

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

HOME DEPOT U.S.A., INC.,
Petitioner

v.

SECURITY TECHNOLOGY, LLC,
Patent Owner

Case IPR2024-01420
U.S. Patent No. 11,562,402

**PATENT OWNER PRELIMINARY RESPONSE
UNDER 37 C.F.R. § 42.107(a)**

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U.S. Patent and Trademark Office
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PATENT OWNER’S EXHIBIT LIST

Exhibit No.	Description
2001	Docket Control Order, <i>RavenWhite Licensing LLC v. The Home Depot, Inc.</i> , Case No. 2:24-cv-00688 (E.D. Tex.)
2002	Complaint, <i>RavenWhite Licensing LLC v. The Home Depot, Inc.</i> , Case No. 2:23-cv-00423 (E.D. Tex.)
2003	Microsoft Computer Dictionary Fifth Edition (2002)
2004	“A Dictionary of Computing,” Sixth Edition, Oxford University Press (2008)

I. INTRODUCTION

U.S. Patent No. 11,562,402 (“the ’402 patent”) provides novel techniques for tiered advertisement bidding based on user account and context information.

EX1001, Abstract, 4:23-5:13. The ’402 patent addressed “inefficiencies” in prior approaches, for example, those in which advertisements were selected “based on which advertiser is willing to pay the most money.” *Id.*, 1:21-29, 3:2-7. The techniques disclosed and claimed in the ’402 patent increased the efficacy of selected advertisements based on determined “quality metrics associated with a user profile.” *Id.*, Abstract.

Here, Petitioner presents two obviousness grounds challenging independent claims 1, 10, and 19 of the ’402 patent: one based on Grannan (EX1007), Chung (EX1005), and Yang (EX1006); and one based on Grannan, Chung, and Ramaiyer (EX1009). Petitioner fails to establish that these grounds render obvious the features of independent claims 1, 10, and 19, and both grounds fail for the same reasons.

First, Petitioner does not establish that the cited art teaches that “*the determining of the first quality level is based at least in part on a unique identifier.*” Petitioner relies on Grannan’s user profile for purported disclosure of “*a unique identifier,*” but the claims and patent specification differentiate “*a unique identifier*” from “*a user profile.*” Second, the claims recite three

“*search[es]*” or three “*purchase[s]*.” Petitioner fails to identify these elements in the cited art. Petitioner, in fact, does not even assert that the cited art provides “*a third search*,” as required by the claims. Finally, Petitioner does not identify a “*first search*” or “*purchase*” used to determine “*a first quality level*,” and a “*second search*” or “*purchase*” used to determine “*an indication of interest in a first category*.” Petitioner improperly relies on the same disclosures in the art to meet the claimed “*first*” and “*second*” searches or purchases, failing to map those disclosures to the claimed elements.

Aside from the merits, the Board should discretionarily deny the Petition in view of the parallel district-court litigation. The parties have already invested significant effort and resources into the parallel litigation, Petitioner asserts the same art in the parallel litigation as it does here, and Petitioner has not filed any stipulation to reduce duplicative efforts across tribunals. As trial is set to begin less than one month following a Final Written Decision here, institution of this proceeding would lead to duplication of work and increased costs for both parties.

Accordingly, the Board should deny institution of this proceeding.

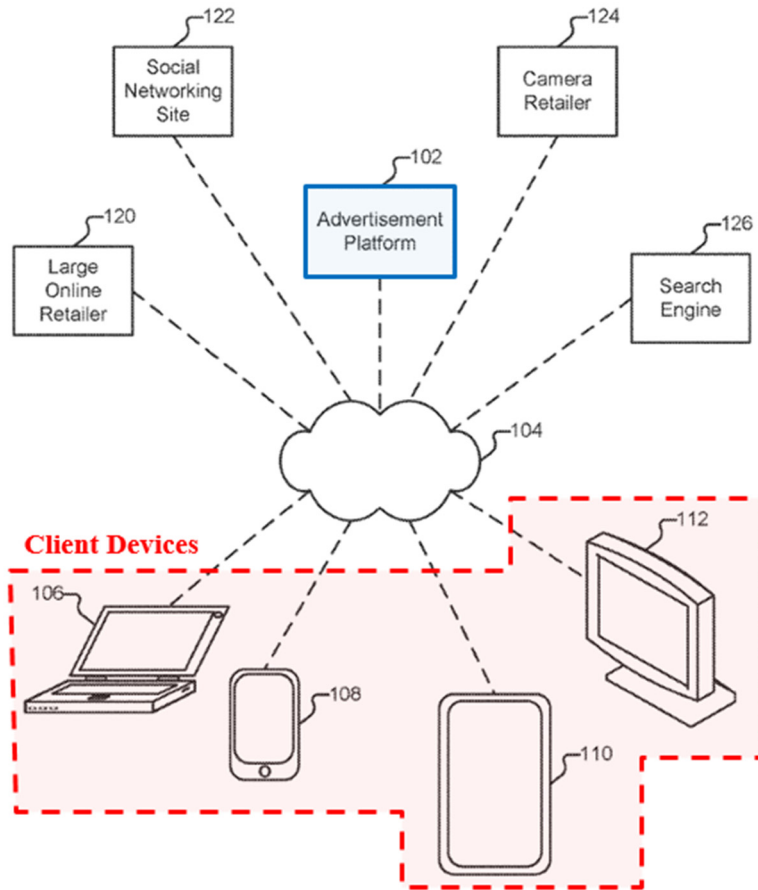
II. THE '402 PATENT

A. The '402 patent provides novel techniques for tiered advertisement bidding based on user account and context information.

The '402 patent is generally directed to “[t]iered advertisement bidding” in which “[a]n advertisement bid is selected from a plurality of tiered bids” based on

“quality metrics associated with a user profile.” EX1001, Abstract. The patent explains that “[e]xisting approaches to online advertising typically involve pricing schemes in which multiple advertisers specify an amount of money they are willing to pay per impression (or per click or per other action), and in which an advertisement is selected for display to a user based on which advertiser is willing to pay the most money.” *Id.*, 1:21-26. “[T]here are inefficiencies in this approach,” however, as they don’t properly assess “the quality of the user to whom the advertisement will be shown.” *Id.*, 1:26-29, 3:2-7.

Figure 1 of the ’402 patent “illustrates an embodiment of an environment in which advertisements are served.” EX1001, 2:20-21, FIG. 1.



EX1001, FIG. 1 (annotated).

