

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TREND MICRO, INC.,
Petitioner,

v.

OPEN TEXT INC.,
Patent Owner.

IPR2023-00655
Patent 8,418,250 B2

Before MICHELLE N. WORMMEESTER, AARON W. MOORE, and
SCOTT RAEVSKY, *Administrative Patent Judges*.

RAEVSKY, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

Trend Micro, Inc. (“Petitioner”) filed a Petition (Paper 2, “Pet.”) requesting *inter partes* review of claims 1–30 of U.S. Patent No. 8,418,250 B2 (Ex. 1001, “the ’250 patent”). Pet. 16. Open Text Inc. (“Patent Owner”) filed a Preliminary Response (Paper 6, “Prelim. Resp.”).

Under 35 U.S.C. § 314(a), an *inter partes* review may not be instituted unless it is determined that there is a reasonable likelihood that the petitioner would prevail with respect to at least one of the claims challenged in the petition. After considering the parties’ arguments and evidence, and for the reasons set forth below, Petitioner has not demonstrated a reasonable likelihood of prevailing with respect to at least one of the challenged claims of the ’250 patent. Accordingly, we decline to institute an *inter partes* review.

II. BACKGROUND

A. Related Matters

The parties identify the following infringement lawsuits involving the ’250 patent: *Webroot Inc, et al. v. Sophos Ltd.*, No. 6:22-cv-00240-ADA-DTG (W.D. Tex.); *Webroot, Inc. et al. v. Trend Micro, Inc.*, No. 6:22-cv-00239-ADA-DTG (W.D. Tex.); *Webroot, Inc. et al. v. CrowdStrike Holdings, Inc. et al.*, No. 6:22-cv-00241-ADA-DTG (W.D. Tex.); and *Webroot, Inc. et al. v. AO Kaspersky Lab*, No. 6:22-cv-243-ADA-DTG (W.D. Tex.). Pet. 16–17; Paper 4, 1.

The following *inter partes* reviews have also been filed against the ’250 patent: *CrowdStrike, Inc. v. Open Text Inc.*, IPR2023-00289 (PTAB

Dec. 29, 2022; instituted July 21, 2023); *Sophos Inc. v. Open Text Inc.*, IPR2023-00699 (PTAB Mar. 8, 2023).

B. Real Parties-in-Interest

Trend Micro, Inc., Trend Micro America, Inc., and Trend Micro Incorporated identify themselves as the real parties-in-interest (RPI) for Petitioner. Pet. 16. Patent Owner identifies Open Text Inc. and Webroot LLC as RPIs, as well as affiliates Carbonite, LLC; Open Text Corporation; and Open Text Holdings, Inc. Paper 4, 1.

C. The '250 patent

The '250 patent “relates generally to methods and apparatus for dealing with malware.” Ex. 1001, 1:4–5. Figure 2 of the '250 patent is reproduced below.

