

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

IRIUSRISK, INC.,
Petitioner,

v.

THREATMODELER SOFTWARE, INC.,
Patent Owner.

Case IPR2023-00656
Patent 10,713,366

PATENT OWNER SUR-REPLY

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PATENT OWNER’S EXHIBIT LIST

Exhibit No.	Description
EX-2001	Patent Owner’s December 4, 2023 Power of Attorney
EX-2002	Transcript of Robert Hurlbut Deposition taken December 18, 2023
EX-2003	CIO Article dated August 23, 2016
EX-2004	Draft NIST Special Publication 800-154 entitled “Guide to Data-Centric System Threat Modeling,” March 2016
EX-2005	Excerpts from <i>Measuring and Managing Information Risk, A FAIR Approach</i> , by Jack Freund and Jack Jones, 2015
EX-2006	NIST Special Publication 800-30, Rev. 1, entitled “Guide for Conducting Risk Assessments, Sept. 2012
EX-2007	Committee on National Security Systems (CNSS) Glossary, CNSSI No. 4009, April 6, 2015
EX-2008	Excerpts from <i>Threat Modeling</i> by Frank Swiderski and Window Snyder, 2004
EX-2009	Declaration of Seth James Nielson, Ph.D.

I. INTRODUCTION

The Board should determine that Petitioner has not shown that any of the Challenged Claims are unpatentable.

First, the Supreme Court’s decision in *SAS Institute Inc. v. Iancu*, 138 S. Ct. 1348 (2018), makes clear that Petitioner cannot wait until its Reply to make out a *prima facie* case of invalidity. The Board’s Consolidated Trial Practice Guide, Nov. 2019 (“CTPG”) was amended in the aftermath of *SAS* to make it clear that the Petitioner cannot wait until its Reply to make a *prima facie* case of unpatentability.

Second, Petitioner has changed the theories of invalidity (1) by arguing that the priority date for the ‘366 Patent is later than that relied upon in the Petition; and (2) whether Keenan inherently (as tacitly alleged in the Reply) discloses the claimed threats.

Third, nothing in the Reply (or the Petition) shows that Keenan discloses the claimed “threat” or the other claim terms including “threats.”

Fourth, nothing in the Reply (or the Petition) establishes that the elements of dependent claims 2-3, 5-6, 9-10, 14, and 17-18 are disclosed by Keenan.

For Ground 2, neither Zheng nor Baker disclose the *claimed* “mapping files.” Moreover, Petitioner has failed to establish a basis for combining Zheng

with Baker.

II. CLAIM CONSTRUCTION

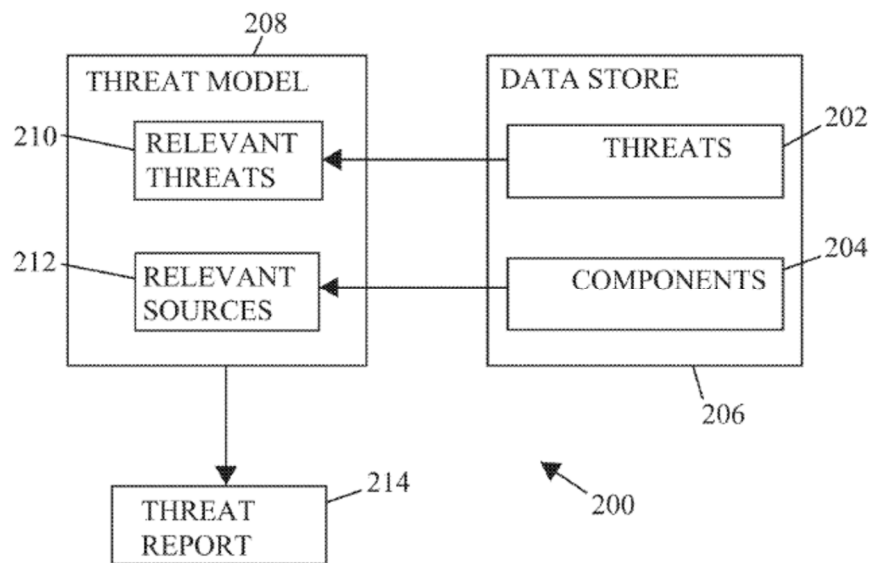
A. “Threat”

Petitioner argues that “threat” means an “undesirable event that may happen.” Petitioner’s construction is not tied to threat modeling or threat models. *Medrad, Inc. v. MRI Devices Corp.*, 401 F.3d 1313, 1319 (Fed. Cir. 2005) (“We cannot look at the ordinary meaning of the term ... in a vacuum. Rather, we must look at the ordinary meaning in the context of the written description and the prosecution history.”); *V-Formation, Inc. v. Benetton Group SpA*, 401 F.3d 1307, 1310 (Fed. Cir. 2005) (intrinsic record “usually provides the technological and temporal context to enable the court to ascertain the meaning of the claim”).

