IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

IPA TECHNOLOGIES INC.,

Plaintiff,

v.

MICROSOFT CORPORATION,

Defendant.

Civil Action No. 18-1-RGA

MEMORANDUM OPINION

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ANDREWS, U.S. DISTRICT JUDGE:

Before me are Plaintiff's "Motion for Summary Judgment and *Daubert*" (D.I. 236) and Defendant's "Motion for Summary Judgment and to Exclude IPA Technologies Inc.'s Expert Opinions" (D.I. 239). I have considered the parties' briefing (D.I. 237, 258, 282 (Plaintiff's motion); D.I. 240, 259, 280 (Defendant's motion)). I heard oral argument on March 19, 2024 (Hearing Tr.).[1] The parties submitted supplemental letters in response to requests I made during oral argument. (D.I. 298, 299). At my request, the parties submitted supplemental claim construction briefing. (D.I. 312).

For the reasons set forth below, Plaintiff's summary judgment and *Daubert* motions are GRANTED IN PART, DENIED IN PART, and DISMISSED AS MOOT IN PART. Defendant's summary judgment and *Daubert* motions are GRANTED IN PART, DENIED IN PART, and DISMISSED AS MOOT IN PART.

I. BACKGROUND

Plaintiff owns U.S. Patent No. 6,851,115 ("the '115 patent") and U.S. Patent No. 7,069,560 ("the '560 patent"). The patents are directed to software-based architecture that "supports cooperative task completion by flexible and autonomous electronic agents." ('115 patent, Abstract; '560 patent, Abstract). Plaintiff filed this case in 2018, alleging infringement of its patents by products that incorporate Cortana, a virtual assistant developed by Defendant. (D.I. 1). More specifically, the infringement claims are directed towards two iterations of Cortana software called the Legacy Architecture and the Cortex Architecture. (Hearing Tr. at 46:23–47:7). The accused products include both client devices running Defendant's Windows

[1] Citations to the transcript of the argument, which is docketed as D.I. 305, are in the format "Hearing Tr. at __."

10 operating system and Defendant's server systems that process commands received from these Cortana-enabled client devices. (D.I. 263-1, Ex. 1 ¶ 75). "[T]he only way for a user to access Cortana . . . is through client devices running Windows 10, into which Cortana is embedded." (D.I. 259 at 18).

The Second Amended Complaint raised infringement claims based on six patents. (D.I. 16). Plaintiff now only asserts claims 29, 33, 38, 41, and 43 of the '115 patent and claims 50, 53, and 54 of the '560 patent. (D.I. 216). Claims 33, 38, 41, and 43 of the '115 patent depend from independent claim 29 of the same patent. ('115 patent, 32:55, 33:18, 33:44, 33:59). Claim 54 of the '560 patent depends from claim 53 of the same patent. ('560 patent, 36:28–29).

Plaintiff previously asserted the patents at issue against Amazon. *See IPA Techs. Inc. v. Amazon.com, Inc.*, No. 16-cv-1266 (D. Del. filed Dec. 19, 2016) (the "Amazon case"); *IPA Techs., Inc. v. Amazon.com, Inc.*, 2021 WL 5003254 (D. Del. Oct. 28, 2021), *aff'd*, 2023 WL 234192 (Fed. Cir. Jan. 18, 2023). The parties agreed to many of the claim constructions adopted in the Amazon case. (*See* D.I. 143; Amazon case, D.I. 128). Of relevance here, the term "request for service"/"service request" was construed as "the 'request for a service'/'service request' must be recited in the claimed ICL and must meet every requirement of the claimed ICL," the term "inter-agent language"/"inter-agent communication language"/"ICL" was construed as "an interface, communication, and task coordination language," and the term "compound goal"/"complex goal" was construed as "a single-goal expression comprising multiple sub-goals." (D.I. 143 at 4–5).

II. LEGAL STANDARD

A. Summary Judgment

"The court shall grant summary judgment if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(a). The moving party has the initial burden of proving the absence of a genuinely disputed material fact relative to the claims in question. *Celotex Corp. v. Catrett*, 477 U.S. 317, 323 (1986). Material facts are those "that could affect the outcome" of the proceeding. *Lamont v. New Jersey*, 637 F.3d 177, 181 (3d Cir. 2011). "[A] dispute about a material fact is 'genuine' if the evidence is sufficient to permit a reasonable jury to return a verdict for the non-moving party." *Id.* The burden on the moving party may be discharged by pointing out to the district court that there is an absence of evidence supporting the non-moving party's case. *Celotex*, 477 U.S. at 323.

The burden then shifts to the non-movant to demonstrate the existence of a genuine issue for trial. *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 586–87 (1986); *Williams v. Borough of West Chester*, 891 F.2d 458, 460–61 (3d Cir. 1989). A non-moving party asserting that a fact is genuinely disputed must support such an assertion by: "(A) citing to particular parts of materials in the record, including depositions, documents, electronically stored information, affidavits or declarations, stipulations . . . , admissions, interrogatory answers, or other materials; or (B) showing that the materials cited [by the opposing party] do not establish the absence . . . of a genuine dispute . . . ." Fed. R. Civ. P. 56(c)(1). The non-moving party's evidence "must amount to more than a scintilla, but may amount to less (in the evaluation of the court) than a preponderance." *Williams*, 891 F.2d at 460–61.

When determining whether a genuine issue of material fact exists, the court must view the evidence in the light most favorable to the non-moving party and draw all reasonable inferences in that party's favor. *Scott v. Harris*, 550 U.S. 372, 380 (2007); *Wishkin v. Potter*,

476 F.3d 180, 184 (3d Cir. 2007). If the non-moving party fails to make a sufficient showing on an essential element of its case with respect to which it has the burden of proof, the moving party is entitled to judgment as a matter of law. *See Celotex Corp.*, 477 U.S. at 322.

B. Infringement

A patent is directly infringed when a person "without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent." 35 U.S.C. § 271(a). Determining infringement is a two-step analysis. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996). First, the court must construe the asserted claims to ascertain their meaning and scope. *Id.* The trier of fact must then compare the properly construed claims with the accused infringing product. *Id.* This second step is a question of fact. *Bai v. L & L Wings, Inc.*, 160 F.3d 1350, 1353 (Fed. Cir. 1998). The patent owner bears the burden of proving infringement by a preponderance of the evidence. *SmithKline Diagnostics, Inc. v. Helena Lab'ys Corp.*, 859 F.2d 878, 889 (Fed. Cir. 1988).