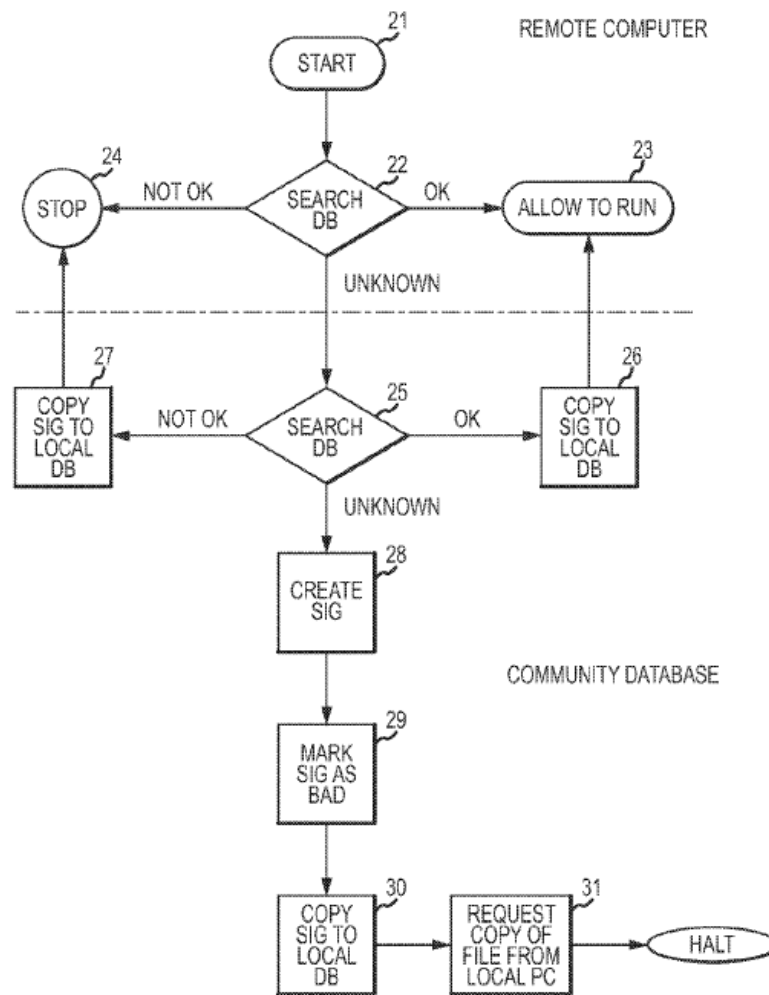


FIG.2

Figure 2 is a flowchart illustrating a method that starts at step 21 by running an object, such as a process, at a remote computer. *Id.* at 7:46–48, 8:17–18. At step 22, operation of such a process is hooked using local software running on the remote computer to search a local database for a signature or key representing that process and related objects. *Id.* at 8:18–24. If the signature indicates that the process is safe, it is allowed to run at step 23; if the signature indicates that the process is not safe, it is stopped at step 24. *Id.* at 8:24–33.

If the object is unknown locally, details are passed over a network, such as the Internet, for storage in, and comparison with, a community database that stores signatures representative of objects from multiple remote computers. *Id.* at 8:44–47. Such a community database is searched at step 25 for a signature for the object that has already been stored. *Id.* at 8:47–50. If a corresponding signature is found and identified as safe, then “a copy of the signature or at least a message that the object is safe” is sent to the remote computer at step 26; similarly, if a corresponding signature is found and identified as unsafe, a copy is provided to the remote computer with such a designation at step 27. *Id.* at 8:60–9:10. If the object is unknown to the community database, a signature is created at step 28 and marked as unsafe at step 29. *Id.* at 9:11–17. Such an unsafe designation may be changed as experience with the object is collected. *See id.* at 9:26–39.

D. Challenged Claims

Claim 1, below, is illustrative of the challenged claims. Petitioner’s claim element labels are included for reference.

1. A method of classifying a computer object as malware, the method comprising:

[a] at a base computer, receiving data about a computer object from each of plural remote computers on which the object or

similar objects are stored, the data including information about the behaviour of the object running on one or more remote computers;

[b] determining in the base computer whether the data about the computer object received from the plural computers indicates that the computer object is malware;

[c] classifying the computer object as malware when the data indicates that the computer object is malware;

[d] when the determining does not indicate that the computer object is malware, initially classifying the computer object as not malware;

[e] automatically generating a mask for the computer object that defines acceptable behaviour for the computer object, wherein the mask is generated in accordance with normal behaviour of the object determined from said received data;

[f] running said object on at least one of the remote computers; automatically monitoring operation of the object on the at least one of the remote computers;

[g] allowing the computer object to continue to run when behaviour of the computer object is permitted by the mask;

[h] disallowing the computer object to run when the actual monitored behaviour of the computer object extends beyond that permitted by the mask; and,

[i] reclassifying the computer object as malware when the actual monitored behaviour extends beyond that permitted by the mask.

Ex. 1001, 20:19–50.

E. Asserted Grounds of Unpatentability

Petitioner asserts the following grounds of unpatentability (Pet. 20):

Claim(s) Challenged	35 U.S.C. §¹	Reference(s)/Basis
1–5, 12–17, 24	103	Halperin, ² Mankins ³
6, 18	103	Halperin, Mankins, Arnold ⁴
7–11, 19–23, 25–30	103	Halperin, Mankins, Kirby, ⁵ Carpentier ⁶
1–5, 12–17, 24	103	Halperin, Inoue ⁷

Petitioner relies on the declaration of Dr. Seth James Nielson (Ex. 1002). Patent Owner relies on the declaration of Dr. Nenad Medvidovic (Ex. 2001).