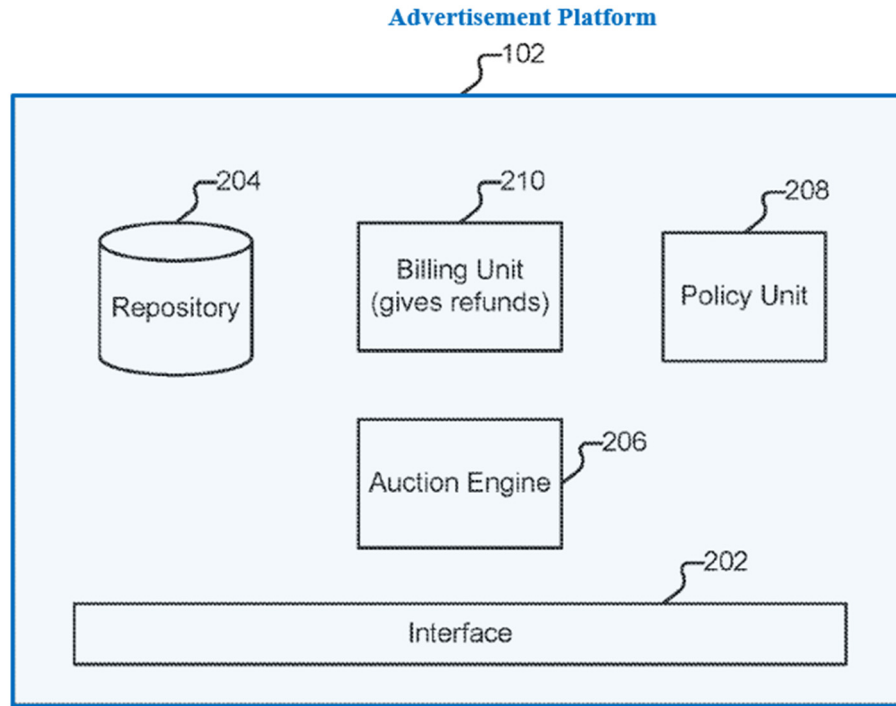
In the embodiment shown in Figure 1, “client devices 106-112 connect, via one or more networks (represented as a single network cloud 104), to services 120-126 (also referred to herein as ‘sites’) provided by providers.” EX1001, 2:21-25.

“Also included in FIG. 1 is advertisement platform 102, which is configured to facilitate the display of advertisements on client devices 106-112.” *Id.*, 2:38-41.

“For example, retailers 120 and 124 can use platform 102 to bid on the placement of advertisements on pages served by search engine site 126 or social networking site 122.” *Id.*, 2:41-44.

The '402 patent describes that “entities such as retailer 120 and 124 can use platform 102 to engage in tiered bidding for advertisements (e.g., based on bands of an assessed measure of the quality of the user to whom the advertisement will be shown, if selected).” EX1001, 3:2-7. “For example, an advertiser can specify that it is willing to pay \$0.40 for an advertisement to be shown to a user having a particular assessed value (e.g., a quality score of 70 or better) but is only willing to pay \$0.10 if the value is below that.” *Id.*, 3:7-11.

As illustrated in Figure 2, “[a]n auction engine 206 runs advertisement auctions in accordance with policies supplied by policy unit 208 and assessments of user profile information (e.g., one or more user profiles associated with Alice and Bob) stored in repository 204.” EX1001, 3:26-30. “[A]dvertisement platform 102 supports a tiered billing structure in which an assessed quality (e.g., a conversion assessment of a user profile) is taken into consideration when determining the cost of displaying an advertisement (or for receiving a click or other interaction).” *Id.*, 3:56-61.



EX1001, FIG. 2 (annotated).

Users are identified based on “unique identifiers,” such as “cookies” or a “UDID” (Unique Device Identifier). EX1001, 3:32-35, 15:63-65. Quality assessments for the user may then consider a number of factors, including “user account information,” “user context information,” and “general context information.” *Id.*, 4:23-5:13. User account information may include, for example, “user-provided information (e.g., demographic information supplied directly by the user); observed behavior (e.g., observed by platform 102); and reported behavior (e.g., purchases observed by a third-party provider, such as site 120 and provided to platform 102).” *Id.*, 4:26-37. User context information may include, for example, “recent searches, mouse-over and click behavior, and information of

recent pages requested by the user.” *Id.*, 4:38-59. And general context information may include, for example, “user context information of other users, such as the activities of other users with whom the user has a connection,” and “temporal information, such as estimates of how likely the desired behavior is at the current time of the day, the day of the week, or the day of the month.” *Id.*, 4:60-5:13.

In addition to considering the above-mentioned information, advertising platform 102 may be “configured to determine when a need has been met.” EX1001, 5:15-16. For example, “[s]uppose a user is interested in buying a camera and performs searches for terms such as ‘buy camera’ and ‘camera review’ with search engine 126,” and “at some point in the future, platform 102 receives an indication that the same user is interested in buying a lens cap for a camera or a photo album.” *Id.*, 5:15-33. Advertising platform 102 may use this information to determine “it is likely that the user purchased a camera, and thus the user’s ‘need’ for a camera was met.” *Id.*, 5:33-36. A “conversion assessment” may be determined “based at least in part on the determination of whether the need has been met,” which may result in a determination that selecting a different or related “category of advertisement . . . would likely result in higher profit.” *Id.*, 5:41-50, 6:9-12.

Independent claims 1, 10, and 19 of the ’402 patent recite a particular hierarchy of determinations used to select an advertisement for a user. For

example, claim 1 recites determinations of “*a first quality level associated with a user profile,*” “*an estimate of a likelihood of an event,*” “*an indication of interest in a first category,*” “*a need relative to the first category ha[ving] been met,*” “*an indication of interest in a second category,*” “*a second quality level associated with the user,*” and “*a conversion assessment associated with the user profile.*”

EX1001, 17:54-18:29 (Claim 1). These determinations are dependent on one another and further based on either “*a first,*” “*second,*” and “*third purchase associated with [a] user profile,*” or, alternatively, “*a first,*” “*second,*” and “*third search associated with [a] user profile.*” *Id.* As described in detail below, Petitioner fails to establish that the prior art teaches at least these elements in independent claims 1, 10, and 19.

B. Level of Ordinary Skill in the Art

For purposes of this Preliminary Response, Patent Owner applies Petitioner’s definition of a person of ordinary skill in the art (“POSITA”). Pet., 5. Patent Owner, however, does not waive its right to present a different definition at a later stage.

C. Claim Construction

All claim terms must be given their ordinary and customary meaning as understood by a POSITA at the time of the invention in light of the specification and the patent’s prosecution history. 37 C.F.R. § 42.100(b); *Phillips v. AWH Corp.*,

415 F.3d 1303, 1312-1313 (Fed. Cir. 2005) (en banc). At this preliminary stage, no term needs explicit construction to resolve any controversy between the parties.

See Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc., 200 F.3d 795, 803 (Fed. Cir. 1999).

III. OVERVIEW OF THE CITED ART

A. Grannan

Grannan (EX1007) “relates generally to providing selected advertising to send to a recipient.” EX1007, ¶2. As illustrated in Figure 1, Grannan describes “an Advertising Knowledge Management System (AKMS) acting as an intermediary between a subscriber with various access devices, advertisers and content and service providers.” *Id.*, ¶7.

