* at 5:21–23. Patent Owner refers to Figure 1 as illustrating the steps of the claimed computer-implemented methods (Prelim. Resp. 3–4):

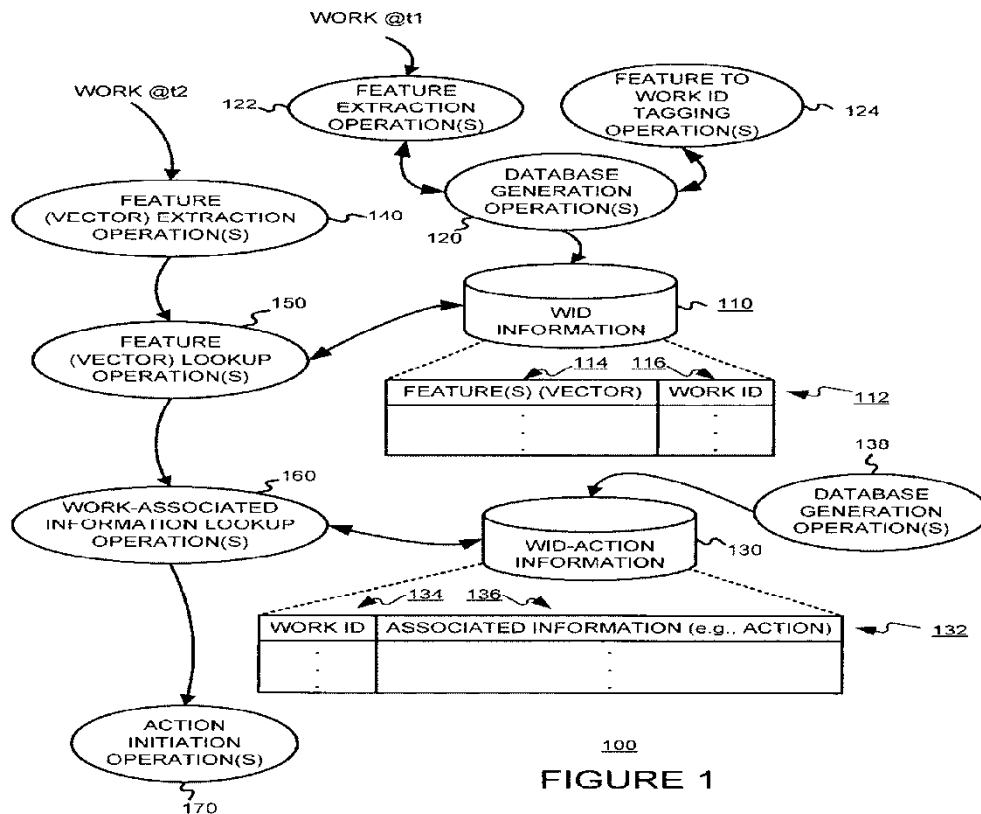


Fig. 1 of the '464 Patent illustrating the claimed method

D. Illustrative Claim

Claims 1 and 18 are independent, claim 1 is considered representative of the claims challenged, and claim 1 is reproduced below:

1. A method comprising:
 - receiving, by a computer system including at least one computer, a first electronic media work;
 - correlating, by the computer system using a non-exhaustive, near neighbor search, the first electronic media work with an electronic media work identifier;
 - storing, by the computer system, correlation information associating the first electronic media work and the electronic media work identifier;
 - accessing, by the computer system, associated information related to an action to be performed in association with one or more electronic media works corresponding to the electronic media work identifier;
 - generating, by the computer system, a tag associated with the first electronic media work;
 - providing, from the computer system to a user electronic device, the first electronic media work and the associated tag;
 - obtaining, by the computer system from the user electronic device, a request related to the associated tag;
 - generating, using the computer system, machine-readable instructions based upon the associated information to be used in performing, at the user electronic device, the action; and
 - providing, from the computer system to the user electronic device, the machine-readable instructions to perform the action in response to the request.

Id. at 24:44–25:3.

E. Evidence of Record

Petitioner relies on the following references and declaration (*see* Pet. 26–27):

Reference or Declaration	Exhibit No.
International Patent Publication WO 99/04568 (“Ferris”)	Ex. 1005
U.S. Patent No. 4,381,522 (“Lambert”)	Ex. 1007
Aristides Gionis et al., <i>Similarity Search in High Dimensions via Hashing</i> , Proceedings of the 25th International Conference on Very Large Data Bases, 518–29 (“Gionis”)	Ex. 1008
International Patent Publication WO 00/16205 (“Philyaw”)	Ex. 1009
U.S. Patent No. 5,410,326 (“Goldstein”)	Ex. 1010
Declaration of Dr. Pierre Moulin	Ex. 1003