PO’s construction specifies that threats, when realized, “can cause adverse effects to a target system.” The phrase in PO’s construction that reads “if they occur, can cause adverse effects to a target system” merely recognizes that the “potential event” cannot cause adverse effects to a target system unless it occurs.

Petitioner criticizes PO’s construction because a “threat” would include events that cannot occur in a particular system. But that is how “threat” is used in the ‘366 patent. The specification explains that in exemplary implementations, a user selects the subset of threat model components that are relevant to the system,

process, or application being modeled. ‘366 Patent, 9:17-20. The system retrieves the selected components and the threats that were previously associated with the components for inclusion in the threat model. ‘366 Patent, 9:26-33. Thus, not every threat is necessarily included in the threat model. This relationship is shown in Figure 2, below.



Moreover, Dr. Nielson’s testimony is consistent with PO’s construction of the ‘366 Patent. In the passage of testimony cited at the bottom of page 4 of the Reply, Dr. Nielson testified that a Bluetooth port may be a “relevant source” depending on the context of the system being modeled. As Dr. Nielson testified, bluejacking may be a threat if a laptop is used in a coffee shop and may not be a threat if the same laptop is used in a law office. EX-1015, 29:6-18.

B. “Mapping File”

Petitioner criticizes PO’s construction of “mapping file” as being redundant of other claim language and unduly restrictive. Petitioner’s criticisms are irrelevant because Petitioner concedes that the language it complains about is already a requirement of the independent claims. Reply, 6. Petitioner cites *Robotic Vision Sys., Inc. v View Eng’g, Inc.*, 189 F.3d 1370 (Fed Cir. 1999), for the proposition that claims should not be construed to render other claim language redundant. First, *Robotic Vision* states that “[w]hen construing a claim, a court should first look to the intrinsic evidence, i.e., the patent itself, including the claims, the written description, and the prosecution history, if in evidence.” *Robotic Vision*, 189 F.3d at 1375 (emphasis added) (citing [*Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 \(Fed. Cir. 1996\)](#)).

Second, in *Robotic Vision*, the issue was whether to construe a term in independent claim 1 by incorporating a limitation from dependent claim 4 into the construction. *Robotic Vision*, 189 F.3d at 1376. The court noted that to include the limitations of dependent claim 4 into the construction of a term from independent claim 1 would render dependent claim 4 “redundant and would add no additional limitations.” *Id.*

Petitioner also cites to *Fortinet, Inc. v. Sophos, Inc.*, 2015 WL 877410, at

*13 (N.D. Cal. Feb. 27, 2015), which relies on the *Robotic Vision* decision.

Fortinet is a misapplication of *Robotic Vision*. In *Fortinet*, the construction rejected by the court did not incorporate limitations from a dependent claim into an independent claim, thereby rendering a dependent claim redundant.

Third, Petitioner’s argument ignores the prosecution history evidence cited in the Response in which the applicant explained that “[t]he mapping file correlates the internal threat model components with the external third party diagram components” EX-1002, 506. The only “evidence” Petitioner cites in support of its construction is the *ipse dixit* statement of its expert, which is extrinsic evidence.

III. GROUND 1: KEENAN DOES NOT ANTICIPATE ANY CHALLENGED CLAIM

A. Keenan Is Not Prior Art

1. Petitioner Cannot Make a *Prima Facie* Case of Anticipation in Its Reply

Petitioner improperly waited until its Reply to make an essential element of its anticipation contention – namely, that Keenan is prior art. In *SAS Institute Inc. v. Iancu*, 138 S. Ct. 1348 (2018), the Supreme Court held that the IPR statutes require that the petitioner’s petition “guide[s] the life of the litigation.” *SAS*, 138 S. Ct. at 1356. “[T]he statute tells us that the petitioner’s contentions, not the Director’s discretion, define the scope of the litigation all the way from institution through to conclusion.” *Id.* at 1357. Thus, the four corners of the petition define

the scope of the IPR.