"Literal infringement of a claim exists when every limitation recited in the claim is found in the accused device." *Kahn v. Gen. Motors Corp.*, 135 F.3d 1472, 1477 (Fed. Cir. 1998). "If any claim limitation is absent from the accused device, there is no literal infringement as a matter of law." *Bayer AG v. Elan Pharm. Research Corp.*, 212 F.3d 1241, 1247 (Fed. Cir. 2000). If an accused product does not infringe an independent claim, it also does not infringe any claim depending thereon. *See Wahpeton Canvas Co. v. Frontier, Inc.*, 870 F.2d 1546, 1553 (Fed. Cir. 1989). However, "[o]ne may infringe an independent claim and not infringe a claim dependent on that claim." *Monsanto Co. v. Syngenta Seeds, Inc.*, 503 F.3d 1352, 1359 (Fed. Cir. 2007) (internal quotations omitted). A product that does not literally infringe a patent claim may still

infringe under the doctrine of equivalents if the differences between an individual limitation of the claimed invention and an element of the accused product are insubstantial. *See Warner–Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 24 (1997). The patent owner has the burden of proving infringement and must meet its burden by a preponderance of the evidence. *See SmithKline Diagnostics, Inc. v. Helena Lab. Corp.*, 859 F.2d 878, 889 (Fed. Cir. 1988) (citations omitted).

When an accused infringer moves for summary judgment of non-infringement, such relief may be granted only if at least one limitation of the claim in question does not read on an element of the accused product, either literally or under the doctrine of equivalents. *See Chimie v. PPG Indus., Inc.*, 402 F.3d 1371, 1376 (Fed. Cir. 2005); *see also TechSearch, L.L.C. v. Intel Corp.*, 286 F.3d 1360, 1369 (Fed. Cir. 2002) ("Summary judgment of noninfringement is . . . appropriate where the patent owner's proof is deficient in meeting an essential part of the legal standard for infringement, because such failure will render all other facts immaterial."). Thus, summary judgment of non-infringement can only be granted if, after viewing the facts in the light most favorable to the non-movant, there is no genuine issue as to whether the accused product is covered by the claims (as construed by the court). *See Pitney Bowes, Inc. v. Hewlett–Packard Co.*, 182 F.3d 1298, 1304 (Fed. Cir. 1999).

C. Claim Construction

"It is a bedrock principle of patent law that the claims of a patent define the invention to which the patentee is entitled the right to exclude." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (cleaned up). "'[T]here is no magic formula or catechism for conducting claim construction.' Instead, the court is free to attach the appropriate weight to appropriate sources 'in light of the statutes and policies that inform patent law.'" *SoftView LLC*

v. Apple Inc., 2013 WL 4758195, at *1 (D. Del. Sept. 4, 2013) (alteration in original) (quoting *Phillips*, 415 F.3d at 1324). When construing patent claims, a court considers the literal language of the claim, the patent specification, and the prosecution history. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 977–80 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996). Of these sources, "the specification is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term." *Phillips*, 415 F.3d at 1315 (cleaned up). "While claim terms are understood in light of the specification, a claim construction must not import limitations from the specification into the claims." *Deere & Co. v. Bush Hog, LLC*, 703 F.3d 1349, 1354 (Fed. Cir. 2012) (citing *Phillips*, 415 F.3d at 1323).

"[T]he words of a claim 'are generally given their ordinary and customary meaning.' . . . [It is] the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." *Phillips*, 415 F.3d at 1312–13 (citations omitted). "[T]he 'ordinary meaning' of a claim term is its meaning to [an] ordinary artisan after reading the entire patent." *Id.* at 1321. "In some cases, the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words." *Id.* at 1314.

When a court relies solely on the intrinsic evidence—the patent claims, the specification, and the prosecution history—the court's construction is a determination of law. *See Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 574 U.S. 318, 331 (2015). The court may also make factual findings based on consideration of extrinsic evidence, which "consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and

learned treatises." *Phillips*, 415 F.3d at 1317–19 (quoting *Markman*, 52 F.3d at 980). Extrinsic evidence may assist the court in understanding the underlying technology, the meaning of terms to one skilled in the art, and how the invention works. *Id.* Extrinsic evidence, however, is less reliable and less useful in claim construction than the patent and its prosecution history. *Id.*

D. Daubert

Federal Rule of Evidence 702 sets out the requirements for expert witness testimony and states:

> A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if the proponent demonstrates to the court that it is more likely than not: (a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue; (b) the testimony is based on sufficient facts or data; (c) the testimony is the product of reliable principles and methods; and (d) the expert's opinion reflects a reliable application of the principles and methods to the facts of the case.

FED. R. EVID. 702 (amended Dec. 1, 2023). The Third Circuit has explained:

> Rule 702 embodies a trilogy of restrictions on expert testimony: qualification, reliability and fit. Qualification refers to the requirement that the witness possess specialized expertise. We have interpreted this requirement liberally, holding that "a broad range of knowledge, skills, and training qualify an expert." Secondly, the testimony must be reliable; it "must be based on the 'methods and procedures of science' rather than on 'subjective belief or unsupported speculation'; the expert must have 'good grounds' for his o[r] her belief. In sum, *Daubert* holds that an inquiry into the reliability of scientific evidence under Rule 702 requires a determination as to its scientific validity." Finally, Rule 702 requires that the expert testimony must fit the issues in the case. In other words, the expert's testimony must be relevant for the purposes of the case and must assist the trier of fact. The Supreme Court explained in *Daubert* that "Rule 702's 'helpfulness' standard requires a valid scientific connection to the pertinent inquiry as a precondition to admissibility."
>
> By means of a so-called "*Daubert* hearing," the district court acts as a gatekeeper, preventing opinion testimony that does not meet the requirements of qualification, reliability and fit from reaching the jury. *See Daubert* ("Faced with a proffer of expert scientific testimony, then, the trial judge must determine at the outset, pursuant to Rule 104(a) [of the Federal Rules of Evidence] whether the expert is

proposing to testify to (1) scientific knowledge that (2) will assist the trier of fact to understand or determine a fact in issue.").

Schneider ex rel. Estate of Schneider v. Fried, 320 F.3d 396, 404–05 (3d Cir. 2003) (footnote and internal citations omitted).[2]

III. DISCUSSION

A. Plaintiff's Motions

1. IPR Estoppel

Defendant's validity expert, Dr. Sycara, asserts invalidity of the '115 patent and the '560 patent based on the CNET OAA System, the RETSINA System, and combinations of either system with the Martin Paper. (D.I. 237 at 9–14). Plaintiff maintains Defendant is estopped from raising these invalidity theories.

a. System Art

Plaintiff argues that IPR estoppel attaches to invalidity theories relying on the CNET OAA and RETSINA Systems because they are not "systems," but sets of printed publications. (*Id.* at 10–14).