F. Asserted Grounds of Unpatentability

Petitioner asserts that the challenged claims are unpatentable on the following grounds (*see* Pet. 17–76):

Claims Challenged	Basis	References
1–34	§ 101	
1–11, 13–15, 18–28, and 30–32	§ 103	Ferris, Lambert, and Gionis
16 and 33	§ 103	Ferris, Lambert, Gionis, and Philyaw
12, 17, 29, and 34	§ 103	Ferris, Lambert, Gionis, and Goldstein
1–34	§ 112, 2 nd ¶	
1–34	§ 112, 1 st ¶	

II. ANALYSIS

A. Standing to Seek Covered Business Method Patent Review

Section 18 of the AIA¹ provides for the creation of a transitional program for reviewing covered business method patents. Section 18 limits

¹ Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284, 329 (Sept. 16, 2011) (“AIA”).

review 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). 37 C.F.R. § 42.302 states “[c]harged with infringement means a real and substantial controversy regarding infringement of a covered business method patent exists such that the petitioner would have standing to bring a declaratory judgment in Federal court.”

Petitioner states that it was charged with infringement of the ’464 Patent in *Network-1 Technologies, Inc. v. Google Inc.*, Case No. 1:14-cv-09558 (S.D.N.Y. Dec. 3, 2014). Pet. 77. Patent Owner does not dispute this statement.

i. Financial Product or Service

A covered business method patent “claims a method or corresponding apparatus for performing data processing or other operations used in the practice, administration, or management of a financial product or service, except that the term does not include patents for technological inventions.” AIA § 18(d)(1). 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.’” *Transitional Program for Covered Business Method Patents—Definitions of Covered Business Method Patent and Technological Invention*, 77 Fed. Reg. 48,734, 48,735, 37 C.F.R. § 42.301(a) (Aug. 14, 2012) (Final Rule) (quoting 157 Cong. Rec. S5432 (daily ed. Sept. 8, 2011) (statement of Sen. Schumer)). The legislative history indicates that “financial product or service” should be interpreted broadly. *Id.*

A patent need have only one claim directed to a covered business method to be eligible for review. *Id.* at 48,736 (Response to Comment 8).

Petitioner argues that the '464 Patent claims relate to a financial product or service, citing claim 10 and its recitation that the action to be performed based on the information, per claim 1, is “related to an advertisement.” Pet. 3. Petitioner continues that “[p]roviding advertisements is a fundamental business practice” and that the '464 Patent was classifiable in Class 705. *Id.* at 3–4 (citation omitted). Patent Owner does not argue that the claims of the '464 Patent are not directed to a financial product or service.

We are persuaded by Petitioner that at least one claim claims a method that calls for an action to be performed related to an advertisement, namely claim 10. Advertising is a fundamental business practice. *See Hulu, LLC v. Intertainer, Inc.*, CBM2014-00052, slip op. at 10 (PTAB Jun. 23, 2014) (Paper 10). Upon this record, we determine that Petitioner has established that at least one claim recites a method directed to a financial product or service sufficient to meet a criterion for instituting a covered business method patent review.

ii. Technological Invention

The definition of “covered business method patent” in Section 18(d)(1) of the AIA does not include patents for “technological inventions.” 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). Both prongs must be satisfied in order for the patent to be excluded as a technological invention.

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.

77 Fed. Reg. 48,756, 48,763–64 (Aug. 14, 2012).

Petitioner argues that the ’464 Patent is not for a technological invention because none of the claims recite a technological feature that is novel and nonobvious over the prior art. Pet. 5–13. Petitioner, further, argues that the ’464 Patent is not for a technological invention because none of the claims solve a technical problem using a technical solution. *Id.* at 13–15. According to Petitioner, the only technology claimed is a “computer system” and a “user electronic device,” which are insufficient to render the patent technological, and are acknowledged by Patent Owner as being conventional and routine equipment, and the receipt and transmission of data, without more, is a known process practiced on computers. *Id.* at 8–13. Petitioner also argues that the claimed step of “correlating ... using a non-exhaustive, near neighbor search” is a known searching method, and is akin to what a person does in looking up a word in a dictionary. *Id.* at 9–10.

Patent Owner does not argue that the claims of the ’464 Patent recite a novel and unobvious technological feature. We are persuaded by Petitioner

that the '464 Patent is not for a technological invention because at least claim 1 does not satisfy the first prong of the test. Claim 1 does not recite a technological feature that is novel or unobvious over the prior art. Claim 1 recites a method that involves “receiving,” “correlating,” “storing,” and “generating,” among other steps, which are all known processes that are generally performed by computers during the relevant time period, i.e., at the time of filing the '464 Patent. *See* Ex. 1001, 1:48–4:23. Therefore, we find that at least claim 1 does not recite a technological feature that is novel or unobvious over the prior art and does not satisfy the first prong of the test.