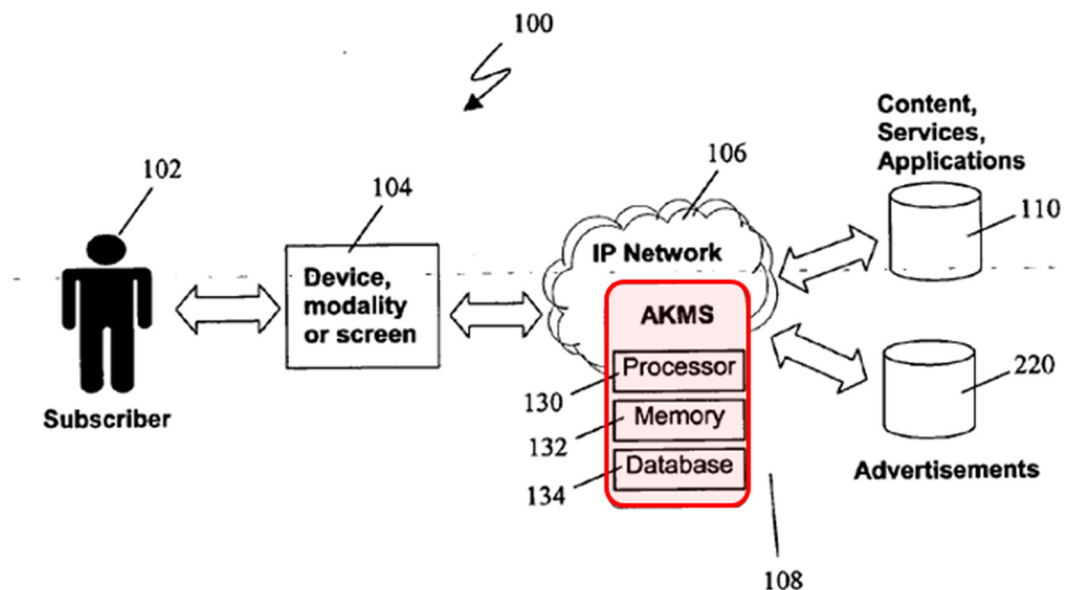


Figure 1

EX1007, FIG. 1 (annotated).

Grannan describes that “the AKMS 108 monitors and compiles a subscriber's event data including but not limited to current session and the device characteristics of the access device 104 being used to access IP-based services over an IP network 106, along with previous usage history to assist service providers and advertisers in evaluating the potential appeal of their services and advertisements to the particular subscriber.” EX1007, ¶61. To “evaluat[e] the potential appeal of their services and advertisements to the particular subscriber,” Grannan’s system “calculates a product interest correlation score,” referred to as a “PIC” score by Petitioner, Pet., 6, “and recommends and/or selects an advertisement, access device and advertisement modality to be used to send a selected advertisement to a selected subscriber access device based on the subscriber’s current usage scenario.” EX1007, ¶¶61-62. “For example, in an illustrative embodiment a product interest correlation score may range from 1 to 100.” *Id.*, ¶63.

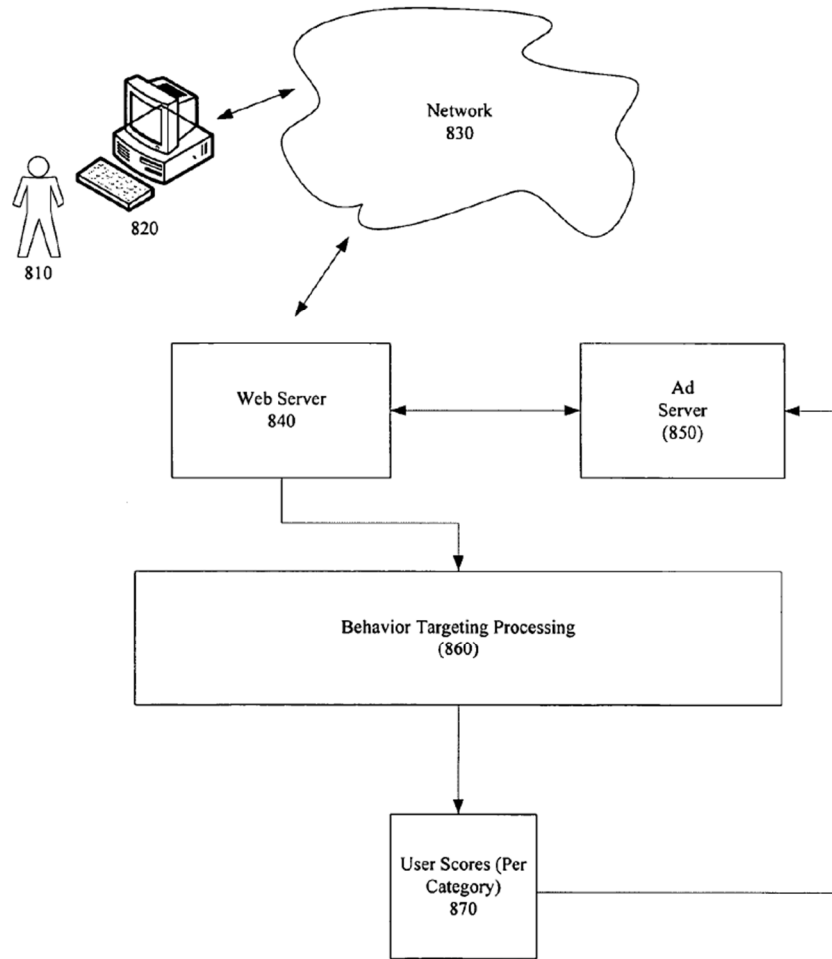
Grannan also describes “product interest correlation ‘contribution’ score[s]” that “can be added to the subscriber’s current product interest correlation score.” EX1007, ¶¶83, 100. For example, when a subscriber “surfs” to a particular URL associated with “a particular car model,” a “contribution” score can be added to the user’s “product interest correlation score for this particular category” of products. *Id.*, ¶83.

Grannan further describes that “[u]ser profiles may also include proactive product interest input [] provided by a subscriber.” EX1007, ¶73. But, while Grannan describes the use of “user profile[s],” each user profile is not unique to a user. *Id.* For example, a user profile may be associated with a family, rather than an individual user, including information such as “family size” and “subscriber user identifiers for family members.” *Id.*; *see also id.*, ¶91 (describing “a family of subscribers”).

B. Chung

Chung (EX1005) is directed to “[a] behavioral targeting system [that] determines user profiles from online activity.” EX1005, Abstract. “Event information, which comprises on-line activity of the user, is received at an entity.” *Id.* “The behavioral targeting system generates a user profile score for a target objective, such as brand advertising or direct response advertising.” *Id.*

Figure 8 of Chung illustrates “one embodiment for serving advertisements using a behavioral targeting system.” EX1005, 11:9-10.



EX1005, FIG. 8.