Title 35 U.S.C. §312 requires that “the petition identifies, in writing and with particularity, each claim challenged, the grounds on which the challenge to each claim is based, and the evidence that supports the grounds for the challenge to each claim, ...” 35 U.S.C. §312(a)(3) (emphasis added). The Board’s Consolidated Trial Practice Guide explicitly states that “Petitioner may not submit new evidence or argument in reply that it could have presented earlier, e.g. to make out a prima facie case of unpatentability.” Consolidated Trial Practice Guide, Nov. 2019 (“CTPG”), 73; *see also* 37 C.F.R. §42.22(a)(2).

The Reply cites a supplemental declaration from its expert and at least four other exhibits to support the argument that Keenan qualifies as prior art. All of this is additional evidence that should have been included in the Petition to make out a *prima facie* case of anticipation.

Additionally, if Petitioner had included the argument that Keenan qualifies as prior art in the Petition, Petitioner would have violated the PTAB word limit. The Petition was certified to have 13,947 words – just shy of the 14,000 word limit of 37 C.F.R. §42.24(a)(1)(i). Petitioner’s Reply has pages of argument and hundreds of words directed to establishing Keenan is prior art. Reply, 7-10.

Petitioner cites to *Innovative Growers Equip., Inc. v. Pipp Mobile Storage*

Sys., Inc., No. IPR2022-00893, 2023 WL 7107846, at *18 (P.T.A.B. Oct. 27, 2023), and *Dynamic Drinkware, LLC v. National Graphics, Inc.*, 800 F.3d 1375, 1381 (Fed. Cir. 2015), to support its argument that it could wait until its Reply to make the argument that Keenan qualifies as prior art.

First, the Supreme Court in *SAS* was clear that the petition defines the scope of the IPR. *SAS*, 138 S. Ct. at 1357. Attempting to establish that Keenan is prior art was not included in the Petition.

Second, to the extent that the Supreme Court’s 2018 decision in *SAS* conflicts with the 2015 Federal Circuit decision in *Dynamic Drinkware*, the *SAS* decision vitiates the cited portion of *Dynamic Drinkware*.

Third, the Board’s CTPG clearly states that argument and evidence needed to make out a *prima facie* case of unpatentability cannot be made for the first time in the Reply. CTPG, 73; *see also* 37 C.F.R. §42.22(a)(2). The current version of the CTPG states that “[r]evisions to reconcile updates and to reflect the Board’s current practices relate to institution of trial after *SAS Institute Inc. v. Iancu*, 138 S. Ct. 1348 (2018);” CTPG, 1. Thus, the CTPG’s requirement that all argument and evidence supporting a *prima facie* case of unpatentability must not be held for the reply aligns with the *SAS* holding that the Petition defines the scope of the IPR.

Petitioner failed to make a *prima facie* case of unpatentability in its Petition

by showing (or even attempting to show) that Keenan was prior art. By attempting to do so now, the Reply contains new argument and evidence that should be excluded by the Board.

2. Petitioner Cannot Change Its Theory of the ‘366 Patent’s Priority Date in Its Reply

Another new theory of unpatentability in the Reply is the argument that the ‘366 Patent is not entitled to the May 17, 2017 filing date of its earliest provisional application. Reply, 10-12. The Petition explicitly states that “[f]or purposes of this IPR only, Petitioner applies a priority date of May 17, 2017.” Pet., 8. Now, Petitioner argues that the ‘366 Patent is only entitled to an August 15, 2019 priority date, and thus, Keenan is prior art because it was filed on April 19, 2018. Reply, 10. Petitioner relies on four newly filed exhibits to make its case. Reply, 11. All of this argument and these exhibits could have been included in the Petition, but they were not. This theory and associated exhibits should be excluded by the Board.

Petitioner’s new theory of unpatentability is prejudicial to Patent Owner because Patent Owner deposed Petitioner’s expert based on the May 17, 2017 priority date used in the Petition. EX-2002, 18:6-10.

Under 37 C.F.R. §42.23(b), a reply “may only respond to arguments raised in the corresponding opposition, patent owner preliminary response, patent owner

response, or decision on institution.” Patent Owner never argued that the ‘366 Patent was entitled to a different priority date other than the May 17, 2017 date relied upon in the Petition. POR, 47-48. The Board should refuse to consider the Reply and associated exhibits. *See Intelligent Bio-Systems, Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1366 (Fed. Cir. 2016).