I gather that Plaintiff is not arguing that the claimed functional systems do not exist. The record appears to foreclose such a position. Plaintiff's counsel conceded video evidence showed demonstration of the CNET OAA System. (Hearing Tr. at 7:7–14). Plaintiff did not contest Defendant's claim that "the RETSINA System was a system that was conceived of and reduced to practice by Dr. Sycara during the course of her work at Carnegie Mellon University." (D.I. 258 at 6; Hearing Tr. at 17:3–9). The "printed publications" that Plaintiff insists are the

[2] The Court of Appeals wrote under an earlier version of Rule 702. Subsequent amendments affect the substance of the rule, but I do not think they alter the applicability of the quoted discussion.

"system," include source code, a recorded demonstration, a tutorial document, and other documentation which tend to suggest the existence and operation of these systems. (D.I. 237 at 4–5 (citing D.I. 238-15, Ex. O ¶¶ 80, 91)).

Plaintiff's position instead appears to be that the evidence Defendant and its expert rely on to demonstrate the systems' existence and functionality are all printed publications, and that I therefore should treat Defendant's invalidity theory as relying on these printed publications and not the underlying system.[3] This framing mischaracterizes Defendant's position. Defendant's invalidity theories are that the CNET OAA System is prior art due to public use under pre-AIA 35 U.S.C. § 102(b) and the RETSINA system is prior art as a prior invention under § 102(g). (Hearing Tr. at 19:14–29). Defendant is not arguing that the evidence of the system art was publicly used or constituted a prior invention. The fact that printed publications are used as evidence does not change what Defendant's invalidity theories are based on—the underlying system itself.[4] Even the district court case that Plaintiff heavily rests its argument on distinguished between "prior-art systems" and "evidence of prior-art systems." *See Singular Computing LLC v. Google LLC*, 668 F. Supp. 3d 64, 73–74 (D. Mass. 2023) (identifying "VFLOAT, CNAPS, and GRAPE-3" as the prior-art systems and identifying "prior-art publications describing the three systems[,] . . . source code, oral presentations, expert

[3] Plaintiff cites district court and P.T.A.B. case law suggesting that video recordings and source code qualify as "printed publications" that could be raised in an IPR. (D.I. 237 at 12–13 (citing *Medtronic Inc. v. Barry*, IPR2015-00780, Paper No. 51, at 8–9 (P.T.A.B. Sept. 7, 2016); *Trs. of Columbia Univ. in the City of New York v. Symantec Corp.*, 390 F. Supp. 3d 665, 674 (E.D. Va. 2019))). As it does not affect my conclusion, I assume source code and video recordings qualify as printed publications for the purposes of this motion.

[4] I note the question at hand is different from the question of whether the system art and printed publications are duplicative. *See Wasica Fin. GmbH v. Schrader Int'l, Inc.*, 432 F. Supp. 3d 448, 454 (D. Del. 2020).

testimony" and other documents as the evidence of the prior-art system). I do not accept Plaintiff's attempt to equate the system art that Defendant's invalidity theory is based on with the evidence Defendant uses to support its anticipation and obviousness arguments.

b. "Grounds"

Plaintiff contends that Defendant is estopped, under 35 U.S.C. § 315(e)(2), from raising invalidity theories based on the CNET OAA and RETSINA Systems because it raised, or could have reasonably raised, invalidity theories based on patents or printed publications describing those systems at IPR. (D.I. 282 at 1–3, Hearing Tr. at 21:7–23:1). Plaintiff argues similarly with regard to Defendant's reliance on combinations of the CNET OAA System or the RETSINA System with the Martin paper. (D.I. 237 at 9–10). Defendant maintains that IPR estoppel "extends only to invalidity theories based solely on patent and printed publication prior art." (D.I. 258 at 2). Resolution of the parties' dispute turns on the proper interpretation of "grounds" as used in § 315(e)(2).

"In general, IPR estoppel does not apply to device art, because 'a petitioner cannot use an IPR to challenge the validity of a patent claim . . . based on prior art products or systems.'" *IOENGINE, LLC v. PayPal Holdings, Inc.*, 607 F. Supp. 3d 464, 511 (D. Del. 2022) (quoting *Medline Indus., Inc. v. C.R. Bard, Inc.*, 2020 WL 5512132, at *3 (N.D. Ill. Sept. 14, 2020)). Section 315 extends IPR estoppel to "any ground that the petitioner raised or reasonably could have raised during that inter partes review." 35 U.S.C. § 315(e)(2). District courts are split between the "two plausible ways of interpreting 'grounds' in the IPR context." *Prolitec Inc. v. ScentAir Techs., LLC*, 2023 WL 8697973, at *22 (D. Del. Dec. 13, 2023). "One interpretation is that 'grounds' refers to the underlying legal arguments, which incorporate patents, printed publications, and cumulative device art." *Id.*; *see, e.g.*, *Wasica Fin. GmbH v. Schrader Int'l, Inc.*,

432 F. Supp. 3d 448, 453–54 (D. Del. 2020); *see also Singular Computing*, 668 F. Supp. 3d at 71–74 (concluding estoppel applied when a defendant's invalidity theory "rel[ied]—even in part—on publications or patents that [the defendant] knew of, or could have reasonably discovered," even if the underlying legal argument incorporated non-cumulative device art). "The other is that 'grounds' are the particular patents and printed publications on which invalidity arguments are based, and that the supporting affidavits, declarations, and the like are evidence, not 'grounds.'" *Id.*; *see, e.g.*, *Chemours Co. FC, LLC v. Daikin Indus., Ltd.*, 2022 WL 2643517, at *1–2 (D. Del. July 8, 2022).

I, like the majority of judges who have considered this issue, interpret "'ground,' as that term is used in 35 U.S.C. § 315(e)(2), to mean the specific piece of prior art or combination of prior art that a petitioner raised, or could have raised, to challenge the validity of a patent claim during an IPR." *Medline*, 2020 WL 5512132, at *4; *see, e.g. Prolitec*, 2023 WL 8697973, at *23; *EIS, Inc. v. IntiHealth Ger GmbH*, 2023 WL 6797905, at *5–6 (D. Del. Aug. 30, 2023); *Chemours*, 2022 WL 2643517 at *1–2; *Pavo Sols. LLC v. Kingston Tech. Co., Inc.*, 2020 WL 1049911, at *3 (C.D. Cal. Feb. 18, 2020). I agree with Judge Noreika's rationale in *Chemours*:

> [Section 315(e)(2)] was the product of considered debate and careful thought. Congress could have broadened the categories of prior art on which IPR could be requested. Congress could have dictated that estoppel applies to products covered by the paper art underlying the IPR where the paper art discloses the same claim limitations as the product. But Congress did not do so. Adhering to well-accepted canons of construction, it is not for this Court to ignore Congress's omission and create additional bases for estoppel.