In “this example embodiment, the example infrastructure includes network 830, web server 840, advertisement (ad) server 850 as well as computer 820 for user 810.” EX1005, 11:11-13. Chung describes that “[t]he web server (840) receives information based on user behavior, such as events,” and “[t]he user behavioral information is input to behavioral targeting processing (860).” *Id.*, 11:13-16. Chung describes, “[i]n one embodiment, events include advertisement clicks, search queries, search clicks, sponsored listing clicks, page views, and

advertisement views.” *Id.*, 6:38-40. “[B]ehavioral targeting processing 860 generates raw user scores (870), on a category-by-category basis, using the user behavioral information,” and “[t]he user scores are input to the ad server (850), which in turn serves advertisements to web server 840.” *Id.*, 11:16-20; *see also id.*, 5:50-53 (Chung’s “mapping module maps raw user scores to one or more output metrics. For example, one output metrics may determine the propensity for a user to click on an advertisement classified in the category.”). “As a result, customize[d] ads are served to user 810 on computer 820.” *Id.*, 11:21-22.

C. Yang and Ramaiyer

The Petition relies on Yang (Ground 1) and Ramaiyer (Ground 2) in the alternative for alleged disclosure of “*clustering*,” as recited in independent claims 1, 10, and 19. *See* Pet., 21-24, 62-63 (“Ground II is based on the exact same grounds as Ground I above, except with respect to limitation 1[c], 10[d], and 19[c], Petitioner relies here on Ramaiyer for the disclosure of ‘clustering,’ instead of Yang”). Petitioner does not allege that Yang or Ramaiyer teach any other features

of the independent claims, and therefore these references cannot fill the gaps of Grannan and Chung, as detailed in the arguments below.¹

IV. PETITIONER FAILS TO DEMONSTRATE A REASONABLE LIKELIHOOD OF PREVAILING ON ANY CHALLENGED CLAIM.

Petitioner presents two grounds challenging the same claims, each ground relying on Grannan and Chung. Pet., 1. Ground 2 is identical to Ground 1 except that it relies “on Ramaiyer for the disclosure of ‘clustering,’ instead of Yang” for independent claim elements [1c], [10d], and [19c]. *Id.*, 1, 62. Petitioner relies on Grannan and Chung for elements [1a]-[1b], [1d]-[1e], and [1i] and Grannan alone for elements [1f]-[1h], [1j], and the corresponding elements of the other independent claims.

Both grounds fail for the same reasons because Grannan and Chung do not disclose or suggest key aspects of independent claims 1, 10, and 19. First, neither Grannan nor Chung teaches that “*the determining of the first quality level is based at least in part on a unique identifier,*” as recited in elements [1c], [10d], and [19c]. Second, Petitioner does not identify three “*search[es]*” or three “*purchase[s]*,” as recited in elements [1b], [1d], [1f], [10c], [10e], [10g], [19b], [19d], and [19f].

¹ Although Patent Owner does not challenge Petitioner’s mapping of Yang and Ramaiyer to the claimed “*clustering*” in this Preliminary Response, Patent Owner does not concede that Yang or Ramaiyer teaches this element.

Third, Petitioner does not identify a “*first search*” or “*purchase*” used to determine “*a first quality level*,” and a “*second search*” or “*purchase*” used to determine “*an indication of interest in a first category*,” as recited in elements [1b], [1d], [10c], [10e], [19b], and [19d]. Petitioner, therefore, does not establish a reasonable likelihood that any challenged claim is rendered obvious by the asserted combinations of Grannan, Chung, Yang, and Ramaiyer. For at least these reasons, the Board should deny institution.

For ease of reference, Patent Owner addresses the elements of independent claim 1 in the arguments below. The arguments apply equally to the corresponding elements of independent claims 10 and 19.

A. Petitioner fails to establish that Grannan teaches element [1c] (“wherein the determining of the first quality level is based at least in part on a unique identifier and clustering”).

Independent claim 1 recites, “*wherein the determining of the first quality level is based at least in part on a unique identifier and clustering*.” EX1001, 18:59-61. Petitioner fails to establish that the determination “*of the first quality level is based at least in part on a unique identifier*.” *Id.* (emphasis added).

Petitioner relies solely on Grannan for this element, asserting that Grannan’s disclosure of a “user profile” satisfies the claimed “*unique identifier*.” Pet., 19-21 (“Grannan discloses that *determining of the first quality level* (PIC score) is *based at least in part on a unique identifier* (unique user profile data, demographics and

past behavior/settings),” and “Grannan teaches that the [PIC] score associated with **each subscriber’s user profile (*unique identifier*)** is weighted based on the contents of the user profile”; “As the quality score must be weighed and scored based on **the user profile (*unique identifier*)**. . .”) (italics in original, bolding added). Petitioner’s mapping of Grannan’s “user profile” to the claimed “*unique identifier*” runs counter to both the intrinsic and extrinsic evidence. The ’402 patent claims, specification, and technical dictionary definitions all indicate that Grannan’s user profile, which is a collection of various data, is not an “*identifier*” as claimed.

1. The claims recite and expressly differentiate between a “*user profile*” and a “*unique identifier*.” See EX1001, 17:54-18:29 (Claim 1—reciting “*determining a first quality level associated with **a user profile**, . . . wherein the determining of the first quality level is based at least in part on **a unique identifier and clustering***”) (emphasis added). The language itself thus indicates that a “*user profile*” is not a “*unique identifier*.” *Becton, Dickinson & Co. v. Tyco Healthcare Grp., LP*, 616 F.3d 1249, 1254 (Fed. Cir. 2010) (“In the absence of any evidence to the contrary, we must presume that the use of . . . different terms in the claims connotes different meanings.”) (citing *CAE Screenplates, Inc. v. Heinrich Fiedler GmbH & Co.*, 224 F.3d 1308, 1317 (Fed. Cir. 2000)).

Significantly, neither Petitioner nor its expert address any distinction between the two terms in their analyses. Pet., 19-21; EX1003, ¶¶92-94. Indeed, Petitioner’s expert, Mr. Sherwood, merely repeats the Petition verbatim with no further analysis, adding no weight to the obviousness inquiry. *Compare* Pet., 19-21, with EX1003, ¶¶92-94; *Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9 at 15 (P.T.A.B. Aug. 24, 2022) (holding that testimony that “merely repeats, *verbatim*, the conclusory assertion for which it is offered to support . . . is entitled to little weight.”); *TQ Delta, LLC v. Cisco Systems, Inc.*, 942 F.3d 1352, 1359 (Fed. Cir. 2019) (“This court’s opinions have repeatedly recognized that conclusory expert testimony is inadequate to support an obviousness determination . . .”).

2. This distinction between an identifier and a user profile is further supported by the ’402 patent specification. The ’402 patent specification provides examples of “*unique identifier[s]*” and expressly differentiates those from profiles. For instance, the ’402 patent describes “cookies” and “a UDID” (Unique Device Identifier) as examples of “unique identifiers.” EX1001, 3:32-35, 15:63-65. In contrast, the ’402 patent describes “user profile information” that may include information such as “user-provided information (e.g., demographic information supplied directly by the user); observed behavior (e.g., observed by platform 102); and reported behavior (e.g., purchases observed by a third-party provider,” as well

as “recent searches, mouse-over and click behavior, and information of recent pages requested by the user.” EX1001, 3:26-30, 4:26-32, 4:38-43. The specification thus differentiates between an identifier used to *identify* a user, and a user profile that contains various information *about* a user.