B. Keenan Does Not Disclose Threats

1. Petitioner Now Concedes that Risk and Threats are Distinct

To reorient the discussion, each of the independent claims of the ‘366 Patent requires “one or more databases” and:

a plurality of threats stored therein, wherein each of the threats is associated with at least one of the threat model components through the one or more databases.

EX-1001, 43:22-29, 44:24-33, 45:24-33. The claims do not merely require a “determination” of threats or merely a disclosure of threats.

In the Petition, the lynchpin of Petitioner’s argument was that “[a] POSITA would further understand that Keenan’s ‘risk’ includes threats because measuring risk includes a determination of threats, and Keenan discloses that Views may use color to ‘represent different types of risk (e.g., cyber, environmental, accidental, etc.).’” Petition, 28. But Petitioner’s expert admitted in his deposition that knowing risk does not allow one to determine the threat that may have given rise to

the risk. EX-2002, 61:7-24; see also 64:14-25, 66:2-9, EX-2009, ¶81. This deposition testimony contradicted Mr. Hurlbut's declaration testimony. EX-1003, ¶82.

Moreover, the '366 Patent itself demonstrates that risk does not allow one to determine an associated threat. Figure 8 of the '366 Patent shows that a "very high" risk could correspond to any one of six different threats. EX-1001, Fig. 8.

These facts undermine the theory in the Petition (and repeated in the Reply) that knowing risk means a POSITA must determine the associated threat. *E.g.*, Petition, 28 ("measuring risk includes a determination of threats"); Reply, 13 (a POSITA must determine the threat").

Petitioner's Reply tries to make the argument that in order to analyze risk (as in Keenan), a POSITA must know the "impact" of a threat and the "likelihood" that the threat will occur, and thus, must determine the threat, in order to calculate the risk. *E.g.*, Reply, 14. Thus, according to the Reply, Keenan (implicitly) discloses the determination of threats. *E.g.*, Reply, 14.

First, the Petition stated that Keenan disclosed the claimed "threats" – not an implicit determination of threats. Petition, 28. An implicit determination is outside the scope of the Petition and an improper new theory that cannot be added to the proceeding in the Reply.

Second, determining threats is not sufficient to anticipate the claims of the ‘366 Patent. The claims require a storing of threats in a database and an association of each threat with at least one threat model component through the database. Thus, an alleged determination of threats is wholly insufficient to disclose the relevant claim limitations.

Third, Keenan never discloses a need to “calculate risk.” Keenan’s system *starts with the risk levels already calculated* for each object in each View. Keenan explains that “each object is defined by a fixed set of characteristics.” EX-1004, 11:19-20. “Characteristics” are defined in Keenan to include a “risk measurement.” EX-1004, 4:64-66. In Keenan’s user interface for the IOE, a box “allows a user a quick way to calculate the risk *of the selected View*.” EX-1004, 18:6-8 (emphasis added), *see also* EX-1004, 18:8-22. In Keenan, a user can “calculate” the aggregate risk in a View or aggregate risk in a path within a View based on a formula (not disclosed) or an aggregation formula (not disclosed). EX-1004, 18:6-22, *see also* 1:47-52, 2:1-2, 4:64-67, 5:33-44. Keenan never calculates the risk of an individual object within a View, which is the premise of the argument in the Reply. *E.g.*, Reply, 14.

In support of its Reply argument that Keenan (implicitly) discloses threats or the determination of threats, Petitioner makes several evidentiary citations that do

not support the stated proposition.

For example, the Reply states that “Keenan further discloses that all parts of its analysis are stored in its system,” citing to EX-1004, 6:56-60. First, Petitioner makes this statement to support the larger argument that the threats that allegedly “must be determined” in Keenan are in fact determined. But as explained above, Keenan does not determine threats. Instead, Keenan starts with risk values or measurements. Second, the Petitioner’s citation does not support the proposition. Keenan at 6:56-60 is a conditional statement. It reads “if data, destined for inclusion in analysis or reporting, is held in a location then a data storage object must exist.” That does not mean “all parts of [Keenan’s] analysis are stored in its system.” Third, the claims require that the claimed threats are stored in one or more databases where each threat is associated with at least one threat model component through the one or more databases. Storing threats without identifying the remainder of the claim requirements is insufficient to anticipate the claims.