¹ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 285–88 (2011), revised 35 U.S.C. §§ 102, 103 effective March 16, 2013. The ’250 patent was filed before March 16, 2013, so we apply the pre-AIA versions of §§ 102, 103. Ex. 1001, code (22).

² U.S. Publication No. 2004/0111632 A1 to Halperin, published June 10, 2004 (Ex. 1003).

³ U.S. Patent No. 7,900,194 B1 to Mankins, issued Mar. 1, 2011 (Ex. 1004).

⁴ U.S. Patent No. 5,440,723 to Arnold, issued Aug. 8, 1995 (Ex. 1008).

⁵ U.S. Patent No. 7,694,150 B1 to Kirby, issued Apr. 6, 2010 (Ex. 1006).

⁶ U.S. Pub. No. 2004/0068652 A1 to Carpentier, published Apr. 8, 2004 (Ex. 1013).

⁷ H. Inoue & S. Forrest, Anomaly Intrusion Detection in Dynamic Execution Environments, 2002 (Ex. 1005).

III. ANALYSIS

A. Principles of Law

Petitioner bears the burden to demonstrate unpatentability, and that burden never shifts to Patent Owner. *Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015).

A claim is unpatentable as obvious if “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007) (quoting 35 U.S.C. § 103(a)). We resolve the question of obviousness based on underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the prior art and the claims; (3) the level of skill in the art; and (4) when in evidence, objective indicia of nonobviousness. *See Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17–18 (1966).

We apply these principles to the Petition's challenges.

B. Level of Ordinary Skill in the Art

We review the grounds of unpatentability in view of the understanding of a person of ordinary skill in the art at the time of the invention. *Graham*, 383 U.S. at 13, 17. Petitioner asserts that

a person having ordinary skill in the art (PHOSITA [or POSITA]) at the time of the earliest claimed priority date for the '250 patent would have had a bachelor's degree in computer science, or a related field, or an equivalent technical degree or equivalent work experience, and an additional one to two years of education or experience in the field of computer security topics such as malware/exploit detection and/or network

forensics. More education can supplement practical experience and vice versa.

Pet. 26 (citing Ex. 1002 § 81).

Patent Owner provides a slightly different definition of the level of skill. Prelim. Resp. 25 (citing Ex. 2001 ¶¶ 52–56). We are persuaded, on the present record, that Petitioner’s proposal is consistent with the problems and solutions in the ’250 patent and prior art of record. We adopt Petitioner’s definition of the level of skill for the purposes of this decision.

C. Claim Construction

In *inter partes* review, we construe a claim using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. § 282(b), including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent. 37 C.F.R. § 42.100(b) (2022).

The parties do not propose any claim constructions. *See* Pet. 9–10; Prelim. Resp. 28–29. We determine that no terms require construction. *See Realtime Data, LLC v. Iancu*, 912 F.3d 1368 (Fed. Cir. 2019) (“The Board is required to construe ‘only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.’” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

D. Asserted Obviousness over Halperin and Mankins (Ground 1)

Petitioner contends that claims 1–5, 12–17, and 24 would have been obvious over Halperin and Mankins. Pet. 28–50.

1. *Overview of Halperin*

Halperin discloses “detecting malicious activity in a computer network.” Ex. 1003, code (57). Halperin’s Figure 6 is reproduced below.

