

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

SPEIR TECHNOLOGIES LTD.,
Patent Owner.

IPR2023-00542
Patent 7,765,399 B2

Before BARBARA A. PARVIS, SHEILA F. McSHANE, and
SCOTT RAEVSKY, *Administrative Patent Judges*.

RAEVSKY, *Administrative Patent Judge*.

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

I. INTRODUCTION

Apple Inc. (“Petitioner”) filed a Petition (Paper 2, “Pet.”) requesting *inter partes* review of claims 1–7, 9, and 10 of U.S. Patent No. 7,765,399 B2 (Ex. 1001, “the ’399 patent”). Pet. 1. Speir Technologies Ltd. (“Patent Owner”) filed a Preliminary Response (Paper 7, “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 demonstrates a reasonable likelihood of prevailing with respect to at least one of the challenged claims of the ’399 patent. Accordingly, we institute an *inter partes* review with respect to all challenged claims and grounds asserted in the Petition. 37 C.F.R. § 42.108(a) (2022).

Our factual findings and conclusions at this stage of the proceeding are based on the evidentiary record developed thus far. This is not a final decision as to patentability of the challenged claims.

II. BACKGROUND

A. Related Matters

The parties identify the following related matters: *Speir Technologies Ltd. v. Apple Inc.*, No. 6:22-cv-00077 (W.D. Tex. Jan. 20, 2022) (“the Texas litigation”)¹; *Speir Technologies Ltd. v. Apple Inc.*, No. 5:23-cv-00095 (N.D. Cal. Jan. 9, 2023). Pet. 89; Paper 4, 2.

¹ Petitioner asserts that Patent Owner added the ’399 patent to the Texas litigation in an amended complaint filed March 22, 2022. Pet. 87 (citing Ex.

Inter partes review has also been requested in *Apple Inc. v. Speir Technologies Ltd.*, IPR2023-00543, which challenges claims 12, 13, and 15–18 of the ’399 patent. *Apple Inc. v. Speir Technologies Ltd.*, IPR2023-00543; *see id.*, Paper 2 (PTAB, filed Feb. 1, 2023) (“the ’543 petition”).

B. Real Parties-in-Interest

Apple identifies itself as the only real party-in-interest (RPI). Pet. 89. Patent Owner identifies itself as the sole RPI. Paper 3, 2.

C. The ’399 patent

The ’399 patent describes a mobile computing system that forms a bridge between a secure user processor and a non-secure user processor. Ex. 1001, code (57) (Abstract). Figure 3, reproduced below, depicts an embodiment of this system:

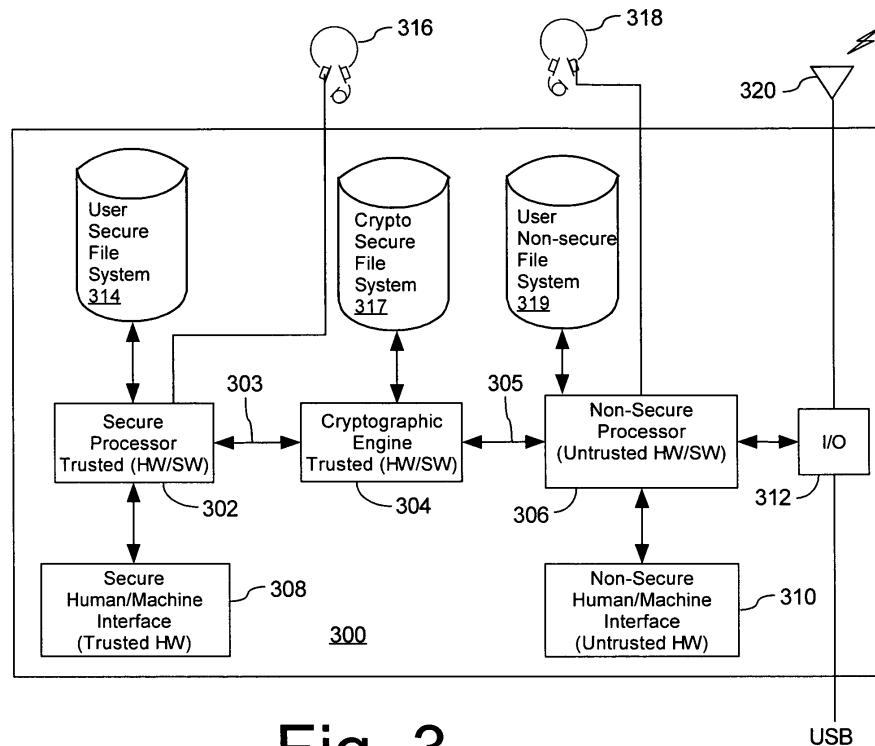


Fig. 3

Id. at 3:36–38.