2022 WL 2643517, at *2. This interpretation "is consistent with the way the term 'grounds' is used in a related context in section 312, which states that an IPR petition must be based on 'the grounds . . . and the evidence that supports the grounds for the challenge to each claim,' thus distinguishing between 'grounds' and the evidence supporting those grounds." *Prolitec*, 2023

WL 8697973, at *23. "[This reading] is also consistent with the way the term 'grounds' has been used by the Federal Circuit in the IPR context—to mean a legal argument based on a specific combination of references." *Id.* (citing *Koninklijke Philips N.V. v. Google LLC*, 948 F.3d 1330, 1335 (Fed. Cir. 2020); *Nike, Inc. v. Adidas AG*, 955 F.3d 45, 53 (Fed. Cir. 2020); *Shaw Indus. Grp., Inc. v. Automated Creel Sys., Inc.*, 817 F.3d 1293, 1298 (Fed. Cir. 2016)).

Under the correct reading of "grounds," "§ 315(e)(2) does not estop an IPR petitioner's use in litigation of an invalidity theory that relies upon a [system] as a prior art reference because a prior art [system] cannot be used as a reference to challenge the validity of a patent claim in an IPR." *Medline*, 2020 WL 5512132, at *4. "Therefore, any invalidity theory relying upon that [system] as a prior art reference is not a 'ground' that reasonably could have been raised during the IPR." *Id.* Any invalidity theory relying on a combination of that system and a patent or printed publication similarly could not have been raised during the IPR. Defendant is not estopped from raising invalidity theories based on the CNET OAA System, the RETSINA System, or a combination of either system with the Martin Paper.

2. Dr. Sycara's Invalidity Opinions

Plaintiff moves to exclude Dr. Sycara's testimony regarding public availability of SRI Code, functionality of the code shown at SRI Demonstrations, and inventorship of the patents at issue. Plaintiff argues that Dr. Sycara's expert report improperly opines on questions of law and facts requiring personal knowledge. (D.I. 235 at 14–15).

a. Public Availability of the CNET OAA Source Code

One of Dr. Sycara's invalidity theories relies on the CNET OAA System as public use prior art. (D.I. 238-15, Ex. O ¶¶ 77). The system was publicly demonstrated on the media website CNET in 1997 (the "1997 Demonstration"). (*Id.* ¶¶ 77–78). The parties agree that the

version of the source code demonstrated ("OAA Version 1") is not the same as the version produced during discovery and analyzed by Dr. Sycara ("OAA Version 2"). (Hearing Tr. at 24:1–11, 31:5–17). The parties do not dispute that, due to the evolving nature of code, some source code files remained the same between OAA Version 1 and OAA Version 2, some may have been updated, and some new files may have been introduced. (*Id.* at 27:10–19; 31:5–17).

Plaintiff's opening brief asks that I "preclude Dr. Sycara from opining that any specific version of SRI or OAA code was publicly available or used in any particular alleged public demonstration, including the [1997 Demonstration]." (D.I. 237 at 20). Though Defendant asserts that Dr. Sycara is also a fact witness in relation to the prior art, I understand her personal knowledge does not extend to the dates certain code was publicly available. (*See* Hearing Tr. at 30:7–13, 31:20–33:25). Defendant maintains that Dr. Sycara does not opine on the public availability of the source code. (D.I. 258 at 11). Though I accept Defendant's representation, I grant Plaintiff's motion to the extent that Dr. Sycara is opining on public availability.

At oral argument, the parties focused on the related question of whether Dr. Sycara could rely on the OAA Version 2 source code during her trial testimony. (Hearing Tr. at 24:20–28:4, 29:9–31:17). Plaintiff insists Dr. Sycara should not be able to discuss any source code for which no evidence is presented of the code's contemporaneous existence with the 1997 Demonstration. (*Id.* at 26:22–27:19). Plaintiff's counsel asked the court to "strike any of the source code files . . . that were created after the date of the video." (*Id.* at 28:1–4). As the relief requested in Plaintiff's brief was directed towards a different, narrower resolution (excluding certain testimony from Dr. Sycara), I decline to grant Plaintiff's request to strike source code files. Furthermore, resolution of this dispute seems to require a line-by-line determination as to which

portions of code were in existence at the time of the 1997 Demonstration. (*See id.* at 27:20-23). I believe it appropriate to reserve this issue for later.

b. Functionality of the CNET OAA System

Plaintiff maintains that Dr. Sycara's testimony regarding the functionality of the CNET OAA System shown at the 1997 Demonstration should be precluded in its entirety. (D.I. 237 at 16; Hearing Tr. at 24:20–25:9). Plaintiff's brief states, "The key questions are: (1) what functionality was allegedly demonstrated and (2) how that specific functionality was implemented in [the 1997 Demonstration]." (D.I. 237 at 16). "Because of the nature of the claim limitations," Plaintiff asserts that the only way to analyze the functionality of the CNET OAA System, as it existed at the time of the 1997 Demonstration, is "to examine the specific source code used [at the time]." (*Id.*).

Even ignoring the undisputed fact that Dr. Sycara did analyze the OAA version 2 code, which contains at least some unchanged code from OAA version 1, Plaintiff cites no authority in support of its assertion. Nor does Plaintiff explain why "the nature of the claim limitations" or the "ever-evolving and changing" nature of the OAA system requires an expert to limit her opinion to analysis of the source code. (*Id.*). It is unclear why, for example, a demonstration of the system in action would not provide useful insight into the system's functionality. "That the offered product is in fact the claimed invention may be established by any relevant evidence, such as memoranda, drawings, correspondence, and testimony of witnesses." *RCA Corp. v. Data General Corp.*, 887 F.2d 1056, 1060 (Fed. Cir. 1989); *see also Finjan, Inc. v. Symantec Corp.*, 2013 WL 5302560, at *12 (D. Del. Sept. 19, 2013), *aff'd*, 577 F. App'x 999 (Fed. Cir. 2014) "[I]t was appropriate for [Defendant's invalidity expert] to rely on the [alleged publicly used prior art's] executable software, user manual, and source code to show how [the alleged publicly used

prior art] operated."). Dr. Sycara is not prohibited from basing her functionality analysis on evidence outside the source code. (*See* D.I. 258 at 7 & n.6 (citing D.I. 238-15, Ex. O ¶ 80)).