For the reasons discussed above, we are persuaded by Petitioner that the '464 Patent is eligible for covered business method patent review.

B. *Claim Construction*

The claims of an unexpired patent are interpreted using the broadest reasonable interpretation in light of the specification of the patent in which they appear. *See* 37 C.F.R. § 42.100(b); *In re Cuozzo Speed Techs., LLC*, 778 F.3d 1271, 1281–82 (Fed. Cir. 2015). Under the broadest reasonable construction standard, claim terms are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). Any special definition for a claim term must be set forth with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994).

Petitioner proposes a construction for “near neighbor” and “neighbor,” as those limitations are recited in independent claims 1 and 18. Pet. 16–17. Petitioner submits that “near neighbor” should be construed to mean “close,

but not necessarily exact or the closest, match.” *Id.* Patent Owner does not appear to take a position on this construction.

Upon this record and for the purposes of this Decision, we determine that the broadest reasonable construction of “near neighbor search” should be construed as “identifying a close, but not necessarily exact or closest, match.” Based on our review of the record before us, no explicit construction of any other claim term is needed at this time.

C. 35 U.S.C. § 101
i. Section 101 Subject Matter Eligibility

For claimed subject matter to be patentable eligible, it must fall into one of four statutory classes set forth in 35 U.S.C. § 101: a process, a machine, a manufacture, or a composition of matter. The Supreme Court recognizes three categories of subject matter that are ineligible for patent protection: “laws of nature, physical phenomena, and abstract ideas.” *Bilski v. Kappos*, 130 S. Ct. 3218, 3225 (2010) (citation omitted). A law of nature or an abstract idea by itself is not patentable; however, a practical application of the law of nature or abstract idea may be deserving of patent protection. *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1293–94 (2012). To be patentable, however, a claim must do more than simply state the law of nature or abstract idea and add the words “apply it.” *Id.*

In *Alice Corp. Pty, Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347 (2014), the Supreme Court recently clarified the process for analyzing claims to determine whether claims are directed to patent-ineligible subject matter. In *Alice*, the Supreme Court applied the framework set forth previously in *Mayo*, “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 (citing *Mayo*, 132 S. Ct. at 1289). The first step in the analysis is to “determine whether the claims at issue are directed to one of those patent-ineligible concepts.” *Id.* (citing *Mayo*, 132 S. Ct. at 1296–97). If they are directed to a patent-ineligible concept, the second step in the analysis is to consider the elements of the claims “individually and ‘as an ordered combination’ to determine whether the additional elements ‘transform the nature of the claim’ into a patent-eligible application.” *Id.* (citing *Mayo*, 132 S. Ct. at 1297).

In other words, the second step is to “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.* (alteration in original) (quoting *Mayo*, 132 S. Ct. at 1294). Further, the “prohibition against patenting abstract ideas ‘cannot be circumvented by attempting to limit the use of the formula to a particular technological environment’ or adding ‘insignificant postsolution activity.’” *Bilski*, 130 S. Ct. at 3230 (citing *Diamond v. Diehr*, 450 U.S. 175, 191–92 (1981)).

Accordingly, utilizing this framework, we review Petitioner’s allegation that claims 1–34 of the ’464 Patent are directed to ineligible subject matter.

ii. Statutory Category

Independent claims 1 and 18 recite methods, and these claimed methods nominally fall within the process category of statutory subject matter.

iii. Ineligible Concept

Petitioner argues that the claims of the ’464 Patent are directed merely to an abstract idea of “linking a media work to a business action.” Pet. 18. Petitioner continues that the abstract idea “has been performed manually for

decades,” and cites, as an example, reader card services, where magazines would provide cards in their periodicals for readers to indicate an interest in a particular advertisement and the advertiser could take some business action based on that interest. *Id.* at 19–20. Petitioner also argues that the claims add only conventional computer technology or descriptions of types of data to the abstract idea. *Id.* at 20–25.

Patent Owner argues that Petitioner fails to provide sufficient analysis and evidence that the claims are directed to such an abstract idea. Prelim. Resp. 5–30. Patent Owner continues that the Petition fails to establish that the claims satisfy either step under *Mayo*. *Id.* at 6. Patent Owner argues that the Petitioner’s summary of the claims omits their core features, and that the claimed solution is rooted in computer technology and seeks to overcome a problem specifically arising in that realm. *Id.* at 6–14. Patent Owner also argues that Petitioner has failed to provide any analysis of its characterization of the claims, or how that characterization is tied to the claims, that its characterization omits the performance of a search and/or correlation found in the claims, and that the claims fail to recite specifically “business process,” “business actions,” or “gauging consumer interest,” as provided in Petitioner’s characterization. *Id.* at 14–22. Patent Owner also argues that Petitioner’s analysis does not adequately establish that the instant claims also fail step 2 of *Mayo*, i.e., whether additional elements of the claims transform the nature of the claims into a patent-eligible application of the abstract idea. *Id.* at 22–30.