Figure 3 depicts mobile PDA (personal digital assistant) computer system 300. *Id.*, code (57), 1:12–13. System 300 includes non-secure processor 306, which includes an untrusted microprocessor and an untrusted operating system executing on the untrusted microprocessor. *Id.*, code (57). The system also includes secure processor 302, which includes a trusted microprocessor and a trusted operating system executing on the trusted microprocessor. *Id.* Cryptographic engine 304 is provided for encrypting and decrypting data. *Id.* First data communication link 303 communicates data between secure processor 302 and cryptographic engine 304. *Id.* Second data communication link 305 communicates data between non-secure processor 306 and cryptographic engine 304. *Id.* In this way,

cryptographic engine 304 forms a bridge between secure user processor 302 and non-secure user processor 306.

D. Challenged Claims

Claim 1 below is illustrative of the challenged claims. We have added the Petition's labeling for ease in referencing the claim limitations.

1. A computer system comprising:

[a] a portable mobile computing device including a secure user processor, a non-secure user processor, a communications transceiver, and a cryptographic engine;

[b] said secure user processor comprising a trusted microprocessor, a trusted operating system executing on said trusted microprocessor, and a trusted application software executing on said trusted microprocessor;

[c] said non-secure user processor comprising an untrusted microprocessor, an untrusted operating system executing on said untrusted microprocessor, and an untrusted application software executing on said untrusted microprocessor;

[d] said cryptographic engine configured for encrypting any data communicated from said secure user processor to said non-secure user processor, comprising a trusted cryptographic processor, and a trusted operating system executing on said trusted cryptographic processor;

[e] a first data communication link communicating data between said secure processor and said cryptographic engine;

[f] a second data communication link communicating data between said non-secure processor and said cryptographic engine;

[g] a secure human/machine interface configured for enabling bi-directional communication of classified information exclusively between a user and said secure user processor; and

[h] a non-secure human/machine interface distinct from said secure human/machine interface and configured for enabling bi-directional

communication of unclassified information exclusively between said user and said non-secure user processor;

[i] wherein said communications transceiver is operatively coupled to said non-secure user processor and configured for communicating data external to said portable mobile computing device.

Ex. 1001, 9:51–10:25.

E. Asserted Grounds of Unpatentability

Petitioner asserts the following grounds of unpatentability (Pet. 2), supported by the declaration of Dr. Sandeep Chatterjee (Ex. 1003):²

Claim(s) Challenged	35 U.S.C. § ³	Reference(s)/Basis
1–7, 9, 10	103	Marek, ⁴ Skarine ⁵
4, 5	103	Marek, Skarine, Yoon ⁶
9, 10	103	Marek, Skarine, Moon ⁷

III. ANALYSIS

A. Notice Ranking Petitions

Petitioner filed two parallel petitions for *inter partes* review of certain claims of the '399 patent, including this Petition and the '543 petition

² Patent Owner has not submitted declaration testimony at this stage.

³ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 285–88 (2011), revised 35 U.S.C. § 103 effective March 16, 2013. The '399 patent was filed prior to March 16, 2013. Ex. 1001, code (65). We therefore apply the pre-AIA version of § 103. Our analysis would not change under the AIA version of § 103.

⁴ U.S. Patent No. 7,716,720 B1 to Marek, issued May 11, 2010 (Ex. 1004).

⁵ U.S. Publication No. 2005/0190159 A1 to Skarine, published Sept. 1, 2005 (Ex. 1005).

⁶ U.S. Publication No. 2004/0082368 A1 to Yoon, published Apr. 29, 2004 (Ex. 1007).