Plaintiff argues that "public use requires each and every element be publicly used." (Hearing Tr. at 25:7–9). It contends that, because Defendant has not shown the source code in use at the time of the 1997 Demonstration was publicly available, Defendant cannot rely on the use of the CNET OAA System as public use prior art. (D.I. 237 at 16–17). "Controlling authority contradicts [Plaintiff's] contention that the public must be able to ascertain the individual elements of an invention for it to constitute a public use." *ART+Com Innovationpool GmbH v. Google Inc.*, 2016 WL 9954312, at *8 (D. Del. Sept. 9, 2016), *aff'd sub nom. Art+Com Innovationpool GmbH, v. Google LLC*, 712 F. App'x 976 (Fed. Cir. 2017); *see also Transcenic, Inc. v. Google, Inc.*, 2014 WL 7275835, at *3 (D. Del. Dec. 22, 2014). "[T]he public need not have access to the 'inner workings' of a device for it to be considered 'in public use' or 'used by others.'" *Lockwood v. Am. Airlines, Inc.*, 107 F.3d 1565, 1570 (Fed. Cir. 1997); *see Egbert v. Lippmann*, 104 U.S. 333, 336–37 (1881). Defendant is not required to demonstrate the source code was publicly available for the CNET OAA System to qualify as public use prior art.

I decline to exclude Dr. Sycara's testimony regarding the CNET OAA System's functionality.

c. Inventorship

Defendant indicated it is no longer asserting an improper inventorship defense. (D.I. 309). I dismiss Plaintiff's motion to exclude Dr. Sycara's inventorship opinions as moot.

3. Damages

a. Dr. Becker's Reasonable Royalty Calculations

Plaintiff moves to exclude the reasonable royalty calculations of Dr. Becker, one of Defendant's damages experts. (D.I. 237 at 32). Plaintiff argues his damages analysis was flawed due to improper assumptions regarding the consideration Defendant's competitor, Apple, paid for its license to the Asserted Patents. (*Id.* at 32–35). The contract at issue, the Stock Issuance Agreement, dealt with Apple's acquisition of Siri, Inc. and involved both a royalty and an equity payment. (*Id.* at 33–34). Plaintiff argues that Dr. Becker relied on the "personal assumption" that the only consideration for the license was the royalty payment, while the equity payment was consideration for "everything else." (*Id.* at 35:9–20, 36:4–15). During oral argument, it became clear that Plaintiff's expert's interpretation of the contract relied on the "opposite assumption." (Hearing Tr. at 43:8–44:15). Plaintiff's counsel conceded the lack of extrinsic evidence supporting its expert's understanding as the definitive interpretation of the contract. (*Id.* at 36:22–37:3, 44:24–45:15). I decline to exclude Dr. Becker's damages testimony and leave it to the jury to decide the winner of this battle of the experts.

b. Dr. Lieberman's and Dr. Becker's Non-Infringing Alternatives Opinions

Plaintiff moves to exclude the opinions of Defendant's experts, Dr. Lieberman and Dr. Becker, regarding non-infringing alternatives. (D.I. 237 at 35). Plaintiff contends that Defendant violated Federal Rule of Civil Procedure 26(e)(1) by failing to disclose the non-infringing alternatives before the close of fact discovery on August 4, 2023. (D.I. 237 at 35–36; *see* D.I. 212). As Defendant points out, however, Plaintiff served 600 pages of revised infringement contentions on July 21, 2023. (D.I. 258 at 21; D.I. 260-1, Ex. U). The parties then reached an agreement to allow Defendant to respond to its amended contentions by August 18, 2023. (D.I. 258 at 21; D.I. 260-1, Ex. U). As the parties expressly agreed to the deadline extension, Defendant's August 18 supplemental response, which contained its identification of

non-infringing alternatives, was submitted "in a timely manner." (FED. R. CIV. P. 26(e)(1); *see* D.I. 238-51, Ex. YY at 29). Furthermore, if I were to reach the *Pennypack* factors, I would find Plaintiff does not face prejudice as it failed to raise this issue at an earlier time when corrective action could have been taken. *See Meyers v. Pennypack Woods Home Ownership Ass'n*, 559 F.2d 894, 904–05 (3d Cir. 1977).

Plaintiff alternatively seeks to exclude Dr. Lieberman's and Dr. Becker's opinions under FED. R. EVID. 702. (D.I. 237 at 39–40; D.I 282 at 19–20). Plaintiff contends that Dr. Lieberman's and Dr. Becker's opinions do not qualify as technical opinions under *Daubert* and would not assist a jury in examining non-infringing alternatives in the context of Plaintiff's reasonable royalty theory. (D.I. 237 at 40; D.I. 282 at 19–20). I disagree. As Plaintiff acknowledges, Dr. Becker "utilizes [the] alleged [non-infringing alternatives] in his hypothetical negotiation analysis." (D.I. 237 at 35). Plaintiff's experts' opinions, identifying and incorporating non-infringing alternatives into a damages analysis, qualify as technical opinions helpful to a jury.

I disagree with Plaintiff's assertion that the experts' opinions are conclusory, at least with regards to Amazon's Alexa product. (D.I. 237 at 35; D.I. 282 at 20). Dr. Becker's opinion that Alexa is a non-infringing alternative rests upon citations to court orders in the Amazon case finding non-infringement and webpages demonstrating the product's availability. (*See* D.I. 241-1, Ex. A ¶ 207 & n. 367–70). Dr. Lieberman's opinions similarly appear to rest on such "reports and . . . the previous judgment in cases."[5] (D.I. 242-1, Ex. A ¶ 427; D.I. 238-54, Ex. BBB at

[5] Plaintiff points out that Dr. Lieberman, at his deposition, stated "these are not technical opinions." (D.I. 282 at 19 (D.I. Ex. BBB at 256:8–257:17)). An expert's understanding of what qualifies as an "technical opinion" under Rule 702 is not determinative.

256:8–257:17). Plaintiff does not explain why an expert in particular field would not have reasonably relied upon such evidence. *See* FED. R. EVID. 703. This situation is wholly unlike that in the case cited by Plaintiff, *Acceleration Bay LLC v. Activision Blizzard Inc.*, where "the only support for the conclusion that the earlier versions of the games [were] non-infringing alternative[s] [was the damages expert's] assumption." 2019 WL 4194060, at *8 (D. Del. Sept. 4, 2019).