Another unsupported Reply statement reads “[i]n other words, as discussed above, ‘risk’ does not exist in a vacuum, and therefore specific types of risk stem from specific types of threats,” citing EX-1015, 101:21-133[sic:103]:4. In that testimony, Dr. Nielson never states that types of risk stem from specific types of threats. Indeed, Dr. Nielson never mentions “threats” in that passage. Moreover,

the record is clear that one cannot determine threats based on knowledge of risk or risk measurements. EX-2002, 61:7-24; *see also* 64:14-25, 66:2-9; EX-2009, ¶81.

Perhaps the most egregious example of an unsupported statement is the (partial) quote from Dr. Nielson repeated multiple times in the Reply which reads “a risk analysis requires some form of threat analysis.” Reply, 1, 7, 12. First, this statement is key to Petitioner’s newly minted inherency argument because Petitioner needs evidence that to analyze risk, a POSITA must analyze (and thus determine) threats. This new theory should not be accepted by the Board. Second, Dr. Nielson’s testimony was in the context of the risk analyses he and his company have conducted professionally. EX-1015, 8:12-10:7. Dr. Nielson did not testify that Keenan discloses (explicitly or inherently) a threat analysis for each risk analysis. Third, the full sentence from which the Reply quotes reads “[a]gain, *that can be somewhat context-specific, but typically* a risk analysis requires some form of threat analysis” EX-1015, 10:1-4 (emphasis added). Dr. Nielson did not say that all risk analyses require corresponding threat analyses. In fact, Dr. Nielson testified about situations where threat determinations are not required to analyze risk. EX-1015, 73:15-74:5, 80:5-81:19.

The Reply criticizes Patent Owner for what it says is a “single conclusory statement” in the Patent Owner’s Response to the Institution Decision. Reply, 15.

As it relates to Keenan and risk versus threat, the *main thrust* of the Response is to establish that a POSITA cannot determine threats from risk and that knowing risk is not the same as knowing threats.

Petitioner also makes the assertion that, in Keenan, color “is identifying ‘*generic nature of a risk*,’ which identifies the nature of the threat, as discussed above.” Reply, 15-16 (citing EX-1003, ¶¶79, 82) (emphasis in original). But this assertion assumes that knowing risk allows a POSITA to determine risk which PO has shown to be wrong.

The Reply also incorrectly states that “both parties’ expert had no trouble identifying various types of problems that may arise from cyber, environmental, and accidental risks at their deposition,” citing EX-2002, 61:7-24. Reply, 16. But the citation to Mr. Hurlbut’s testimony supports the *opposite* conclusion. In the cited passage, Mr. Hurlbut testified that a POSITA cannot determine the treat giving rise to a risk, acknowledging that there is no “one to one” correspondence between a risk and a threat. EX-2002, 61:7-24.

The Reply argues that “there is simply no requirement in the claims of the ‘366 patent that a specific threat must be identified.” Reply, 16. This statement is true as far as it goes. The claims do not require a literal “determination” of a threat. But the claims do require the storing of specific threats in one or more

databases and the association of each of those threats with at least one threat model component through the one or more databases. But a “determination” of threats is as far as Petitioner attempted to go with Keenan. *E.g.*, Petition, 28 (“measuring risk includes a determination of threats”); Reply, 13 (a POSITA must determine the threat ...”).

The Reply undermines the Petition. The Petition states that “[t]he ‘types of risk’ [in Keenan] are threats because the described examples are threats (cyber/environmental/accidental).” Petition, 28 (emphasis added). But instead of asserting that risks are threats (as in the Petition), the Reply states that the “‘types of risk’ stem from the underlying threat.” Reply, 15 (emphasis added). The Reply also belatedly admits that “threats and risk are different.” Reply, 1.

The Reply also argues that “a POSITA presented with a threat or risk category would understand at least some of the specific underlying threats.” Reply 17. That is not true. The cited testimony shows that, at best, knowing risk may allow a POSITA to determine some potential threats. But none of that testimony shows that a POSITA would know or be able to determine which specific threat or threats gave rise to the risk. Reply, 17.

2. Petitioner Cannot Rely on a Veiled Inherency Argument in Its Reply

The Petition stated that “Keenan discloses threats within its risk analysis.”

Petition, 28 (emphasis added). This is not an inherency argument.

In the Institution Decision, the Board recognized that the Petition was premised on an “explicit” disclosure of limitation 1[b] in Keenan. “Petitioner argues that, although Keenan may not use the identical terminology as the ‘366 patent, Keenan nevertheless explicitly discloses limitation 1[b] *to the skilled artisan.*” Institution Decision, 16 (citing Petition, 28).