⁷ U.S. Patent No. 7,571,475 B2 to Moon, issued Aug. 4, 2009 (Ex. 1008).

mentioned above. Pursuant to our Consolidated Trial Practice Guide (“Trial Practice Guide” or CTPG),⁸ Petitioner submits a Notice that ranks these two petitions and the challenged claims as follows:

Rank	Petition	Challenged Claims
1	IPR2023-00542	1–7, 9, 10
2	IPR2023-00543	12, 13, and 15–18

Paper 3, 1.

Petitioner also submits that both petitions are meritorious and should be instituted. *Id.* Petitioner’s reasons for submitting parallel petitions include that (1) each petition is directed to a mutually exclusive set of claims (“system” claims in this Petition and “method” claims in the ’543 petition); and (2) despite an overlap in grounds between the two petitions, word count constraints prevent Petitioner from presenting all challenges in one petition, as the claims recite different elements. *Id.* at 2. Petitioner further asserts that any additional burden on the Board and parties “would not be extraordinary” due to the similarity of the asserted grounds and there could be efficiencies gained by setting the cases on the same schedule and conducting a consolidated oral hearing. *Id.* at 4.

Petitioner also points to the Trial Practice Guide’s explanation that “there may be circumstances in which more than one petition may be necessary, including, for example, when the patent owner has asserted a large number of claims in litigation.” *Id.* (citing CTPG 59). Petitioner notes that Patent Owner has asserted claims 1–7 and 9 in the co-pending district

⁸ Available at <https://www.uspto.gov/TrialPracticeGuideConsolidated>.

court case but that “Patent Owner has provided no assurance that it will not assert additional claims.” *Id.* at 4–5. “Accordingly, Petitioner challenges certain of the currently non-asserted claims in its second petition.” *Id.* at 5.

Patent Owner asserts that we should exercise our discretion under 35 U.S.C. § 314(a) to deny *inter partes* review under the factors set forth in *General Plastic Indus. Co. v. Canon Kabushiki Kaisha*, IPR2016-01357, Paper 19 at 16 (PTAB Sept. 6, 2017) (precedential as to Section II.B.4.i). Prelim. Resp. 3–9. In *General Plastic*, the Board articulated a list of non-exclusive factors to be considered in determining whether to exercise discretion under § 314(a) to deny a follow-on petition:

1. whether the same petitioner previously filed a petition directed to the same claims of the same patent;
2. whether at the time of filing of the first petition the petitioner knew of the prior art asserted in the second petition or should have known of it;
3. whether at the time of filing of the second petition the petitioner already received the patent owner’s preliminary response to the first petition or received the Board’s decision on whether to institute review in the first petition;
4. the length of time that elapsed between the time the petitioner learned of the prior art asserted in the second petition and the filing of the second petition;
5. whether the petitioner provides adequate explanation for the time elapsed between the filings of multiple petitions directed to the same claims of the same patent;
6. the finite resources of the Board; and
7. the requirement under 35 U.S.C. § 316(a)(11) to issue a final determination not later than 1 year after the date on which the Director notices institution of review.

General Plastic, Paper 19 at 16.

Patent Owner first concedes that “Factor 1 relates to successive petitions filed by the same petitioner, which is not precisely at issue here because petitioner filed simultaneous petitions that are directed against closely related claims of the same patent.” Prelim. Resp. 4. Patent Owner argues that factor 2 weighs against institution because Petitioner “relies upon the same combination of the same two references—Marek and Skarine—in both petitions.” *Id.* at 5. Thus, Patent Owner contends, “Petitioner plainly knew of the prior art asserted in the first petition when it filed the second petition.” *Id.* Patent Owner also concedes that Factors 3–5 and 7 are neutral because both petitions were simultaneously filed. *Id.*

Patent Owner further argues that Factor 6, “the finite resources of the Board,” weighs heavily against institution. *Id.* at 6–8. Patent Owner cites the Trial Practice Guide’s discussion of parallel petitions and asserts that a second petition is not necessary, as Patent Owner has asserted only 8 claims in litigation, which is not a “large number of claims.” *Id.* at 6 (citing CTPG 59). Patent Owner further contends that “[t]hese petitions are remarkably similar, as petitioner acknowledges.” *Id.* at 8. “Although the claims of the ’399 patent are patentably distinct,” Patent Owner argues, “there are numerous common elements that preclude a reasonable justification for the substantial and unnecessary burdens on the Board and the patent owner, let alone the fairness and efficiency concerns that multiple petitions raise.” *Id.*