The same cannot be said about the experts' opinions regarding Bing Answers and Bot Framework. While Defendant's answering brief cites to various documents and witnesses (*see* D.I. 258 at 33–35), Dr. Lieberman, in his expert report, bases his conclusion solely on the fact that Dr. Medvidovic's report does not accuse Bing Answers and Bot Framework of infringement (D.I. 242-1, Ex. A ¶ 426). In other words, Dr. Lieberman's opinion "assumes non-infringement based on Plaintiff's decision not to pursue infringement claims." *Acceleration Bay*, 2019 WL 4194060, at *8. Dr. Becker's report does not mention Bing Answers and Bot Framework in his damages analysis. There is therefore no opinion to exclude under Rule 702, though I note that Rule 26(a)(2)(B) still applies. *See* FED. R. CIV. P. 26(a)(2)(B) ("The report must contain . . . a complete statement of all opinions that the witness will express and the basis and reasons for them; [and] the facts or data considered by a witness in forming them.").

For the foregoing reasons, I grant Plaintiff's motion to exclude Dr. Lieberman's expert opinion to the extent that it relates to Bing Answers and Bot Framework as non-infringing alternatives. Plaintiff's motion to exclude Dr. Becker's opinion on Bing Answers and Bot Framework as non-infringing alternatives is dismissed as moot. Plaintiff's motion is denied with regard to Dr. Lieberman's and Dr. Becker's testimony on Alexa as a non-infringing alternative.

c. Marking

Plaintiff seeks a summary judgment ruling on its duty to mark Siri, the digital assistant produced by Apple, which Defendant identified as an unmarked product it believed practices the patent. (D.I. 237 at 21). For reasons already discussed, I find Defendant made a timely identification of Siri as an unmarked product in its August 18 supplemental response. *See supra* Section III.A.3.b. Plaintiff contends Siri is not a "patented article" that requires marking under 35 U.S.C. § 287(a). (*Id.* at 23–24).

Under 35 U.S.C. § 287(a), a patentee may mark a patented article to grant notice to the public of its patented status. "[A]n alleged infringer who challenges the patentee's compliance with § 287 bears an initial burden of production to articulate the products it believes are unmarked 'patented articles' subject to § 287." *Arctic Cat Inc. v. Bombardier Recreational Prod. Inc.*, 876 F.3d 1350, 1368 (Fed. Cir. 2017). "Where the patent contains both apparatus and method claims . . . to the extent that there is a tangible item to mark by which notice of the asserted method claims can be given, a party is obliged to do so if it intends to avail itself of the constructive notice provisions of section 287(a)." *Am. Med. Sys., Inc. v. Med. Eng'g Corp.*, 6 F.3d 1523, 1538–39 (Fed. Cir. 1993).

The asserted claims of the '115 patent are apparatus claims; those of the '560 patent are method claims. The parties dispute whether Siri is a "tangible item" that must be marked. (D.I. 237 at 22–25; D.I. 258 at 22–23). Plaintiff contends that Siri is a "cloud-based service run from servers that are not sold or publicly available" and that there is no tangible item to mark. (D.I. 237 at 23). Defendant insists that Apple, subject to Plaintiff's direction, "could have marked its website," including "the Apple websites by which Apple made announcements relating to Siri." (D.I. 268 at 23).

Multiple district courts have held that server-based services, and related websites, can be subject to marking requirements. *See Limelight Networks, Inc. v. XO Commc'ns, LLC*, 241 F. Supp. 3d 599, 608 (E.D. Va. 2017); *IMX, Inc. v. Lendingtree, LLC*, 2005 WL 3465555, at *4 (D. Del. Dec. 14, 2005); *Soverain Software LLC v. Amazon.com, Inc.*, 383 F. Supp. 2d 904, 909 (E.D. Tex. 2005). There appears to be a consensus that "a patentee must mark a website either where the website is somehow intrinsic to the patented device or where the customer downloads patented software from the website." *Limelight*, 241 F. Supp. 3d at 608; *see id.* ("Limelight's website is in no way intrinsic to [the accused] CDN system. It is not a portal to access the CDN system nor do Limelight's customers download software from the site."); *Northbrook Digital Corp. v. Browster, Inc.*, 2008 WL 4104695, at *4 (D. Minn. Aug. 26, 2008) ("Because the websites that offer the software can easily contain the requisite marking information, the Court finds § 287 applies here."); *IMX*, 2005 WL 3465555, at *4 ("[T]he website is intrinsic to the patented system and constitutes a 'tangible item to mark by which notice of the asserted method claims can be given.'"). I turn to whether the websites identified by Defendant meet these requirements.

Defendant points to six webpages cited in Mr. Kennedy's report. (D.I. 258 at 23 (citing D.I. 260-1, Ex. X ¶¶ 91–93 nn. 140–45)). Of the four webpages that discuss Siri, one is from Apple's website and the other three are from unaffiliated news sites. (*See* D.I. 260-1, Ex. X ¶¶ 91–93 n. 140–45). The three unaffiliated webpages provide journalistic research regarding Siri's capabilities and history. (*See id.* ¶¶ 92–93 nn. 142–43, 145). Apple's webpage, titled "Apple Launches iPhone 4S, iOS5 & iCloud," was a press release regarding the launch of a new iPhone model and its incorporated features. (*See id.* ¶ 93 n. 144; D.I 260-1, Ex. BB). Aside from the webpages in Mr. Kennedy's report, Defendant identifies another Apple press release titled

"Apple Previews iOS 9." (D.I 260-1, Ex. CC). News articles and press releases, whether from unaffiliated news sites or Apple's own website, do not qualify as "intrinsic" to the Siri product. I therefore find that Siri is an intangible product that does not require marking.

As Defendant has not identified a patented article that requires marking, I grant Plaintiff's motion for summary judgment on marking. I need not address Plaintiff's alternative argument under the relation back doctrine. (*See* D.I. 237 at 26).