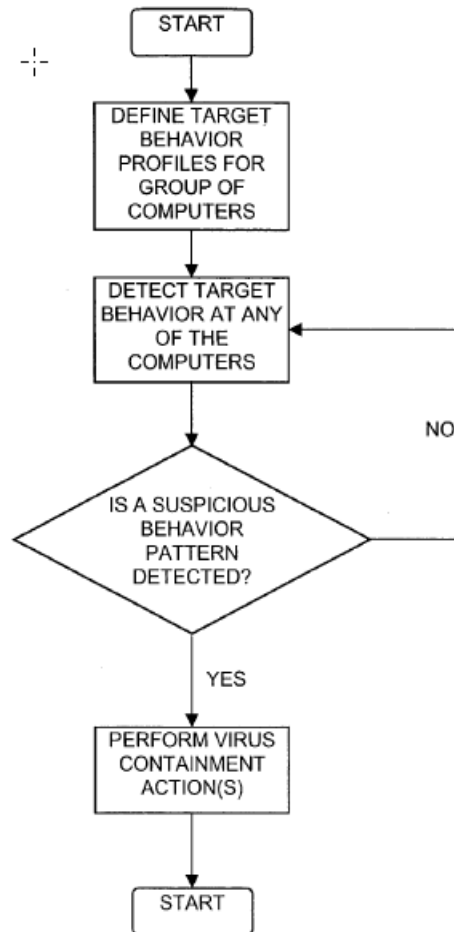


Fig. 6

Figure 6 is an “exemplary method of operation” of Halperin’s “computer virus detection and containment system.” Ex. 1003 ¶¶ 15, 16.

2. *Overview of Mankins*

Mankins discloses Kernel-based intrusion detection using Bloom filters. Ex. 1004, code (57). In one of many possible embodiments for detecting an intrusion attack, a Bloom filter is provided and used to generate

a Bloom filter data object. *Id.* The Bloom filter data object contains data representative of expected system-call behavior associated with a computer program. *Id.* The Bloom filter data object is embedded in an operating system (“OS”) kernel upon an invocation of the computer program. *Id.* Actual system-call behavior is compared with the data in the Bloom filter data object. *Id.*

3. *Independent claim 1*

a. Motivation to Combine

We address solely the issue of motivation to combine because it is dispositive of this ground. Petitioner contends that one of ordinary skill in the art would have been motivated to combine Halperin and Mankins to achieve the claimed invention. Pet. 28, 33–34, 38. Patent Owner disputes this. Prelim. Resp. 36–40. For reasons set forth below, Petitioner does not persuade us that one of ordinary skill in the art would have considered combining Halperin and Mankins in the manner proposed. We do not summarize Patent Owner’s arguments against the proposed combination because we determine that Petitioner’s rationale to combine is deficient for reasons apart from those argued by Patent Owner.

The Supreme Court instructs us that “rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *KSR*, 550 U.S. at 418 (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)). The Petition contains insufficient articulated reasoning with rational underpinning.

Petitioner first contends that a POSITA would have combined Halperin and Mankins “because both are directed to malware containment in

which Halperin provides a reactive response while Mankins discloses a proactive approach that together form a strong malware defense.” Pet. 28 (citing Ex. 1002 ¶ 107). Petitioner does not explain what is Halperin’s “reactive response” or what is Mankins’ “proactive approach,” nor how together they would “form a strong malware defense.” *See id.* We find this conclusory statement unavailing.

To the extent Petitioner is arguing that Halperin and Mankins would have been combined due to being in the same field (“both are directed to malware containment”), this contention is also unpersuasive. *See id.* Although the extent to which references belong to the same or related fields of technology is one of the factors that precedent requires us to consider, that alone is not enough for Petitioner to meet its burden of presenting a sufficient rationale to support an obviousness conclusion. *See Securus Techs., Inc. v. Glob. Tel*Link Corp.*, 701 Fed. App’x 971, 977 (Fed. Cir. 2017) (explaining that “[s]uch short-cut logic would lead to the conclusion that any and all combinations of elements known in this broad field would automatically be obvious, without the need for any further analysis.”).

Petitioner next contends that “Mankins offers an improvement to the accuracy-limiting trade off disclosed in Halperin as a choice between false alarms and malware detection.” *Id.* (citing Ex. 1002 ¶¶ 107–113). Petitioner raises a similar assertion with respect to limitation 1[f], arguing that “a PHOSITA would have been motivated to use Mankins’ Bloom filter because it obviates a risky tradeoff between false alarms and virus detection, which Halperin identifies as an issue.” *Id.* (citing Ex. 1002 ¶¶ 148–158; Ex. 1004, 8:38–41; Ex. 1003 ¶ 90). Petitioner does not explain how Mankins “offers an improvement to the accuracy-limiting trade off” of Halperin or how

Mankins “obviates a risky tradeoff between false alarms and virus detection.” Thus, these assertions are conclusory and unpersuasive.