Turning to our analysis, we note at the outset that *General Plastic* is inapplicable here because Petitioner filed parallel, not serial, petitions. *See General Plastic*, Paper 19 at 10 (“Applying these factors to the *follow-on* petitions, we conclude that the circumstances do not warrant institution of *inter partes* reviews.” (emphasis added)). Although our discretion to

institute under 35 U.S.C. § 314(a) is at issue, the more appropriate inquiry here is explained in the Trial Practice Guide as follows:

Parallel Petitions Challenging the Same Patent. Based on the Board's experience, one petition should be sufficient to challenge the claims of a patent in most situations. Two or more petitions filed against the same patent at or about the same time (e.g., before the first preliminary response by the patent owner) may place a substantial and unnecessary burden on the Board and the patent owner and could raise fairness, timing, and efficiency concerns. *See* 35 U.S.C. § 316(b). In addition, multiple petitions by a petitioner are not necessary in the vast majority of cases. To date, a substantial majority of patents have been challenged with a single petition.

Nonetheless, the Board recognizes that there may be circumstances in which more than one petition may be necessary, including, for example, when the patent owner has asserted a large number of claims in litigation or when there is a dispute about priority date requiring arguments under multiple prior art references. In such cases two petitions by a petitioner may be needed, although this should be rare.

CTPG 59. The Trial Practice Guide further states that when submitting parallel petitions, Petitioner should submit a notice ranking petitions along with a succinct explanation of their differences, why the issues addressed by those differences are material, and why the Board should exercise its discretion to institute additional petitions. *Id.* at 60.

Patent Owner's preliminary responses in this and the '543 petition argue for discretionary denial of the respective petition in light of the other petition having been filed. Patent Owner does not argue that both petitions should be discretionarily denied. Having considered the issue in both petitions and based on Petitioner's ranking, we decline to exercise our discretion to deny institution of this Petition. Accordingly, we consider this

Petition on the merits and decide whether to discretionarily deny the second ranked '543 petition based on the arguments presented in that proceeding.

B. 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.

C. 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 of ordinary skill in the art . . . (“POSITA”) would have been a person with a Bachelor's degree in electrical engineering, computer science, computer engineering, or a related field, and at least two years of work experience with computer architecture and system security, including

cryptography. Greater education or greater experience could compensate for a deficiency in either of these criteria.

Pet. 4 (citing Ex. 1003 ¶¶ 17–18).

Patent Owner does not dispute Petitioner’s proposed level of skill in the art at this stage. We are persuaded, on the present record, that Petitioner’s proposal is consistent with the problems and solutions in the ’399 patent and prior art of record. We adopt Petitioner’s definition of the level of skill for the purposes of this Decision.

D. 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).

The parties do not propose any claim constructions. Pet. 4–5; *see generally* Prelim. Resp. As no terms are in dispute, we determine that no terms require construction at this stage. *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))).

E. Asserted Obviousness over Marek and Skarine (Ground 1A)

Petitioner contends that claims 1–7, 9, and 10 would have been obvious over Marek and Skarine. Pet. 5–75. We analyze solely this ground, as it addresses all of the challenged claims and is therefore sufficient for purposes of determining whether to institute trial.

1. Overview of Marek

Marek describes a system for providing a trusted environment for untrusted computing systems. Ex. 1004, code (57) (Abstract). Figure 2 of Marek is reproduced below.