The user profile information described in the ’402 patent is similar to the “[u]ser profile data” that Petitioner points to in Grannan. For example, as Petitioner notes, Grannan’s user profile incorporates many elements, such as “ages, family size, ethnicity, language spoken, address, subscriber user identifiers for family members, etc.” Pet., 20; EX1007, ¶73. Grannan’s user profile, therefore, is different from an “*identifier*” as described in the ’402 patent.

3. Extrinsic evidence further supports the distinction between Grannan’s user profile and the claimed “*unique identifier*.” Particularly, a POSITA would have understood that Grannan’s user profile, which is a collection of various data, is different from an “*identifier*.” For example, the Microsoft Computer Dictionary explains that an “identifier” is “[a]ny text string used as a label, such as the name of a procedure or a variable in a program or the name attached to a hard disk or floppy disk.” EX2003, 264 (emphasis added); *see also* EX2004, 244 (defining “identifier” as “[a] string of characters used to identify (or *name) some element of a program”) (emphasis added). In contrast, a “user profile” is “[a] **computer-based record** maintained about an authorized user of a multiuser computer

system.” EX2003, 544 (emphasis added). Grannan’s user profile is not a text string, consistent with the ordinary meaning of an “*identifier*”—it is an organized record that includes various data about one or more users.

Accordingly, the ’402 patent claims, specification, and extrinsic evidence all support that Grannan’s user profile does not provide a “*unique identifier*,” as recited in claim 1. The Petition, therefore, fails to establish that Grannan, in combination with Chung, Yang, and/or Ramaiyer, renders obvious element [1c].

B. Petitioner fails to establish that Grannan and Chung teach three “search[es]” or three “purchase[s]” (elements [1b], [1d], and [1f]).

Independent claim 1 recites a hierarchy of determinations that depend on either “*a first search*,” “*a second search*,” and “*a third search*,” or, alternatively, “*a first purchase*,” “*a second purchase*,” and “*a third purchase*.” EX1001, 17:55-18:10 (Claim 1, elements [1b], [1d], and [1f]). Petitioner relies on Grannan and Chung to purportedly meet these elements of the claims, but Petitioner fails to establish that the cited references teach three searches or three purchases as recited and used in the independent claims.

1. The independent claims require three searches or three purchases to be made.

Independent claim 1 recites the following elements, among others:

[1b] *wherein the first quality level is determined based at least in part on at least one of: (1) a **first search** associated with the user profile or (2) a **first purchase** associated with the user profile,*

...

[1d] *wherein the indication of interest in the first category is determined based at least in part on at least one of: (1) **a second search** associated with the user profile or (2) **a second purchase** associated with the user profile;*

...

[1f] *subsequent to determining the indication of interest in the first category, determining, for the user, that a need relative to the first category has been met based at least in part on at least one of: (1) **a third search** associated with the user profile or (2) **a third purchase** associated with the user profile;*

EX1001, 17:55-18:10 (Claim 1, elements [1b], [1d], and [1f]) (emphasis added).

In elements [1b], [1d], and [1f] of claim 1, the independent claims require determinations of a “*first quality level*,” an “*indication of interest in the first category*,” and “*that a need relative to the first category has been met*,” and those determinations must be made based on either three separate “*search[es]*” or three separate “*purchase[s]*.” Because element [1f] requires either a “third search” or “third purchase,” claim 1 also requires either (1) a “first” and “second search” or (2) a “first” and “second purchase.” Put simply, there can be no “*third purchase*” without a “*first purchase*” and a “*second purchase*.” Thus, the claims’ plain

language requires identification and use of at least three searches or three purchases.

2. Petitioner fails to show that Grannan and Chung disclose or suggest either three searches or three purchases as claimed.

Petitioner concedes that neither Grannan nor Chung discloses the claimed “*third search*.” Pet., 30-32. Indeed, Petitioner relies solely on Grannan for element [1f], *id.*, and explicitly argues that this element may be “met by showing only the *third purchase*.” Pet., 32 n.4 (emphasis in original). Thus, even if Petitioner could show that Grannan or Chung discloses “a first search” and “a second search,” as recited in elements [1b] and [1d] (it does not, as discussed in subsequent sections), such showings would be insufficient to satisfy the claim language because Petitioner does not argue that either reference discloses “*a third search*.” Petitioner’s theories, therefore, require a showing that Grannan teaches three “*purchase[s]*,” and that those separate purchases form the bases of the determinations recited in the claims. Petitioner fails to meet that burden.

In particular, to meet the recited “*third purchase*,” Petitioner relies on an example scenario described in Grannan in which an individual named “Susan is planning to purchase children's books as a Christmas present for her nephews.” EX1007, ¶56; Pet., 30-32. Grannan describes that Susan “goes online to a retailer’s web site and browses through a number of titles but decides to hold off on a purchase,” but Grannan’s system uses “the web pages visited by Susan to

determine her intent for the URI visit and correlates this intent to an interest in certain product categories.” *Id.* “Later when Susan is walking through the local mall to finish her other shopping, she receives a targeted text advertisement on her cell phone from the AKMS for the local book store indicating a discount sale on children’s books,” and “Susan impulsively walks into the store and makes a purchase.” *Id.*, ¶57.

Based on this scenario, Petitioner asserts, “[a] POSITA would have known, or found it obvious, that Susan’s purchase on which this determination was made is a *third purchase associated with [her] user profile.*” Pet., 31 (emphasis in original). Yet, only one, single purchase is disclosed in Grannan’s scenario. EX1007, ¶¶56-57. Indeed, Grannan explains that Susan’s determination of “interest” in children’s books is based on “the web pages visited by Susan,” not any previous purchases (let alone a “*first*” and “*second*” previous purchase, as the claims require). *Id.*, ¶56.

Recognizing this deficiency in Grannan’s scenario, Petitioner alleges that “Grannan discloses that the AKMS has tracked Susan’s ‘historic . . . shopping behavior’ and that embodiments of the AKMS mine the user’s ‘purchase history’ to target ads.” Pet., 31 (citing EX1007, ¶¶57, 60); *see also* Pet., 17 (assuming, without citing support in Grannan, that Susan’s “‘historic . . . shopping behavior’ is referring to past purchases that Susan made in the children’s books category.”).