With respect to limitation 1[k], Petitioner sets forth the following additional rationale to combine:

A PHOSITA would have found it obvious to combine data structure and comparison methods of Mankins with the behavioral data collection and analysis of Halperin, so that suspicious behavior would be reclassified as malicious when the behavior extends beyond the mask, because the two approaches for gathering information on software behavior are compatible and complementary.

Id. at 38 (citing Ex. 1002 ¶¶ 180–184). Petitioner’s argument that Halperin and Mankins would be combinable here boils down to a bald assertion that these references “are compatible and complementary,” which is again unexplained and unpersuasive.

Petitioner also contends that there would have been a reasonable expectation of success because “because both references solve the same problem in a complementary manner (based on observing normal behavior).” *Id.* at 28 (citing Ex. 1002 ¶¶ 107–109). Relatedly, Petitioner asserts that “[a] PHOSITA would have expected this combination to be successful because the data structure disclosed in Mankins can be assembled anywhere with the system call information as an input.” *Id.* at 34. These arguments are likewise conclusory and add nothing meaningful to Petitioner’s other unpersuasive arguments. That a combination might be successfully made is not sufficient in the absence of a reason to make the combination in the first place.

Petitioner cites several paragraphs of the Nielson declaration in support of its broad and conclusory assertions that one of ordinary skill in

the art would have combined Halperin and Mankins. *See* Pet. 28, 33–34, 38 (citing Ex. 1002 ¶¶ 107–113, 148–158, 180–184). Arguments and information that are not presented and developed in the Petition, but instead are incorporated by reference, are not entitled to consideration, as it is improper to incorporate by reference arguments from one document into another document. 37 C.F.R. § 42.6(a)(3); *see also DeSilva v. DiLeonardi*, 181 F.3d 865, 866–67 (7th Cir. 1999) (Incorporation “by reference amounts to a self-help increase in the length of the . . . brief[,]” and “is a pointless imposition on the court’s time. A brief must make all the arguments accessible to the judges, rather than ask them to play archeologist with the record.”); *Cisco Sys., Inc. v. C-Cation Techs., LLC*, IPR2014-00454, Paper 12 at 7–10 (PTAB August 29, 2014) (informative) (discussing impermissible incorporation by reference); *Instrumentation Lab. Co. v. HemoSonics LLC*, IPR2017-00855, Paper 55 at 20 (PTAB Feb. 13, 2019) (applying same). Accordingly, we decline to consider information that Petitioner does not discuss sufficiently in the Petition, but instead simply incorporates by reference to cited portions of the Nielson Declaration.

Petitioner therefore fails to establish a reasonable likelihood that one of ordinary skill in the art would have combined Halperin and Mankins in the manner proposed.

b. Summary as to Claim 1

Based on the preliminary record before us, Petitioner has not shown a reasonable likelihood that claim 1 would have been obvious over the combination of Halperin and Mankins.

4. *Independent Claim 13*

Petitioner sets forth similar arguments for independent claim 13 as for claim 1. *See* Pet. 45–57. For similar reasons as discussed above, Petitioner has not shown a reasonable likelihood that claim 13 would have been obvious over the combination of Halperin and Mankins.

5. *Dependent Claims 2–5, 12, 14–17, and 24*

Petitioner contends that dependent claim 2–5, 12, 14–17, and 24 would have been obvious over the combination of Halperin and Mankins. Pet. 38–45, 48–50. Because Petitioner has not shown a reasonable likelihood that claims 1 and 13 would have been obvious over the combination of Halperin and Mankins, Petitioner has likewise not shown a reasonable likelihood that their respective dependent claims 2–5, 12, 14–17, and 24 would have been obvious over the combination of Halperin and Mankins.

E. Asserted Obviousness over Halperin, Mankins, & Arnold (Ground 2)

Petitioner contends that the combination of Halperin, Mankins, and Arnold would have rendered obvious dependent claims 6 and 18. Pet. 50–53. Because Petitioner has not shown a reasonable likelihood that claims 1 and 13 would have been obvious over the combination of Halperin and Mankins, Petitioner has likewise not shown a reasonable likelihood that their respective dependent claims 6 and 18 would have been obvious over the combination of Halperin, Mankins, and Arnold.