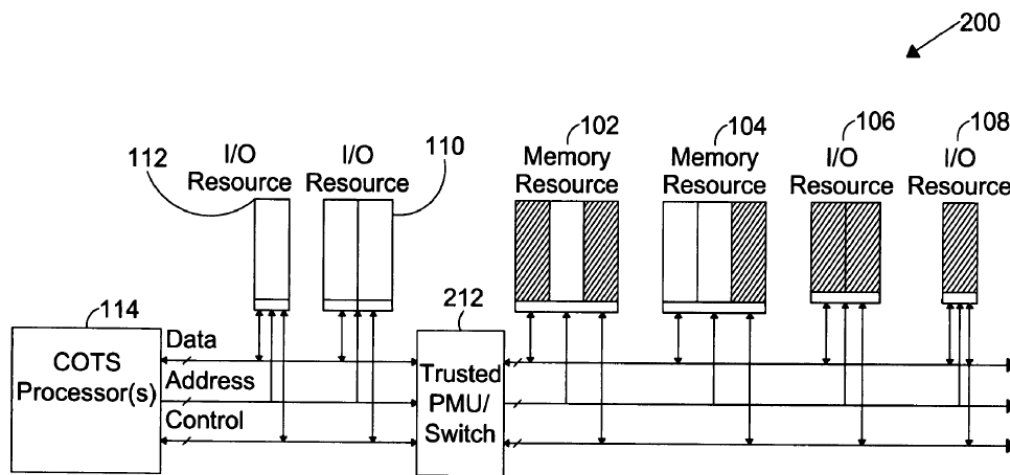


FIG. 2

Figure 2 depicts a block diagram of secure computing environment 200 utilizing trusted bus switch 212. *Id.* at 3:11–12. Resource access by commercial-off-the-shelf (COTS) processor(s) 114 is controlled through trusted bus switch 212, where all memory 102, 104 and several shared I/O resources 106/108 are moved to the trusted side of trusted bus switch 212. *Id.* at 4:52–55. COTS processors 114 may be capable of accessing local I/O resources 110, 112 without requiring any access control by the trusted bus switch. *Id.* at 4:56–58. The local I/O resources 110, 112 not requiring access controls reside on the untrusted side of the trusted bus switch. *Id.* at 4:58–60. The trusted bus switch may be managed by a High Assurance Controller (HAC) subsystem to enforce an arbitrary security policy. *Id.* at 4:60–61.

2. *Overview of Skarine*

Skarine discloses a keyboard having transparent keys. Ex. 1005, code (57). In use, the keyboard is attached to a device such as a mobile device to overlie a display screen of the device. *Id.* One or more images displayed on the display screen are made visible to a user through the keys, which may be pressed by a user. *Id.* User input is determined by identifying a pressed key, and the image or part thereof is visible through the key when pressed. *Id.*

3. *Independent claim 1*

a. *Undisputed limitations*

Patent Owner does not dispute that the combination of Marek and Skarine discloses all the limitations of claim 1 and instead argues only that one of ordinary skill in the art would not have combined Marek and Skarine as proposed by Petitioner. Prelim. Resp. 9–12. We address Patent Owner’s arguments against Petitioner’s rationale to combine below.

Petitioner asserts that to the extent the preamble is deemed limiting, the Marek-Skarine combination teaches the preamble (“A computer system”) by disclosing “computing environment 700” implementing a Secure Computing Module (SCM) architecture. Pet. 19–20 (citing, e.g., Ex. 1004, 8:51–52); Ex. 1004, 1:67.⁹

Petitioner next asserts that the Marek-Skarine combination teaches the claimed “[a] a portable mobile computing device including a secure user processor, a non-secure user processor, a communications transceiver, and a cryptographic engine.” Pet. 21–34. For instance, Petitioner asserts that Marek discloses an untrusted host, which is a mobile device such as a PDA

⁹ We take no position at this stage on whether the preamble is limiting.

or cell phone. *Id.* at 22 (citing Ex. 1003 ¶ 58). Petitioner further argues that Marek discloses a Secure Computing Module, which may also be a mobile device having a secure user processor. *Id.* at 23 (Ex. 1003 ¶ 61), 24 (citing Ex. 1003 ¶ 65). Marek’s device includes a transceiver, Petitioner contends, because “SCM is added on *wireless devices* such as PDAs, cell phones, and other mobile devices.” *Id.* at 30 (citing Ex. 1004, 11:53–56). Petitioner further argues that Marek’s SCM includes a cryptographic engine, namely, “Trusted Security Manager subsystem (TSM) 704.” *Id.* at 31–32 (citing Ex. 1004, 8:67; Ex. 1003 ¶ 75).