Upon review of the Petitioner’s evidence and analysis and taking into account Patent Owner’s Preliminary Response, we are not persuaded that the subject claims of the ’464 Patent are directed to the abstract idea of “linking a media work to a business action.”

Both independent claims, claims 1 and 18, recite “correlating, by the computer system using a non-exhaustive, near neighbor search, the first electronic media work with [an or the first] electronic media work identifier.” We are persuaded by Patent Owner that such a step cannot be properly summarized as “linking a media work.” This is illustrated by Petitioner’s example of using reader service cards, which does not require correlation and search, as recited in the claims. *See* Pet. 19–20. Although it could be argued that a reader “searches” the card for a box to check corresponding to a particular advertisement, we are persuaded that this is far from the processes of the claims, which require receiving an electronic media work, and correlating it with an identifier. Although there may be analogies between the processes, the claimed process requires more than mere human recognition. The claims require that the electronic media work be identified, through particular types of searching processes, to a certain degree, which is different than linking an advertisement to its listing on a reader service card.

Further, we agree with Patent Owner that the claims are “necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer’ technology.” Prelim. Resp. 11 (citing *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257 (Fed. Cir. 2014)). Both the Specification of the ’464 Patent (Ex. 1001, 22:26–34) and Petitioner’s declarant (Ex. 1003 ¶¶ 17–18) detail that the correlation process of the claims can involve searching large feature sets in an attempt to locate a close but not necessarily exact match. The requirement of “preprocessing” presumes a large number of entries for comparison, which would require the use of a computer in the relevant time period. It is difficult to imagine a use of reader service cards that would require such extensive searching and

processing. As such, we concur with Patent Owner that the instant claims are necessarily rooted in computer technology and not merely the implementation of a known abstract idea from the business context.

As we have addressed the patent eligibility of the independent claims, we need not consider the eligibility of the dependent claims, as those claims are acknowledged by Petitioner as only reciting conventional computer technology or descriptions of data types. Pet. 20–25. Thus, upon review of Petitioner’s evidence and analysis, and taking into account Patent Owner’s arguments, we are not persuaded that the challenged claims are more likely than not patent ineligible under 35 U.S.C. § 101.

*D. Obviousness over Ferris, Lambert, and Gionis
Claims 1–11, 13–15, 18–28, and 30–32*

Petitioner argues that Ferris, in combination with Lambert and Gionis, renders obvious claims 1–11, 13–15, 18–28, and 30–32. Pet. 27–58.

Petitioner argues that Ferris teaches a majority of the elements of the claims, arguing that it would have been obvious to add a computer to the system of Ferris, per Lambert, and obvious to employ a non-exhaustive, near neighbor search, instead of Ferris’s “sliding window,” in view of Gionis. Pet. 31–35.

Patent Owner counters that the proposed combination fails to disclose limitations recited in independent claims 1 and 18, and that the alleged motivation to combine the references is based on conclusory, insufficient assertions. Prelim. Resp. 30–51. Upon review of Petitioner’s evidence and analysis, and taking into account Patent Owner’s arguments, we are persuaded that the challenged claims are more likely than not rendered obvious by the combination of Ferris, Lambert, and Gionis.

Ferris is directed to a communication system that allows for display of advertisements, product and service offers, and other information on a remote control device. Ex. 1006, Abs.