B. Defendant's Motions

1. Direct Infringement

a. Cortana-Enabled Client Devices

Defendant argues it is entitled to summary judgment of non-infringement with respect to the accused client devices. (D.I. 240 at 7). At oral argument, Plaintiff's counsel stated, "Windows 10 itself standalone, the interface that the user uses, is not accused of infringement," as, "It doesn't have any of the elements of the claims." (Hearing Tr. at 91:6–9). Plaintiff's counsel explained, "[T]he direct infringement theories are all based on the computer program product claim, and that computer program product is software running on Microsoft Cortana servers." (*Id.* at 87:19–24; *see also* D.I. 263-1, Ex. 1 ¶ 86 ("The computer program of Cortana is comprised of software stored on computer-readable media in various servers.")). As Plaintiff concedes that Windows 10 (and therefore the client devices running Windows 10) do not contain the patented features, I grant summary judgment of non-infringement for the accused client devices. *See Bayer*, 212 F.3d at 1247 ("If any claim limitation is absent from the accused device, there is no literal infringement as a matter of law."). I note that this ruling does not impact the infringement claims directed towards Defendant's server systems.

b. Service Request Recited in the Claimed ICL

Defendant contends that Cortana's operation on the accused server systems does not involve a "service request adhering to an Interagent Communication Language (ICL)" as required by all asserted claims. (D.I. 240 at 9 (citing '115 patent, 31:48–32:23; '560 patent, 34:46–35:10, 36:1–27). As I believed that further claim construction of the existing constructions of "service request" and "ICL" (*see* D.I. 143 at 4-5) would be helpful in addressing this dispute, I asked the parties to submit further proposed claim construction of "service request" and "ICL." (D.I. 300). The parties complied with my order. (D.I. 312).

The parties agree that, for the purposes of claim construction of these terms, claim 29 of the '115 patent is representative. (D.I. 312 at 1). Claim 29 states:

> 29. A computer program stored on a computer readable medium, the computer program executable to facilitate cooperative task completion within a distributed computing environment, the distributed computing environment including a plurality of autonomous electronic agents, the distributed computing environment supporting an ***Interagent Communication Language***, the computer program comprising computer executable instructions for:
> providing an agent registry that declares capabilities of service-providing electronic agents currently active within the distributed computing environment;
> interpreting a ***service request*** in order to determine a base goal that may be a compound, arbitrarily complex base goal, the ***service request adhering to an Interagent Communication Language (ICL)***, where in the ***ICL*** includes:
> a layer of conversational protocol defined by event types and parameter lists associated with one or more of the events, wherein the parameter lists further refine the one or more events; and
> a content layer comprising one or more of goals, triggers and data elements associated with the events;
> the act of interpreting including the sub-acts of:
> determining any task completion advice provided by the base goal, and
> determining any task completion constraints provided by the base goal;
> constructing a base goal satisfaction plan including the sub-acts of:
> determining whether the request service is available,
> determining sub-goals required in completing the base goal by using reasoning that includes one or more of domain-independent coordination strategies, domain-specific reasoning, and application-specific reasoning comprising rules and learning algorithms,
> selecting service-providing electronic agents from the agent registry suitable for performing the determined sub-goals, and

ordering a delegation of sub-goal requests complete the requested service; and implementing the base goal satisfaction plan.

('115 patent, 31:48–32:22 (disputed terms bolded and italicized)).

i. "Interagent Communication Language (ICL)"

Court's Prior Construction	Plaintiff's Proposed Construction	Defendant's Proposed Construction	Court's Construction
"an interface, task coordination, and communication language"	"an interface, task coordination, and communication language" *or* "an interface, task coordination, and communication language for enabling interaction between agents"	"an interface, communication, and task coordination language for peer-to-peer communications between agents"	"an interface, task coordination, and communication language"

Plaintiff adopted the position that no further construction of "ICL" is needed. (D.I. 312 at 2). Defendant submitted a modified construction that it believes "would better inform the jury and more accurately capture the meaning of the term," but does not object to the previously adopted construction. (*Id.* at 6). There does not appear to be a pertinent substantive dispute over the construction of "ICL." As I do not believe the parties' proposed additions would assist the jury, I choose to keep the original agreed upon construction.

ii. "request for a service" / "service request"

Court's Prior Construction	Plaintiff's Proposed Construction	Defendant's Proposed Construction	Court's Construction
the "request for a service" / "service request" must be recited in the claimed ICL and must meet	"a request that contains the information needed to determine a goal recited in the claimed	"a user request that has been translated into the claimed ICL and must meet every	"a user request that is recited in the claimed ICL and must meet every requirement of the claimed ICL"

every requirement of the claimed ICL	ICL and meeting every requirement of the claimed ICL"[6]	requirement of the claimed ICL"	

Plaintiff's proposed construction reflects the logic that the "service request" must "contain the information needed to determine a goal so that it can be interpreted to determine a base goal as required by the claims." (D.I. 312 at 15). While the parties bicker about the semantics of the phrase "the information," as opposed to, say, "some information," there appears to be a consensus that information external to the service request can be utilized to determine a goal. (See *id.* at 24; *id.* at 33 & n. 14). The core of the parties' dispute instead relates to whether "service request" inherently includes any further limitation.

Defendant's proposal limits "service request" to "what the user requests of the system." (*Id.* at 21). It maintains this interpretation is consistent with examples from the '115 patent and the prosecution history. (*Id.* (citing '115 patent, 15:29–34; D.I. 244-2, Ex. C at 34–35 of 90)). Plaintiff contends, "The claims provide no basis to exclude agent-made service requests" as the specification discusses requests from both users and agents. (*Id.* at 36; *see id.* at 18 (citing '115 patent, 4:62–66)). Defendant argues that these agent requests are "derivative of what the user originally requested of the system, so they too reflect some aspect of what the user requested." (*Id.* at 26). Though Plaintiff challenges Defendant's assertion as a red herring, it does not dispute that the agent requests derive from user requests. (*See id.* at 36). The parties also dispute the relatedness of various service request parameters in the OAA source code, which is

[6] Plaintiff originally formatted its proposed construction as two parts, with part one addressing "service request" and part two addressing the "adhering to an Interagent Communication Language (ICL)" requirement. (*See* D.I. 312 at 15). For simplification, and because Plaintiff does not object, I have combined these terms in a single construction. (*Id.* at 32).

incorporated as part of the '115 patent's written disclosure, to the "user request." (*See id.* at 18–19, 26–27; '115 patent, 1:5–20; D.I. 312-2, Ex. B at 56–60).