F. Asserted Obviousness over Halperin, Mankins, Kirby, & Carpentier (Ground 3)

Petitioner contends that the combination of Halperin, Mankins, Kirby, and Carpentier would have rendered obvious claims 7–11, 19–23, and 25–

30. Pet. 53–69. As before, because Petitioner has not shown a reasonable likelihood that claims 1 and 13 would have been obvious over the combination of Halperin and Mankins, Petitioner has likewise not shown a reasonable likelihood that their respective dependent claims 7–11 and 19–23 would have been obvious over the combination of Halperin, Mankins, Kirby, and Carpentier.

For independent claim 25, Petitioner contends that “[a] PHOSITA would have been motivated to combine the teachings of Halperin and Mankins as described regarding Ground 1 and particularly claim limitation 1[f].” *Id.* at 53–54 (citing Ex. 1002 ¶¶ 107–113, 152–157); *see also id.* at 65 (raising similar arguments as in Ground 1). As we rejected these arguments as deficient for Ground 1, we likewise reject them as deficient for Ground 3. Accordingly, Petitioner has not shown a reasonable likelihood that independent claim 25, and therefore also its dependent claims 26–30, would have been obvious over the combination of Halperin, Mankins, Kirby, and Carpentier.

G. Asserted Obviousness over Halperin & Inoue (Ground 4)

Petitioner contends that the combination of Halperin and Inoue would have rendered obvious claims 1–5, 12–17, and 24. Pet. 70–84.

Petitioner argues that one of ordinary skill in the art would have combined Halperin and Inoue. *Id.* at 70, 72–73, 76. Petitioner’s rationale to combine these references is just as conclusory as its rationale to combine Halperin and Mankins. For example, Petitioner argues that a POSITA would have combined Halperin and Inoue “because both references are directed to containing malware, in which Halperin provides reactive, post-infection solutions and Inoue provides proactive, largely pre-infection

solutions for containment.” *Id.* at 70 (citing Ex. 1002 ¶¶ 421–424). In a similar vein, Petitioner adds:

The disclosures of Halperin and Inoue provide different but compatible capabilities that when combined would yield a more complete defense-in-depth solution for an enterprise network. *Id.* A PHOSITA would have been motivated to avoid (or reduce) tradeoffs between false positives in malware detection and effectiveness disclosed in Halperin by adding the proactive measures to reduce false positives disclosed in Inoue.

Id. (citing Ex. 1002 ¶¶ 425–427). As with Ground 1, Petitioner does not explain any of these assertions and instead relies on several paragraphs of Dr. Nielson’s declaration for explanation that should have been in the Petition, which is improper, as explained above.

As with Ground 1, Petitioner provides further motivation to combine arguments with respect to limitations 1[f] and 1[k]. *Id.* at 72–73, 76. For example, Petitioner refers to Halperin and Inoue’s approaches as being “compatible and complementary,” citing *over twenty* paragraphs of Dr. Nielsen’s declaration, but providing no further explanation in the Petition. *Id.* at 72 (citing Ex. 1002 ¶¶ 463–473), 76 (citing Ex. 1002 ¶¶ 421–427, 493–499). Likewise, Petitioner asserts, but does not explain, that a POSITA would have been motivated to combine “at least because dynamic analysis of the sandbox of Inoue reduces the tradeoff between false alarms and allowed malicious activity.” *Id.* at 73 (citing Ex. 1002 ¶¶ 468–473; Ex. 1005, 3). This conclusory assertion is unpersuasive.

Petitioner therefore fails to establish a reasonable likelihood that one of ordinary skill in the art would have combined Halperin and Inoue in the manner proposed. Accordingly, based on the record before us, Petitioner

has not shown a reasonable likelihood that claim 1 would have been obvious over the combination of Halperin and Inoue.

For similar reasons, Petitioner has not shown a reasonable likelihood that independent claim 13 and dependent claims 2–5, 12, 14–17, and 24 would have been obvious over the combination of Halperin and Inoue. *See id.* at 77–84.

IV. CONCLUSION

We determine that Petitioner has not demonstrated a reasonable likelihood of prevailing on its challenges as to at least one challenged claim. Accordingly, we do not institute *inter partes* review.

V. ORDER

It is, therefore,

ORDERED that, pursuant to 35 U.S.C. § 314(a), *inter partes* review is *denied*.

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