Now, faced with the contradictory testimony of Mr. Hurlbut, the testimony of Patent Owner’s expert, Dr. Nielson, and the teachings of the ‘366 Patent, Petitioner has shifted its theory of anticipation in its Reply to effectively argue inherency. First, Petitioner acknowledges that threats and risk are distinct concepts. “[T]his was never in dispute.” Reply, 1. Second, Petitioner states that “[r]ealizing that this definition [of threat] necessarily means that Keenan’s risk analysis includes threats, ...” Reply, 13 (emphasis added). This is an inherency argument not relied upon in the Petition. As such, it is an improper theory for finding anticipation newly included in the Reply. The Board should refuse to consider the Reply and associated exhibits because of this new theory. *See Intelligent Bio-Systems*, 821 F.3d at 1366.

C. Keenan Does Not Disclose Dependent Claims 2-3, 9-10, and 17-18

Petitioner’s Reply only makes a half-hearted attempt to justify the invalidity

of claims 2-3, 9-10, and 17-18. Substantively, these claims comprise three pairs in which claims 2-3, collectively, are the same as claims 9-10 and claims 17-18.

Each pair comprises subject matter exclusive to the other claim in the pair to the extent these claims recite where the mapping files are stored. For example, claim 2 recites “wherein the one or more mapping files are not stored in the one or more databases but are stored on the one or more computing devices.” Claim 3 recites “wherein the one or more mapping files comprise one or more tables stored within the one or more databases.” EX-1001, 43:62-67.

The Reply only deals with part of the claim language while conveniently ignoring the remainder of the claims. The Reply states that claims 2, 9, and 17 recite that the mapping file is stored on “the one or more computing devices.” Reply, 18-19. But the claims also require that the mapping file(s) “are not store in the one or more databases” recited earlier in claim 1. Neither the Reply nor the Petition make any attempt to show that the mapping file(s) “are not store in the one or more databases.” *Id.*

Claims 3, 10, and 18 require that the mapping file(s) “comprise one or more tables stored within the one or more databases” recited in claim 1. EX-1001, 43:65-67, 45:1-3, 46:27-29. The Reply points to the “characteristics table” associated with “Flow Objects.” Reply, 19. But Keenan explains that “flow

objects” “represent the passing of data from one object to the other.” EX-1004, 7:15-16. The Flow Objects cited in the Reply are topological objects defining relationships between other objects in the topology within a View. EX-1004, 7:25-29. Flow Objects have nothing to do with “mapping files” which correlate threats model components with visual diagram components of a third party software application, as required by the claims.

Indeed, the Petition did not rely upon “Flow Objects” as disclosing the claimed “mapping files.” Instead, the Petition relied upon the “topology graph database” as disclosing the claimed “mapping files.” Petition, 24.

Keenan does not specify where the alleged “mapping files” are stored.

D. Keenan Does Not Disclose Dependent Claim 5

The Reply argues that PO “wholly ignores” the Petition’s argument that a POSITA would understand that Keenan’s system checks for default titles or user-defined names in either order. Reply, 19. That is incorrect. Response, 45. The Reply conveniently truncates the sentence it quotes from the Petition. The full sentence reads “a POSITA would further understand that Keenan discloses a system that checks for default titles or user-defined name matches in either order **because** Keenan’s system allows a user to ‘select a method for *adding an object*, such as External Object ID ... and Name of object.’” Petition, 43-44 (some

emphasis added). The Petition did not argue that a POSITA would understand Keenan to disclose checking for name or default titles in either order. Instead, the Petition argued that a POSITA would reach that understanding “because Keenan’s system allows a user to ‘select a method for adding an object, such as external Object ID ... and Name of object.’” Petition, 42-43.

As explained in PO’s Response, the claims require the step of “reading a data file ..., the data file comprising the subset of the third party diagram components.” EX-1001, 43:40-43. Dependent claim 5 then requires that the system determines, for the “subset of third party diagram components,” whether a “user-defined name” has a match in the mapping files, and if not, then determining whether a “default title” for the subset of third party components exists in the mapping files. EX-1001, 44:4-13.

The Reply is completely detached from the Petition in that the Reply focuses on what may occur when manually adding individual objects. Reply, 19. The manually added individual objects are **not** the claimed “subset of the third party diagram components” recited in claim 1 based on the allegations in the Petition.