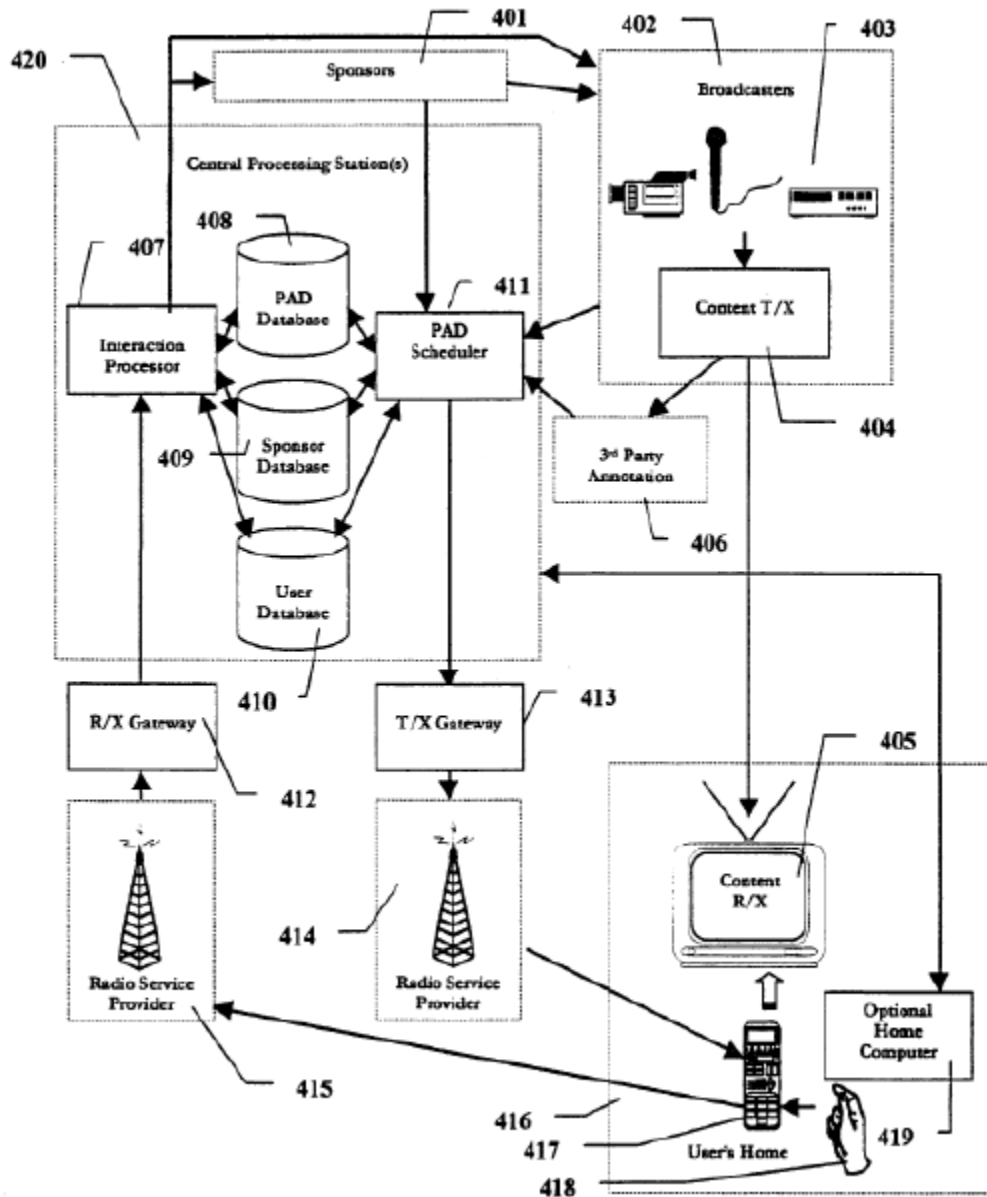


Figure 3 of Ferris above illustrates its system

Broadcasters 402 generate and send video content to central processing station 420 and user home 416. *Id.* at 10–11. Central processing station 420

receives the broadcast signal as it is sent and compares it to stored samples to determine whether any portions of the broadcast match any stored samples.

Id. The comparison may be performed using sliding-window, square-of-difference techniques. *Id.* at 11–12. The home user’s receiving device 417, or remote control device, has a display that provides the aforementioned information. *Id.* at Abs. When there is a match, the central processing station sends a Programme Associated Data Unique Identifier (“PADUID”) to the device, where the user may obtain additional information, track a product, or make a purchase, related to the viewed television program, by actuating a button on the device. *Id.* at 13, 23–24, Figs. 2A, 4.

Petitioner acknowledges that Ferris does not explicitly disclose a hardware implementation of the broadcaster 402, but argues that it would have been obvious to add a computer to the system of Ferris, per Lambert. Pet. 31–32. Petitioner asserts that the use of a computer in the broadcaster unit would have been well-known and would have allowed for bidirectional communication. *Id.* Petitioner cites Lambert for its disclosure of a broadcaster, i.e., cable television system, having a minicomputer that provides switching control signals to selectively couple video programs for sending to television transmitters. Ex. 1007, 2:34–49, Fig. 1. Petitioner continues that it would have been a mere matter of design choice to implement the broadcaster of Ferris with a computer, per Lambert, and that the combination would have been a simple substitution of known elements to obtain predictable results. Pet. 32.

Petitioner also argues that it would have been obvious to employ a non-exhaustive, near neighbor search, instead of Ferris’s “sliding window,” in view of Gionis. *Id.* at 32–35. Petitioner points out that Ferris teaches the use

of a matching engine in its comparison process that employs a “commonly known algorithm (such as a sliding-window, averaged, square-of-difference system with an activation threshold)” to match samples with broadcasted programs. Pet. 32–33 (citing Ex. 1006, 12). Petitioner also points out that Gionis discloses a method for approximate similarity searching in high-dimensional data such as image and video databases, pattern recognition, and other data having a large number of relevant features, where the resulting algorithm is non-exhaustive. Pet. 33 (citing Ex. 1008, 518–519). Petitioner argues that it would have been a matter of design choice and the substitution of known elements to implement Gionis’s non-exhaustive, near neighbor search in the comparison process used by Ferris. Pet. 34.