Such analysis is insufficient to establish obviousness of the challenged claims. Petitioner must show that Grannan’s system actually performs (or would perform) the recited claim elements based on three different “*purchase[s]*”—that Grannan’s system may be capable of performing these elements based on three purchases is not enough. *See Palo Alto Networks, Inc. v. BT Americas Inc.*, IPR2023-00888, Paper 9 (Decision Denying Institution) at 34 n.7 (P.T.A.B. Nov. 17, 2023) (for “method” claims and “those that recite configuration,” Petitioner must show that the prior art actually “performs the step[s]” of the claim—“Petitioner fails to point to a disclosure in [the cited art] showing that its identified probe performs the step of ‘dynamically modifying’”). Here, like the Board determined in *Palo Alto Networks*, Petitioner fails to “sufficiently demonstrate that a person of ordinary skill in the art would have *arrived at* the” claimed features, failing to point to any disclosure in Grannan identifying three different purchases. *Palo Alto*, IPR2023-00888, Paper 12 (Decision Denying Petitioner’s Request for Rehearing) at 5 (P.T.A.B. Apr. 1, 2024); *see also id.* (“Without more, Petitioner’s arguments appear to be based on the hindsight analysis of the challenged claims”).

Accordingly, the Petition fails to establish that Grannan, in combination with Chung, Yang, and/or Ramaiyer, renders obvious elements [1b], [1d], and [1f].

C. Petitioner fails to establish that Grannan and Chung teach determining “a first quality level” based on a “first search” or “first purchase,” and determining “an indication of interest in a first

category” based on a “second search” or “second purchase” (elements [1b] and [1d]).

Aside from Petitioner’s failure to identify three purchases or three searches as claimed, as discussed in Section IV.B, Petitioner fails to establish that the proposed combinations of Grannan and Chung render obvious elements [1b] and [1d] for additional reasons.

Element [1b] requires that ***“the first quality level is determined based at least in part on at least one of: (1) a first search associated with the user profile or (2) a first purchase associated with the user profile,”*** and element [1d] requires that ***“the indication of interest in the first category is determined based at least in part on at least one of: (1) a second search associated with the user profile or (2) a second purchase associated with the user profile.”*** EX1001, 17:55-18:2 (Claim 1, elements [1b] and [1d]) (emphasis added). Petitioner fails to establish obviousness of these claim elements because: (1) Petitioner does not identify “a first purchase” different from “a second purchase” in Grannan or Chung—Petitioner, in fact, does not identify any “purchase” used to determine a “first quality level” or an “indication of interest in the first category”; and (2) Petitioner does not identify “a first search” different from “a second search” in Grannan or Chung. And Petitioner does not rely on Yang or Ramaiyer for either of these elements. Petitioner’s analysis, therefore, is insufficient to establish obviousness of elements [1b] and [1d].

- 1. Petitioner does not identify “a first purchase” used to determine “a first quality level” and “a second purchase” used to determine “an indication of interest in a first category.”**

Petitioner equates Grannan’s “product interest correlation score,” or “PIC score” as referred to in the Petition, to the claimed “*first quality level*.” Pet., 14; EX1007, ¶62. Petitioner then asserts that “final PIC score for each subscriber is tallied by evaluating several factors including ‘previous purchases.’” Pet., 16 (citing EX1007, ¶¶90, 105). But, aside from this general statement, Petitioner does not identify any purchase in Grannan used to determine “*a first quality level*,” let alone a different “*second purchase*” used to determine “*an indication of interest in a first category*,” as the claims require.

Petitioner relies on the “Susan” example in Grannan to support its assertion. Pet., 16-17. Specifically, Petitioner alleges that “a POSITA would have recognized or found it obvious that the targeted ad from the AKMS was based on a *quality level* (PIC score) for Susan that was calculated based on her historic shopping behavior, including her past product purchases,” and that “[o]ne of these historic purchases is the *first purchase* on which her quality level (PIC score) is based that was used to send the targeted ad as disclosed.” *Id.* But, as discussed previously, Grannan’s “Susan” example discusses only one, single purchase, which Petitioner relies on for the claimed “*third purchase*.” EX1007, ¶¶56-57; Pet., 31; *see also* Section IV.B.2. Indeed, Grannan explains that Susan’s determination of “interest”

in children’s books is based on “the web pages visited by Susan,” not any previous purchases (let alone a “*first*” and “*second*” previous purchase, as the claims require). EX1007, ¶56. Petitioner, therefore, fails to identify any “*first purchase*” used in Grannan to determine the recited “*first quality level*.” *Palo Alto*, IPR2023-00888, Paper 9 at 34 n.7.

Petitioner also fails to identify a “*second purchase*” in Grannan used to determine an “*indication of interest in the first category*.” Petitioner identifies Grannan’s “contribution scores” as the claimed “*indication of interest*,” Pet., 24, but Petitioner does not identify a “*second purchase*” upon which Grannan’s contribution score is based.

Specifically, Petitioner alleges that “[t]he disclosed ‘contribution score’ is an indication of interest that is calculated based on the subscriber’s purchases, since Grannan also discloses that the ‘final [PIC] score is tallied by evaluating . . . previous purchases.’” Pet., 25 (citing EX1007, ¶90). But nowhere does Grannan disclose that these “previous purchases” are used to calculate a contribution score. *See* EX1007, ¶90 (containing no discussion of a contribution score). Rather, as noted above, Petitioner equates Grannan’s “PIC score” to the claimed “*first quality level*” of element [1b]. Pet., 15. Thus, even to the extent one of Grannan’s “previous purchases,” EX1007, ¶90, were used to determine the claimed “*first*

quality level,” Petitioner does not show that a different “previous purchase[]” is used to determine the claimed “*indication of interest*.”

In an attempt to remedy these deficiencies, Petitioner again references the same “Susan” example in Grannan. As noted above, Grannan explains that Susan’s determination of “interest” in children’s books is based on “the web pages visited by Susan,” not any previous purchases. EX1007, ¶56. Therefore, Petitioner fabricates a new scenario in which “a PIC score for Susan [] was calculated based on multiple contribution scores calculated from multiple purchases and web surfing in Susan’s historic behavior.” Pet., 25 (emphasis removed). But Petitioner’s hindsight-driven scenario is not disclosed or suggested in Grannan. *In re Fine*, 837 F.2d 1071, 1075 (Fed. Cir. 1988) (“One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.”); *Cheese Sys., Inc. v. Tetra Pak Cheese & Powder Sys., Inc.*, 725 F.3d 1341, 1352 (Fed. Cir. 2013). Petitioner thus fails to identify any “*second purchase*” in Grannan.

Chung does not fill Grannan’s gaps with respect to the claimed “*first purchase*” or “*second purchase*.” Petitioner does not allege that Chung discloses a “*purchase*” upon which a “*first quality level*” is based. Pet., 17-19, 26-28. Indeed, Chung’s list of “events” relied on by Petitioner does not include purchases. Pet., 18, 26-27 (citing EX1005, 2:48-49, 6:38-41).

Petitioner's expert, Mr. Sherwood, again adds nothing to the obviousness inquiry, repeating the Petition almost verbatim. *Compare* Pet., 24-26, with EX1003, ¶¶102-105; *Bytemark*, IPR2022-00624, Paper 9 at 15; *TQ Delta*, 942 F.3d at 1359 (Fed. Cir. 2019).