Petitioner also asserts that the Marek-Scarine combination teaches the claimed “[b] said secure user processor comprising a trusted microprocessor, a trusted operating system executing on said trusted microprocessor, and a trusted application software executing on said trusted microprocessor.” *Id.* at 34–36. Petitioner points to Marek’s teachings that an authenticated subsystem (ACE) “includes *an embedded COTS OS running on a compatible embedded COTS processor*,” and that “[o]nly *authenticated COTS applications . . . execute on the SCM*.” *Id.* at 35 (citing Ex. 1004, 9:1–5, 8:39–41); Ex. 1004 2:9–10.

For the next limitation, “[c] said non-secure user processor comprising an untrusted microprocessor, an untrusted operating system executing on said untrusted microprocessor, and an untrusted application software executing on said untrusted microprocessor,” Petitioner points to Marek’s disclosure of a “COTS processor of the untrusted host PDA” and that “*untrusted applications execute on the untrusted host environment*.” Pet. 36–38 (citing Ex. 1004, 8:59–61, 40–41).

Limitation [d] recites, “said cryptographic engine configured for encrypting any data communicated from said secure user processor to said non-secure user processor, comprising a trusted cryptographic processor, and a trusted operating system executing on said trusted cryptographic processor.” Petitioner argues that Marek’s TSM is the cryptographic engine (as discussed above for limitation 1[a]). *Id.* at 39. Further, Petitioner relies on Marek’s disclosure that “*[e]ach I/O path of the SCM 702 is configured to go through TSM 704,*” where “[e]xamples of I/O paths of the SCM 702 include *I/O paths between the untrusted host and the SCM.*” *Id.* at 39–40 (citing Ex. 1004, 9:50–54). Petitioner concludes, “[t]hus, any I/O path between the untrusted host and ACE of the SCM goes through the TSM—*e.g.*, any data communicated between the secure user processor and the non-secure user processor passes through the cryptographic engine.” *Id.* at 40 (citing Ex. 1003 ¶ 88).

For the limitation “[e] a first data communication link communicating data between said secure processor and said cryptographic engine,” Petitioner contends that Marek describes “any I/O from/to the ACE 703 is configured to go through the TSM 704,” and “thus that data is communicated between the ACE (containing the secure processor . . .) and the TSM (the cryptographic engine . . .).” *Id.* at 48 (citing Ex. 1004, 9:63–66). For the limitation “[f] a second data communication link communicating data between said non-secure processor and said cryptographic engine,” Petitioner refers to Marek’s disclosure that “[e]xamples of I/O paths of the SCM 702 include *I/O paths between the untrusted host and the SCM.*” *Id.* at 50 (citing Ex. 1004, 9:50–54).

Petitioner argues that the Marek-Scarine combination also discloses limitation [g], “a secure human/machine interface configured for enabling bi-directional communication of classified information exclusively between a user and said secure user processor.” *Id.* at 51–56. Petitioner explains, “Marek’s untrusted host mobile device includes ‘*input and output devices 722, 720*,’ such as a keypad and display.” *Id.* at 51 (citing Ex. 1004, 10:50–51). Marek’s computer also includes “Scware,” Petitioner argues, “which is ‘software that acts as a trusted agent for the SCM 702 on the untrusted host environment.’” *Id.* at 52 (citing Ex. 1004, 10:42–45). According to Petitioner, Scware “in conjunction with the TSM 704 *creates secure I/O paths 730 of input and output devices 722, 720* of the untrusted host 718.” *Id.* (citing Ex. 1004, 10:42–51).