We are persuaded that Petitioner has shown that it is more likely than not that the combination would have been obvious, per the analysis and claim charts provided in the Petition, in view of the testimony of Dr. Pierre Moulin (Ex. 1003). As discussed above, Patent Owner argues that the combination of references fails to teach or suggest all of the elements of the claims, and that the motivation to combine the references is insufficient. Prelim. Resp. 30-51. We address the points raised by Patent Owner in turn below.

Patent Owner argues that the combination of Ferris, Lambert, and Gionis fails to teach or suggest elements of independent claims 1 and 18, namely “providing, from the computer system to a user electronic device, the first electronic media work and the associated tag,” from claim 1, with claim 18 having a similar recitation. Prelim. Resp. 34. Patent Owner continues that the claims require that both the “media work” and the “tag” be provided from the computer system to a single device. *Id.* However, Ferris, relied upon by Petitioner for this element, only provides the “tag” to the user electronic

device (element 417), but provides the “media work” to another device, namely the content receiver (element 405). *Id.* at 35–37. Based on this, Patent Owner argues that Ferris, and thus the combination of references, does not teach or suggest the cited element of claims 1 and 18.

The Petition cites, with respect to this element, Ferris as teaching the receipt of both the tag and the media by the remote control device. Pet. 40–41. The cited section of Ferris details:

The apparatus, for example a remote control can determine whether a channel is selected on a broadcast receiver. In the case of a remote control this can be by way of selection by a user. A confirmation of the correct channel can be obtained by *receiving a signal from the broadcast receiver, for example using a microphone and comparing the signal with a predetermined signal or a signal received at this apparatus.*

Ex. 1006, 6 (emphasis added). Based on this disclosure, the remote control device receives both the tag, i.e., PADUID, and the media work, i.e, the broadcast signal received and transmitted to a microphone in the remote control device.

Patent Owner acknowledges this disclosure, but argues that it is insufficient to meet the claims. Patent Owner argues that broadcasters in Ferris do not transmit a signal to the remote control, but rather the remote control receives a signal from the broadcast receiver instead. Prelim. Resp. 39. The independent claims do not recite, however, that the computer system transmits both the media work and tag directly to the user electronic device. Given the “comprising” language utilized by claims 1 and 18, those claims should also cover the indirect provision of the signals, as well as the direct provision.

Patent Owner also argues that the “signal” received by the remote control in Ferris is not the claimed “media work” because the transmitted signal includes both live and taped video, whereas the signal received by the remote control is merely audio, via a microphone. *Id.* at 39–41. Patent Owner continues that what Petitioner asserts to be the equivalent media work, with video, is not the same media work received. *Id.* We do not agree. Ferris specifically recites that “[b]roadcasters 402 generate content from a number of sources 403, *depending on the broadcast medium in use.*” Ex. 1006, 10 (emphasis added). Ferris goes on to talk about a television broadcaster, as an example, but does not limit its disclosure to broadcast media requiring video, and includes a discussion of “terrestrial radio-frequency broadcast.” *Id.* at 11. As such, we are persuaded that Ferris is applicable to audio-only embodiments, where the transmitted signal would be nearly identical to the signal received by the remote control device in Ferris.

Also, we are not persuaded that the claims require the entirety of the media work must be received or that the media work cannot be partially transformed. In many cases, the substantial portion of the media work may be audio only, such as with a musical broadcast on television, where the receipt of a less than complete work would be acceptable. As such, we do not find Patent Owner’s arguments with respect to the cited elements of claims 1 and 18 to be persuasive.

Patent Owner also argues that independent claims 1 and 18 require that the electronic media work is “receiv[ed] by a computer system,” which is not disclosed by Ferris. Prelim. Resp. 41. Patent Owner continues that because Petitioner asserts that both the central processing station and the broadcasters constitute the claimed “computer system,” and because broadcasters 402

broadcast a transmission signal and central processing station 420 receives the transmission signal, the internal movement of the media work within the computer system cannot be equivalent to the cited claim limitation. *Id.* at 41–44. We do not agree.

Ferris discloses that “[c]ommercial broadcaster will also have programmes and segments (such as infomercials and commercials) provided by sponsors 401, for insertion.” Ex. 1006, 10–11. Such programs and segments could clearly constitute “electronic media works,” which are provided to the broadcasters and subsequently broadcast and received by the remote control device. In addition, it would have been obvious to one of ordinary skill in the art in the relevant time frame that all content would not need to be limited to the direct purview of the broadcaster, where media can originate at locations other than the broadcaster, and are received thereby for broadcast. As such, we do not find Patent Owner’s arguments with respect to the cited elements of claims 1 and 18 to be persuasive.