E. Keenan Does Not Disclose Dependent Claims 6 and 14

Petitioner argues that PO’s Response ignores the Petitioner’s actual arguments relating to dependent claims 6 and 14. Reply, 19. The Reply then

reiterates portions of its argument from the Petition. Reply, 19-20. But the statements that PO allegedly ignored are Petitioner's conclusory allegations allegedly based on the citations provided to support its conclusions. PO's Response analyzed each of Petitioner's actual evidentiary citations to show that the evidence does not support Petitioner's conclusions. Response, 46. Nothing in Petitioner's Reply changes that analysis.

IV. GROUND 2: ZHENG COMBINED WITH BAKER AND JONES DOES NOT RENDER ANY CHALLENGED CLAIM OBVIOUS

A. Zheng Does Not Disclose a "Mapping File"

The arguments presented in the Reply expressly ignore recited claim elements. The claims expressly recite "one or more mapping files *correlating the threat model components with visual diagram components of a third party software application.*" While Petitioner alleges that the prior art teaches mapping various elements, these allegations fail to demonstrate a mapping of "threat model components with visual diagram components of a third party software application". Petitioner seems to allege that any indirect chain of information leading from a third party diagram to a threat model satisfies the claimed mapping file. This is somewhat akin to saying that a teaching of steel beams anticipates a suspension bridge.

Petitioner further cites to multiple passages in Zheng and Dr. Nielson's

testimony supporting its argument. But none of those citations support the conclusion that Zheng discloses the claimed “mapping files.”

For example, the Reply cites Zheng, 5:6-24. Reply, 21. The threats, threat actors, threat targets, and a connecting vector discussed in this passage all occur in the threat modeling layer 204. Zheng explains that “[g]enerally, data in the threat modeling layer 204 can be organized into threat agents, vectors, and targets.” EX-1005, 5:12-13. This is a cartographic representation of the elements in Zheng’s threat modeling layer. This does not describe the claimed “mapping files.”

The Reply also cites Dr. Neilson’s testimony at 128:14-21. Reply, 21-22. First, this testimony was based on Zheng, 4:13-16. EX-1015, 128:3. That passage refers to traffic and other information comprising information in addition to “basic cartographical details.” This “traffic and other information” is an overlay on the foundational map layer and does not relate to any “mapping files correlating the threat model components with visual diagram components of a third party software application,” as required by the claims. Additionally, Zheng never explains that overlaying active attacks (such as those in the threat update layer 208 or any other overlaid layer) uses a claimed “mapping file.”

The Reply cites Zheng 8:25-38 (and Dr. Nielson’s related testimony) for the idea that Zheng can store data in a database for “each possible

combination/interaction of the layers.” While Zheng teaches that it can store data in a database for a combination/interaction of multiple layers, Zheng discloses that the data from each of two or more layers is simply combined into a single database table. EX-1005, 8:25-38. There is no disclosure that a claimed “mapping file” is used. In fact, the teaching that a single database table includes data from multiple layers eliminates the need for a mapping file to correlate the data from two or more different layers.

Nor could a claimed mapping file be used in Zheng. The claimed mapping file must correlate threat model components with visual diagram components of a third party software application (such as the Visio application). The claims further recite that a data file is read and the data file includes a subset of possible third party diagram components. EX-1001, 43:40-43. The layers relied upon in the Reply are layers created within the Zheng system and are not third party diagram components in a data file that is read by Zheng’s system.

Finally, the Reply states that the ‘366 Patent “explicitly acknowledges that a database table is a type of mapping file.” Reply, 22-23. That is not true. The ‘366 Patent explains the opposite which is that mapping files may be stored in a database, not that a database is a mapping file. *E.g.*, EX-1001, 3:25-29.

B. A POSITA Would Not Have Combined Zheng and Baker

The Reply begins its discussion of allegedly why it would have been obvious to combine Zheng with Baker by backtracking and attempting to explain why Baker allegedly disclosed the claimed “mapping files.” Reply, 23. But the cited portions of Baker do not teach or suggest “mapping files correlating the threat model components with visual diagram components of a third party software application,” as required by the claims. Instead, at most, Baker discloses importing “risk management or control flowcharts” from a third party software application, such as Visio, and “automatically assign[ing] or associat[ing] predetermine objectives or controls according to the shapes of the imported flowcharts.” EX-1006, [0025]. Baker never explains what “objectives” are beyond stating that the system memory “includes process flowchart data indicative of an organization’s process objectives and controls.” EX-1006, [0005], *see also* [0005], [0011]-[0013]. Baker never teaches that the “objectives” or “controls” are threat model components, as required by the claims. Further, as explained in the Response, Baker has no need for “mapping files.” Response, 51.