Accordingly, the Petition fails to establish that Grannan, in combination with Chung, Yang, and/or Ramaiyer, renders obvious “*a first purchase*” and “*a second purchase*,” as recited in elements [1b] and [1d].

2. Petitioner does not identify “a first search” used to determine “a first quality level” and “a second search” used to determine “an indication of interest in a first category.”

Petitioner also does not identify a “*first search*” or “*second search*” in Grannan. For the claimed “*first search*,” Petitioner points to Grannan’s disclosure of “browsing to a new web site” and “web surfing history.” Pet., 15-16 (citing EX1007, ¶¶76, 80, 83-90, 98). Similarly, for the claimed “*second search*,” Petitioner alleges that Grannan’s “[c]ontribution scores are calculated based on URI links that a user may browse.” Pet., 24 (citing EX1007, ¶83). But, as detailed below, web “browsing”/“surfing” is different from performing a “*search*,” as recited in the claims.

In the portions of Grannan cited by Petitioner, Grannan explains that “contribution score[s]” are generated when a user browses (i.e., “surfs”) to a particular website:

This spidering information can be used to create a high product interest correlation ‘contribution’ score for Autos→By Make→Manufacturer→Model as well as Autos→By Style→Sedans→Midsize→Manufacturer Model. **When a subscriber subsequently surfs to this link**, the ‘contribution’ score can be added to the subscriber’s current product interest correlation score for this particular category.

EX1007, ¶83 (emphasis added).

A POSITA would have understood that searching, as recited in the independent claims, is different from Web surfing, as disclosed by Grannan. For example, the Microsoft Computer Dictionary explains that “[a] search is carried out by a program through comparison or calculation to determine whether a match to some pattern exists or whether some other criteria have been met,” and a “search engine,” “[o]n the Internet [is] a program that searches for keywords in files and documents found on the World Wide Web.” EX2003, 469. In contrast to searching, “surf” is defined as “[t]o browse among collections of information on the Internet, in newsgroups, in Gopherspace, and especially on the World Wide Web.” *Id.*, 503. Petitioner’s citations to Grannan refer only to browsing activity. Pet., 24-26 (citing EX1007, ¶¶57, 83, 100). Petitioner does not identify a “*search*” that Grannan’s contribution score is based upon, let alone a “*second search*” different from a “*first search*,” as required by the claims.

Recognizing this deficiency, Petitioner asserts, “[t]o the extent that web ‘browsing’ and ‘surfing’ are not expressly a first search, a POSITA would have found it obvious to calculate the Grannan PIC score based on the user’s web search engine queries, in addition to user browsing information.” Pet., 16. Neither Petitioner nor its expert, however, cite any support in Grannan—or any other corroborating evidence—to support this assertion. *Id.*; EX1003, ¶¶85-86; *TQ Delta*, 942 F.3d at 1359 (Fed. Cir. 2019). The Petition, therefore, cannot establish that Grannan teaches the claimed “*first search*” or “*second search*.”

Petitioner further alleges that Chung teaches the claimed “*first search*” or “*second search*.” Pet., 17-19, 26-27. Petitioner identifies Chung’s “mapped score” as the recited “*first quality level*” of element [1b], Pet., 17, and Chung’s “user interest score” / “interest score” / “user profile score” as the recited “*indication of interest in a first category*,” Pet., 26-27. Petitioner alleges that “[u]ser events, such as user search queries, are input into Chung’s system and used to determine user scores which are in turn used to produce the mapped score.” Pet., 18 (citing EX1005, 6:39-41), 26. Petitioner ignores that Chung’s “score[s]” are based on the *same* events, not separate “*first*” and “*second*” searches, as the claims recite.

Specifically, although Chung describes “search queries” as potential events, EX1005, 6:38-41, Petitioner does not identify “*a second search*” relevant to element [1d] that is different from “*a first search*” identified for element [1b].

Indeed, Petitioner points to the exact same disclosure in Chung for both elements.

Compare Pet., 18 (citing EX1005, 6:39-41), *with* Pet., 26-27 (citing EX1005, 6:38-41).

Chung describes that “classified events are input to dimension processing 450 and to model & rules 440” to generate a “user interest score.” EX1005, 5:21-22, 5:43-48. Then, as Petitioner explains, “the user interest score is input to a mapping module 460’ to generate the ‘mapped score.’” Pet., 13 (citing EX1005, 5:49-50); *see also* EX1005, 5:50-51 (“In general, the mapping module maps raw user scores to one or more output metrics.”). Thus, Chung’s “user interest score” and “mapped score” are based on the *same* events and are calculated as part of the *same* process.

In contrast, the claims require that the recited “*first quality level*” and “*indication of interest in a first category*” be based on *different* searches or purchases. *See* EX1001, Claim 1. Petitioner has not (and cannot) make such a showing. *Becton*, 616 F.3d at 1254 (“Where a claim lists elements separately, the clear implication of the claim language is that those elements are distinct component[s] of the patented invention”) (cleaned up); *Engel Indus., Inc. v. Lockformer Co.*, 96 F.3d 1398, 1404-05 (Fed. Cir. 1996) (concluding that where a claim provides for two separate elements, a “second portion” and a “return portion,” these two elements “logically cannot be one and the same”).

Petitioner's contention that "Chung updates interest scores / user profile scores based on multiple user events," Pet., 26, does not salvage its argument. Regardless of whether Chung bases its "interest score" on one or multiple events, its "interest score" and "mapped score" would still be based on the *same* events. Thus, even assuming Petitioner is correct that Chung may base its "interest scores" on multiple events, it is insufficient to satisfy the claim elements. *Becton*, 616 F.3d at 1254; *Lockformer*, 96 F.3d at 1404-05. Moreover, Petitioner's failure to map any particular search queries in Chung to the claimed "*first search*" and "*second search*" is insufficient to render these elements obvious. *Palo Alto*, IPR2023-00888, Paper 9 at 34 n.7; 37 C.F.R. § 42.104(b)(4).

Once again, Petitioner's expert adds nothing to the obviousness inquiry, repeating the Petition almost verbatim without citing any additional evidence. *See* EX1003, ¶¶107-08; *Bytemark*, IPR2022-00624, Paper 9 at 15; *TQ Delta*, 942 F.3d at 1359 (Fed. Cir. 2019).

Accordingly, the Petition fails to establish that Grannan, in combination with Chung, Yang, and/or Ramaiyer, renders obvious "*a first search*" and "*a second search*," as recited in elements [1b] and [1d].

V. THE BOARD SHOULD DENY THE PETITION IN VIEW OF THE PARALLEL LITIGATION.

In *Apple Inc. v. Fintiv, Inc.*, the Board articulated six nonexclusive factors for determining whether to institute an AIA post-grant proceeding where there is

parallel district-court litigation. *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (P.T.A.B. Mar. 20, 2020) (“*Fintiv*”). On June 21, 2022, Director Vidal issued a Memorandum re: Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation (“*Fintiv Memo*”) clarifying the procedure that the Board should follow when evaluating the six *Fintiv* factors. Here, the Board should exercise its discretion to deny the Petition because (1) *Fintiv* factors one through five support discretionary denial; and (2) the Petition does not provide a compelling, meritorious challenge (*Fintiv* factor six).