Lastly, Patent Owner argues that the motivation to combine the references, Ferris, Lambert, and Gionis, supplied by Petitioner is insufficient. Prelim. Resp. 44–51. Specifically, Patent Owner argues that Petitioner’s proffered motivations to “replace the matching engine disclosed in Ferris—a ‘sliding-window’ algorithm—with the ‘non-exhaustive, near neighbor search’ of Gionis fails.” *Id.* at 45. Patent Owner continues that Petitioner’s assertions that the non-exhaustive, near neighbor search was well-known in the art are conclusory, and contradicted by its expert, and that Petitioner’s rationale that the combination of Ferris and Gionis would create a more powerful and faster-operating system is also conclusory, and would create an overall slower system. *Id.* at 45–49. Additionally, Patent Owner asserts that Petitioner’s

third motivation, namely “would provide a robust and more efficient system of matching broadcast media with stored media,” (Pet. 33), is not necessarily conclusory, but does not address actual aspects of the processes or compare the speed or robustness of the processes. *Id.* at 50-51. We do not agree.

Patent Owner does not contest that Ferris and Gionis are prior art references, such that the searching processes disclosed in each would certainly be understood to be known. We do not find Petitioner to allege that the processes in Gionis were “well-known,” but rather “it would have been obvious to implement the *comparison* using a *search*, because doing so was well[-]known in the art.” Pet. 33 (emphases added). Petitioner also provides that “*Ferris* and *Gionis* both relate to determining matches between a particular piece of media, like video data, and stored samples of possible matches,” which is sufficient to suggest the combination. Pet. 34 (citation omitted). The degree of analysis that is needed in determining obviousness is necessarily fact specific. *See In re Brouwer*, 77 F.3d 422, 425 (Fed. Cir. 1996) (the inquiry as to whether a claimed invention would have been obvious is “highly fact-specific by design”). The obligation of Petitioner is not to provide experimental evidence that the search processes of Gionis could be incorporated into Ferris, only that the results found in Gionis may prove to be beneficial to the processes in Ferris. Petitioner has detailed the speed benefits disclosed by Gionis (Pet. 33–34), and that is sufficient rationale to try the non-exhaustive, near neighbor search, of Gionis, instead of Ferris’s “sliding window.” As such, we do not find Patent Owner’s arguments with respect to proffered motivation to combine Ferris, Lambert, and Gionis to be persuasive.

On this record, we are persuaded that claims 1–11, 13–15, 18–28, and 30–32 are more likely than not rendered obvious under 35 U.S.C. § 103 by Ferris, Lambert, and Gionis.

*E. Obviousness over Ferris, Lambert, Gionis, and Philyaw
Obviousness over Ferris, Lambert, Gionis, and Goldstein
Claims 12, 16, 17, 29, 33, and 34*

As discussed above, we are persuaded that Ferris, Lambert, and Gionis more likely than not render independent claims 1 and 18 obvious. Claims 16 and 33 recite that “the machine-readable instructions comprise a hyperlink to a URL.” With respect to those claims, Petitioner argues that it would have been obvious to one of ordinary skill in the art to modify the instructions of Ferris to comprise a hyperlink, because such instructions were well-known and would have enabled a more robust system by which users could receive information through web pages, citing Philyaw as an example of such instructions. Pet. 58.

We are persuaded that Petitioner has shown that it is more likely than not that the combination would have been obvious. Philyaw relates to a system for linking analog signals to advertiser URLs. Ex. 1009, Abs. Therein, a trigger signal and advertiser product information are extracted from an audio signal and used to create a URL corresponding to the advertiser server. *Id.* at 9:1–17; Fig. 3. Philyaw discloses that companies can use its system to provide users with the ability to easily respond to multiple companies. *Id.* at 2:2–10. We are persuaded that Petitioner has shown that it is more likely than not that it would have been obvious to modify the combination of Ferris, Lambert, and Gionis, per Philyaw, because the

combination would be a predictable combination of prior art elements according to known methods. Pet. 59.

Claims 12 and 29 recite “electrically providing at least one of a coupon or a certificate related to the advertisement.” Petitioner acknowledges that Ferris may not teach this aspect and cites Goldstein, arguing that such actions were well-known and would have allowed viewers to receive discounts to induce viewers to purchase items. Pet. 60.

We are persuaded that Petitioner has shown that it is more likely than not that the combination would have been obvious. The system disclosed in Goldstein includes a remote control device that detects advertisements by reading data signals embedded in audio or video portions of a broadcast signal, and displays those advertisements to the user, where those advertisements may contain particular discounts. Ex. 1010, 2:5–14, 4:14–26, 44–54, Fig. 8. We are persuaded that Petitioner has shown that it is more likely than not that it would have been obvious to modify the combination of Ferris, Lambert, and Gionis, per Goldstein, because providing a discount using a coupon gives users another motivation to make a purchase. Pet. 61.