Baker also teaches that a diagram file can be imported and later correlated to an organization’s “processes and controls” based on the organization’s process flow charts. *See, e.g.*, [0005], [0009] and [0025] and process 100 of FIG. 5 of

Baker. However, in Baker, “risk” assessment is a distinct process in which a user identifies a risk in various manners and enters risk data into a “risk matrix” which is later correlated to an element in a “risk model” in a conventional manner. *See* [0026] and process 200 of FIG. 5 of Baker. Accordingly, Baker merely teaches that a diagram file can be imported and converted into a format that is useable to create risk models in a conventional manner. In fact, by teaching that a user identifies a risk and enters risk data into a “risk matrix” which is later correlated to an element in a risk model in a conventional manner, Baker teaches away from “mapping files correlating the threat model components with visual diagram components of a third party software application” as recited in the claims.

In addition, the Reply argues that Baker discloses “correlating Visio shapes to native shapes.” Reply, 24. This is wrong. Baker discloses “assign[ing] or associat[ing] predetermine objectives or controls according to the shapes of the imported flowcharts.” EX-1006, [0025]. Baker makes no mention of correlating Visio shapes to native shapes. In fact, Baker says the opposite. It says it assigns or associates the objectives or controls “to the shapes of *the imported flowcharts.*” EX-1006, [0025] (emphasis added). No correlation or substitution of one set of shapes for another set of shapes occurs in Baker.

As for the alleged motivation to combine Zheng and Baker, the Reply cites

to the Petition and then includes a superficial argument that systems were known to import visual diagram components of a third party software into another system.

Reply 24-25. But the novelty of that feature is not the question. The question is whether there is evidence supporting the argument that a POSITA would have been motivated to combine Zheng with Baker.

In the section of the Petition cited by the Reply, the Petition argues that “background” section of Zheng “provides express motivation” to combine Zheng and Baker. Pet., 83. But Zheng’s “background” provides the problem that is allegedly solved by Zheng itself. After Zheng’s “background” section, Zheng’s summary begins with “Accordingly, there is a need for improved systems, methods and apparatuses” EX-1005, 1:37-40 (emphasis added). Thus, Zheng’s background lays the foundation for the solution described by Zheng itself. The background does not provide a POSITA with a motivation to look elsewhere for the solution.

Petitioner also argues that importing third party diagram components from an application like Visio would make Zheng’s system faster. Pet., 83-84 (*see* Reply, 24 (citing Petition, 54-65, which cites Petition, 83-85)). But faster speed is an unsupported assumption by Petitioner. Petitioner ignores the fact that someone either would have to (1) create the third party diagram in a third party application

(like Visio) or (2) create the system architecture diagram in the threat modeling application itself. Either way, the system architecture has to be defined one place or the other. There is no evidence that defining the architecture in a third party application is faster than defining it directly in Zheng.

Petitioner cites Dr. Nielson's testimony in support of its argument. Reply, 24-25 (citing EX-1015, 30:10-31:1, 32:19-35:13). But this testimony has nothing to do with the claimed "mapping files."

The remainder of Petitioner's motivation to combine arguments are general hand waiving arguments about ease of use and general improvements without proper and sufficient evidentiary support.

V. CONCLUSION

The challenged claims are not unpatentable as alleged in the Petition.

Dated: May 3, 2024

Respectfully submitted,

/s/ Donald L. Jackson
Donald L. Jackson

CERTIFICATION OF WORD COUNT

Pursuant to 37 C.F.R. § 42.24(b), (c) and (d), Patent Owner certifies that the word count of Patent Owner's Sur-Reply (exclusive of any table of contents, table of authorities, mandatory notices under § 42.8, certificates of service and word count, and list of exhibits or claim listing) as measured by Microsoft Word is 5,591 words.

By: /s/ Donald L. Jackson
Donald L. Jackson

CERTIFICATE OF SERVICE ON PETITION UNDER 37 C.F.R. § 42.105

Pursuant to 37 C.F.R. § 42.6(e) and 42.105(b), the undersigned certifies that, on January 12, 2023, a complete and entire copy of this Patent Owner Sur-Reply, together with all supporting exhibits, were served on Petitioner electronically, by agreement, by emailing a copy of the same to the following attorneys for Petitioner:

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