For the next limitation, “[h] a non-secure human/machine interface distinct from said secure human/machine interface and configured for enabling bi-directional communication of unclassified information exclusively between said user and said non-secure user processor,” Petitioner relies on Skarine. *Id.* at 57–61. Specifically, Petitioner contends that “[i]n the combination, the untrusted host mobile device includes a speaker and a microphone, . . . , as was conventional in the art and as evidenced, *e.g.*, by Skarine.” *Id.* at 57 (citing Ex. 1005 ¶¶ 38, 42; Ex. 1003 ¶ 117). Petitioner asserts that “[t]he speaker and microphone together are a **non-secure human/machine interface** at least because they are an interface by which a user inputs information to and receives information from the untrusted host mobile device (via the microphone and speaker, respectively).” *Id.* (citing Ex. 1005 ¶¶ 41–42; Ex. 1003 ¶ 118). These components are distinct from the secure human/machine interface, Petitioner

alleges, because they are physically separate components from the input and output devices 722, 720. *Id.* at 58 (citing Ex. 1003 ¶ 119). Further, Petitioner asserts that “[i]n the combination, based on Skarine, information is communicated from the processor of the untrusted host mobile device to the speaker, and from the microphone to the processor.” *Id.* at 59 (citing Ex. 1005 ¶¶ 41–42, 38; Ex. 1003 ¶ 120). Moreover, Petitioner asserts that “the information is not communicated between the speaker/microphone and the secure user processor; rather, it is communicated **exclusively between the user and the non-secure processor.**” *Id.* at 60 (citing Ex. 1003 ¶ 121).

Finally, Petitioner argues that the Marek-Skarine combination discloses the claimed “[i] wherein said communications transceiver is operatively coupled to said non-secure user processor and configured for communicating data external to said portable mobile computing device.” *Id.* at 61–63. Petitioner contends that based on Skarine, “[a] POSITA would have understood or found obvious that the **communications transceiver is configured for communicating data external to the portable mobile computing device**, *e.g.*, given that this was a standard function of communications transceivers.” *Id.* at 61–62 (citing Ex. 1005 ¶¶ 22, 23, 38, 27–29, 35; Ex. 1003 ¶ 125).

On this record, Petitioner has made a sufficient showing that the combination of Marek and Skarine teaches the preamble and all of the limitations of claim 1, which Patent Owner does not dispute at this stage.

b. Rationale to Combine

Petitioner contends that “[t]o the extent that Marek omits details regarding its untrusted host mobile device and components thereof, a POSITA would have understood or found it obvious that the untrusted host

mobile device of the combination includes common and well-known components of mobile devices many of which are described, *e.g.*, in Skarine.” Pet. 14 (citing Ex. 1003 ¶ 31). In the combination, Petitioner argues, Skarine’s “speaker and microphone are configured such that information is communicated from the processor of Marek’s untrusted host mobile device to the speaker, and from the microphone to the processor.” *Id.* (citing Ex. 1003 ¶¶ 33–35).

Petitioner supplies three reasons why a POSITA would have implemented this configuration. *Id.* at 15–17 (citing Ex. 1003 ¶¶ 36–42). First, Petitioner contends, “a POSITA would have been motivated to pursue this implementation because doing so enables the mobile device to be used to carry out ‘voice communications,’ *e.g.*, phone calls or voicemail, which was conventional mobile device functionality, *e.g.*, as evidenced by Skarine.” *Id.* at 15 (citing Ex. 1003 ¶ 37). Second, Petitioner contends, “a POSITA would have been motivated to pursue this implementation because having the speaker and microphone in communication with the processor of the mobile device enables the mobile device to be used for entertainment (*e.g.*, for playing music) and/or for professional purposes (*e.g.*, recording interviews or meetings), which are other examples of conventional audio functionality in standard mobile devices.” *Id.* (citing Ex. 1003 ¶ 38). And third, Petitioner contends that “a POSITA would have been prompted to pursue this implementation because doing so is merely the application of known techniques (*e.g.*, a speaker and microphone communicatively connected to a mobile device processor) by a known system (*e.g.*, Marek’s untrusted host mobile device) to yield predictable results (*e.g.*, a mobile device with conventional audio capabilities).” *Id.* at 16 (citing Ex. 1003

¶ 39). Petitioner also provides a detailed explanation for why a POSITA would have had a reasonable expectation of success in making the combination. *Id.* at 16–17 (citing, e.g., Ex. 1003 ¶¶ 40–41).