Claims 17 and 34 further recite that the “machine-readable instructions comprise instructions to dial a telephone.” Petitioner acknowledges that Ferris may not teach this aspect and cites Goldstein, arguing that sending instructions to dial a telephone number would have been a predictable use of the system to assist users in making a purchase. Pet. 61–62. The remote control device of Goldstein, discussed above, enables the user to initiate a command to dial a phone number in the advertisement. Ex. 1010, 4:14–26. We are persuaded that Petitioner has shown that it is more likely than not that it would have been obvious to modify the combination of Ferris, Lambert, and

Gionis, per Goldstein, to allow for the dialing of a telephone number because such a result would be predictable and could contribute to an increase in sales by the viewer. Pet. 63.

We note that Patent Owner does not raise any issues with respect to these latter obviousness grounds in its Preliminary Response. On this record, we are persuaded that claims 16 and 33 are more likely than not unpatentable under 35 U.S.C. § 103 over Ferris, Lambert, Gionis, and Philyaw, and that claims 12, 17, 29, and 34 are more likely than not unpatentable under 35 U.S.C. § 103 over Ferris, Lambert, Gionis, and Goldstein.

*F. Indefiniteness under 35 U.S.C. § 112, 2nd Paragraph
Lack of Written Description under 35 U.S.C. § 112, 1st Paragraph
Claims 1–34*

Petitioner alleges that claims 1–34 of the '464 Patent are both indefinite, under 35 U.S.C. § 112, 2nd paragraph, and lack proper written description, under 35 U.S.C. § 112, 1st paragraph. Pet. 63–76. We address both grounds together because they relate to the same claim limitations, namely “the associated tag.” Petitioner alleges that although the Specification of the '464 Patent defines the verb “tagging,” it fails to define the noun “tag,” such that the definition of the verb results in three possibilities for the claim term “tag.” *Id.* at 64–67. Petitioner continues that “nothing in the prosecution history removes the ambiguity associated with the claimed ‘tag,’” and the plain meaning is a reference to a “watermark,” which is not supported by the Specification. *Id.* at 67–69. Based on those multiple meanings, Petitioner asserts that claims 1–34 are indefinite, as well as lacking written description, because none of those multiple meanings finds support in the Specification. *Id.* at 69–76.

Patent Owner disagrees and argues that Petitioner has applied incorrect legal standards, made arguments based on faulty premises, and has not accurately presented the claimed steps. Prelim. Resp. 1–2. More specifically, Patent Owner argues that “[t]he proper approach to analyzing whether a word such as ‘tag’ . . . is indefinite is to analyze whether the term ‘inform[s] those skilled in the art about the scope of the invention with reasonable certainty.’” *Id.* at 52 (citing *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2129 (2014)). Patent Owner continues that Petitioner does not employ such an analysis and instead attempts to identify possible examples of “tags” and demonstrates that each lacks written description support. We agree with Patent Owner.

As Patent Owner argues, “Petitioner ‘points to no evidence showing that skilled artisans would find the element [‘tag’] as lacking reasonable certainty in its scope’ or that the phrase ‘providing, from the computer system to a user electronic device the first electronic media work and the associated tag’ is indefinite.” *Id.* at 54–55 (citing *Apple Inc. v. Samsung Elec. Co.*, 786 F.3d 983, 1003(Fed. Cir. 2015)). We also agree that the term “tag” has an ordinary meaning that is confirmed by the Specification, and would not be found to be indefinite. *Id.* at 54–59. The fact that the term “tag” may broad in meaning does not necessarily imply that it is indefinite.

Similarly, we agree that with Patent Owner that the claim term “tag” also has adequate written description support. *Id.* at 59–65. The examples of “tags” disclosed in the specification, including the “extra-work information” identified by the Patent Owner (*id.* at 61), are consistent with the ordinary meaning of the term and are not limited to the examples identified by Petitioner. We are persuaded that the Specification of the ’464 Patent, as

filed, adequately provides proper written description for the claim term “tag.”

G. Conclusion

The Petition demonstrates that it is more likely than not that challenged claims are unpatentable on the following grounds:

Ground	Prior Art	Challenged Claims
§ 103	Ferris, Lambert, and Gionis	1–11, 13–15, 18–28, and 30–32
§ 103	Ferris, Lambert, Gionis, and Philyaw	16 and 33
§ 103	Ferris, Lambert, Gionis, and Goldstein	12, 17, 29, and 34

The Board has not yet made a final determination as to the patentability of any claim.

III. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that pursuant to 35 U.S.C. § 324(a), a covered business method patent review is hereby instituted as to claims 1–34 of the ’464 Patent as indicated above.

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; the trial commencing on the entry date of this Order.

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