Fintiv factor one: As Petitioner notes, no stay has been requested in the parallel litigation, and there is no indication that the court would grant in the event this proceeding were instituted. *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 15 at 12 (P.T.A.B. May 13, 2020) (“*Fintiv II*”) (in similar circumstances finding that “[t]his factor does not weigh for or against discretionary denial”). This factor, therefore, is neutral.

Fintiv factor two: Trial in the parallel litigation is scheduled to begin April 20, 2026. EX2001, 1. If trial were instituted in this proceeding, a Final Written Decision would be due around the same time (March 25, 2026). The close proximity of trial to the projected Final Written Decision deadline should, at a minimum, be considered neutral and “implicate other factors . . . such as the resources that have been invested in the parallel proceeding.” *Fintiv*, 9.

Fintiv factor three: Petitioner asserts that the parallel “litigation was just initiated on August 21, 2024, and there is no schedule yet entered for that matter.” Pet., 67. Petitioner ignores that the parties have been litigating for almost a year and a half. An initial complaint against Petitioner was filed on September 18, 2023. EX2002. That case was ultimately dismissed without prejudice, and a new complaint against Petitioner was filed August 21, 2024.

Since September 18, 2023, the parties have made significant investment into litigating the ’402 patent. Discovery began in November with RavenWhite’s mandatory production of documents relevant to all claims and defenses. And by March 25, 2025 (the institution decision deadline), the parties will have prepared and exchanged infringement and invalidity contentions (including subject-matter eligibility contentions). EX2001, 4-5. These facts weigh at least “somewhat in favor of discretionary denial.” *Fintiv II*, 14.

Moreover, Petitioner waited until the second-to-last day it was allowed to file its petition—almost exactly one year after being served with a complaint—and provides no explanation as to its filing delay. Pet., 66-69 (discussing *Fintiv* factors); 35 U.S.C. § 315(b). This fact weighs heavily in favor of discretionary denial. *Fintiv*, 11-12 (“If, however, the evidence shows that the petitioner did not file the petition expeditiously, . . . these facts have favored denial.”).

Fintiv factor four: *Fintiv* factor four weighs heavily in favor of discretionary denial. “Fintiv factor four looks at the overlap between the issues raised in the IPR petition and in the parallel proceeding in order to evaluate ‘concerns of inefficiency and the possibility of conflicting decisions.’” *Fintiv* Memo, 7; *Fintiv*, 12. Aside from noting the estoppel provisions of 35 U.S.C. § 315(e)(2), Petitioner has not provided a *Sotera* stipulation stating that it will not, in the parallel litigation, pursue the same grounds as in the Petition or any grounds that could have reasonably been raised in the petition. Pet., 68. Petitioner, in fact, has not provided any stipulation that would reduce overlap between the issues in this proceeding and the parallel district-court litigation. *Id.* Therefore, the same issues are likely to be litigated in district court, at least up until the time a Final Written Decision is issued, failing to mitigate concerns of inefficiency or conflicting decisions.

Factor 4, therefore, weighs in favor of denial. *Fintiv* Memo, 7 (“If the petition includes the same or substantially the same claims, grounds, arguments, and evidence as presented in the parallel proceeding, this fact has favored denial.”); *Fintiv*, 12.

Fintiv factor five: As Petitioner notes, Petitioner is the defendant in the parallel district-court litigation. *See* EX1013. And the plaintiff in the parallel proceeding is the exclusive licensee of the ’402 patent, also a real part-in-interest

in this proceeding. *See* Paper 8, 1. This factor, therefore, weighs in favor of discretionary denial. *Fintiv II*, 15.

Fintiv factor six: Director Vidal’s *Fintiv* Memo explains that “[c]ompelling, meritorious challenges are those in which the evidence, if unrebutted in trial, would plainly lead to a conclusion that one or more claims are unpatentable by a preponderance of the evidence.” *Fintiv* Memo, 4. As explained in the arguments above, the Petition fails to establish that multiple claim elements are taught by the prior art. *See* Section IV. Petitioner’s expert largely repeats the Petition verbatim without providing additional analysis or corroborating evidence. *Id.*; *Bytemark*, IPR2022-00624, Paper 9 at 15. Therefore, Factor six favors denial of institution. *Fintiv*, 15.

* * *

At bottom, the same invalidity issues are likely to remain at issue in district court at the same time that a Final Written Decision is due here, and trial is set to begin less than one month later. Institution of trial, therefore, would not provide a “quick and cost-effective alternative[] to litigation,” causing duplicate effort and costs for both parties. *Fintiv* Memo, 3 (citing H.R. Rep. No. 112–98, pt. 1, at 48). The Board should exercise its discretion to deny the Petition in view of the parallel litigation.

VI. CONCLUSION

For at least the foregoing reasons, the Board should deny institution of this proceeding.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX PLLC

/Richard M. Bemben/

Richard M. Bemben
Registration No. 68,658
Attorney for Patent Owner

Date: December 26, 2024

1101 K Street, NW, 10th Floor
Washington, DC 20005
(202) 371-2600

CERTIFICATE OF WORD COUNT (37 C.F.R. § 42.24(d))

1. This Patent Owner Preliminary Response complies with the type-volume limitation of 14,000 words, comprising 7,454 words, excluding the parts exempted by 37 C.F.R. § 42.24(a)(1).

2. This Patent Owner Preliminary Response complies with the general format requirements of 37 C.F.R. § 42.6(a) and has been prepared using Microsoft® Word 2016 in 14-point Times New Roman font.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX PLLC

/Richard M. Bemben/

Richard M. Bemben
Registration No. 68,658
Attorney for Patent Owner

Date: December 26, 2024

1101 K Street, NW, 10th Floor
Washington, DC 20005
(202) 371-2600

CERTIFICATE OF SERVICE (37 C.F.R. § 42.6(e))

I certify that the above-captioned **PATENT OWNER PRELIMINARY RESPONSE UNDER 37 C.F.R. § 42.107(a)** and associated Exhibits 2001-2004 were served in their entirety on December 26, 2024, upon the following parties via electronic mail:

Jennifer Librach Nall (Lead Counsel)
Nicholas G. Papastavros (Back-up Counsel)
Safraz W. Ishmael (Back-up Counsel)
Benjamin S. Mueller (Back-up Counsel)
DLA PIPER LLP (US)
Jennifer.nall@us.dlapiper.com
Nick.papastavros@us.dlapiper.com
Safraz.ishmael@us.dlapiper.com
Benjamin.mueller@us.dlapiper.com
DLA-HD-RW@us.dlapiper.com

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX PLLC

/Richard M. Bemben/

Richard M. Bemben
Registration No. 68,658
Attorney for Patent Owner

Date: December 26, 2024

1101 K Street, NW, 10th Floor
Washington, DC 20005
(202) 371-2600