Patent Owner contends that Petitioner fails to establish that a POSITA would have combined Marek and Skarine as proposed. Prelim. Resp. 9–12. Patent Owner takes issue with Petitioner’s “purported basis for combining,” which Patent Owner characterizes as “to provide audio functionality in the untrusted host mobile device,” because “the challenged claims neither recite nor require audio functionality.” *Id.* at 10–11. Although Patent Owner acknowledges that some unchallenged claims (claims 11 and 19) recite an “audio interface,” Patent Owner argues that “none of the challenged claims include these limitations.” *Id.* at 11. Patent Owner further asserts that “[t]here is no motivation to combine these references absent hindsight reconstruction because the primary reference, Marek, already teaches wireless communications with a Secure Computing Module interfaced with an untrusted PDA, just not in the way disclosed and claimed in the ’399 patent.” *Id.* (quoting Ex. 1004, 12:13–21).

At this stage, Petitioner’s reasons for combining Marek and Skarine are sufficiently persuasive for institution. For instance, we agree with Petitioner, on this record, that “a POSITA would have been motivated to pursue this implementation because doing so enables the mobile device to be used to carry out ‘voice communications,’ e.g., phone calls or voicemail, which was conventional mobile device functionality.” Pet. 15. We further agree with Petitioner, at this stage, that this implementation would merely be “the application of known techniques (e.g., a speaker and microphone communicatively connected to a mobile device processor) by a known

system (*e.g.*, Marek’s untrusted host mobile device) to yield predictable results (*e.g.*, a mobile device with conventional audio capabilities).” *Id.* at 16.

Patent Owner’s arguments are unavailing at this stage. Although Patent Owner is correct that the challenged claims do not recite an “audio interface,” Petitioner applies Skarine’s speaker and microphone disclosure to the claimed “non-secure human/machine interface.” Pet. 14, 57. Patent Owner does not dispute that a speaker and microphone constitute a non-secure human/machine interface, and on this record, we agree with Petitioner that they do. Thus, Patent Owner’s first contention that the combination is improper because the claims do not recite an audio interface is inapposite because on this record, Skarine’s audio interface discloses the claimed non-secure human/machine interface.

Patent Owner’s second contention, that there is no motivation to combine because “Marek already teaches wireless communications with a Secure Computing Module interfaced with an untrusted PDA” is also unavailing on this record. *See* Prelim. Resp. 11. On this preliminary record, we determine that Marek’s wireless communications disclosure does not undermine Petitioner’s rationale to combine Skarine’s speaker and microphone with Marek. *See* Pet. 14. Patent Owner provides no explanation for this argument. *See* Prelim. Resp. 11.

Accordingly, on this record, Petitioner’s rationale to combine is sufficient for institution.

c. Summary as to Claim 1

Based on the preliminary record before us, Petitioner has shown a reasonable likelihood that the combination of Marek and Skarine would have rendered claim 1 obvious.

4. Independent Claim 9

Petitioner raises similar arguments for independent claim 9 as for claim 1, which Patent Owner does not contest at this preliminary stage. *See* Pet. 73–75. For similar reasons as discussed above, Petitioner has shown a reasonable likelihood that the combination of Marek and Skarine would have rendered claim 9 obvious.

5. Dependent Claims 2–7, 10

Petitioner contends that dependent claim 2–7 and 10 would have been obvious over the combination of Marek and Skarine. Pet. 63–73, 75. Petitioner provides a detailed analysis explaining where the combination of Marek and Skarine discloses or suggests the limitations in these dependent claims, which Patent Owner does not contest at this preliminary stage. Based on the current record, which we have reviewed, we determine that Petitioner has demonstrated a reasonable likelihood that the combination of Marek and Skarine would have rendered obvious claims 2–7 and 10.

F. Remaining Grounds

Petitioner also contends that the challenged claims would have been obvious over other grounds, which are set forth above. Pet. 75–85. Patent Owner also does not dispute these grounds at this stage. We leave for trial the issue of whether these additional grounds would have rendered the challenged claims unpatentable.

IV. CONCLUSION

At this stage of the proceeding, we determine that Petitioner has demonstrated a reasonable likelihood of prevailing on its challenge as to at least one challenged claim. At this preliminary stage, we have not made a final determination as to the patentability of the challenged claims or any underlying factual and legal issues.

V. ORDER

It is, therefore,

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review of all challenged claims of the '399 patent is instituted with respect to all grounds of unpatentability set forth in the Petition; and

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial commencing on the entry date of this Decision.

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