Both parties' positions appear plausible based on the intrinsic record. Expert testimony, on the other hand, favors Defendant's interpretation. Defendant's expert, Dr. Lieberman, opined that a "service request" is "a representation of an utterance by the user requesting a service (*i.e.*, a command or request from a Cortana user)." (D.I. 242, Ex. A ¶ 180). Plaintiff's expert, Dr. Medvidovic, agrees that the claimed service request is "something that a human requests of Cortana." (D.I. 244-3, Ex. G at 70:8–17; *see also Amazon.com*, 2021 WL 5003254, at *3 ("Dr. Medvidovic contends that SIRF represents the user's utterance and thus is the claimed service request.")). Plaintiff adopted this position in its appeal of the Amazon case. *See* Corrected Opening Brief for Appellant IPA Techs. at 39, *IPA Techs., Inc. v. Amazon.com, Inc.*, No. 22-1193, D.I. 13 (Fed. Cir. Feb. 1, 2022) ("The claim language confirms that the claimed 'request for service' (or 'service request') is a goal—e.g., the task(s) that the user asked the system to perform." (emphasis omitted)). In light of the experts' agreement regarding the meaning of "service request," I adopt Defendant's construction. I see no need to incorporate Plaintiff's proposed additions as I do not believe they would provide helpful clarification to a jury.

Adopting Defendant's construction does not completely resolve the parties' dispute. It is clear that a "user request" is not limited to containing only the user's utterance, or parameters derived solely from the user's utterance, as evidenced by the OAA source code parameters like "address(AgentId)." (*See* D.I. 312-2, Ex. B at 57 (describing "address(AgentId)" as a parameter used to "send [a] request to [a] specific agent, given its name or [address]")). Defendant argues, however, that parameters can form part of the service request only if they "capture[] some aspect of what the user is attempting to have the system accomplish." (D.I. 312 at 27). It argues that

the OAA source code parameters meet this criterion, but the "control parameters" in Cortana "reflect nothing about the user's request" and are instead "used for generic functionality like system 'bookkeeping' and debugging." (*Id.* at 26–29). Plaintiff, on the other hand, asserts that the OAA source code parameters, like the Cortana parameters, "go beyond reflecting some aspect of the user request." (*Id.* at 37).

Put differently, Plaintiff argues that nothing in the claims or specification restricts the term "service request" to mean "what the user requests of the system and nothing else." (*Id.* at 36). Defendant argues that the "service request" must be a "'request,' *i.e.*, something asked of the system, and not just some system control information that does not reflect any part of what is asked." (*Id.* at 42). While the parties provide some argument regarding their interpretations' consistency with the specification (*see id.* at 27, 36), it is apparent that the parties disagree over the plain and ordinary meaning of "user request" and whether it inherently limits the types of parameters a service request can contain.

I believe resolution of this issue could benefit from further claim construction of the term "user request." *Cf. O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1361 (Fed. Cir. 2008) ("[When] the 'ordinary' meaning of a term does not resolve the parties' dispute . . . . claim construction requires the court to determine what claim scope is appropriate in the context of the patents-in-suit."). I note, however, that we have an agreed construction and the parties appear to treat this issue as a factual dispute in their summary judgment briefing. (*See* D.I. 240 at 14 ("No reasonable jury could find that such internal control parameters . . . could constitute a 'service request' as claimed . . . ."); D.I. 259 at 6 (arguing that no further claim construction was needed)). Even assuming this issue implicates claim scope rather than a factual dispute, the parties have not "given the Court any means to resolve [this] dispute." *Hybrid*

Audio, LLC v. Asus Computer Int'l Inc., 2022 WL 3348594, at *3 (N.D. Cal. Aug. 12, 2022). The claim construction briefing does not contain proposed constructions for the ordinary meaning of "user request" or any evidence from which I can discern the scope of "user request." I therefore will not further construe "user request." *See Hybrid Audio*, 2022 WL 3348594, at *3. I address the related non-infringement arguments below. *See infra* Section III.B.1.b.iii.

The parties argue over Defendant's proposed change from "recited in" to "translated into." Defendant maintains the two terms are interchangeable and suggests the modification because "the phrase 'recited in the claimed ICL' may not be familiar to a jury in the way 'translated into the claimed ICL' would be." (D.I. 312 at 23). Plaintiff's objection to the term "translated into" stems from its position that service requests created by agents "are originally formulated in the ICL." (*Id.* at 17–18). As Plaintiff does not contest that agent requests are derivative of the original user requests, this dispute has been rendered moot by my adoption of Defendant's "user request" construction. I nevertheless do not agree with Defendant that a jury would be less familiar with the term "recited" than "translated." (*Id.* at 23). I see no need to revise the previously agreed upon term.[7]

I next turn to Defendant's non-infringement arguments.

iii. Cortana's Service Request

Plaintiff's expert, Dr. Medvidovic, asserts that the "service request" element is met by the "Observation" data structure in the Cortex Architecture and the "Query" data structure in the

[7] I decline to address the parties dispute over whether RawQuery is "translated" into Cortana's ICL. (*See* D.I. 312 at 20, 28). As with the dispute over "user request," the parties appear to treat this issue as a factual dispute, rather than a dispute over the scope of "translated." To the extent this dispute is related to scope, the parties do not provide proposed constructions or otherwise "give[] the Court any means to resolve [this] dispute." *Hybrid Audio*, 2022 WL 3348594, at *3. Furthermore, this issue is not pertinent to any of the non-infringement arguments raised in the summary judgment briefing.

Legacy Architecture. (D.I. 263-1, Ex. 1 ¶¶ 126, 381(g)). Query includes, among other parameters, a text string called "RawQuery" that represents the raw text version of the user's spoken request. (*See* D.I. 240 at 12; D.I. 259 at 10). Observation, by virtue of holding a Query data structure, also contains RawQuery. (*See* D.I. 240 at 12; D.I. 259 at 10). Dr. Medvidovic identifies the data structure rules followed by Query and Observation as the ICLs of their respective Cortana versions. (D.I. 263-1, Ex. 1 ¶¶ 98(e), 138, 381(e)).

Defendant contends that no reasonable jury could find that the Query and Observation data structures, as opposed to the RawQuery text string, are the claimed "service requests." (D.I. 240 at 13). Defendant argues that, because RawQuery is recited in the spoken language of the user, Cortana does not meet the "recited in the claimed ICL" requirement. (*Id.* at 12–13).

Defendant's argument is based on the premise that Query and Observation "contain various control parameters that might be used by the system in responding to the user's request" and thus these data structures go beyond "what the user asked of the system." (*Id.* at 13; *see* D.I. 298 at 3; *see, e.g.*, D.I. 244-3, Ex. F at 88:14–24 (explaining that the "loggerFactory" parameter is used for "logging data used for debugging")). As stated above, I decline to further construe "user request." A reasonable jury could find Query and Observation are "user requests" even though they contain control parameters. I find a genuine dispute of material fact exists as to whether these data structures or the RawQuery text string are the "service requests" of the accused server systems.

iv. Dr. Medvidovic's Opinion on "Recited in the Claimed ICL"

Defendant argues that Plaintiff has not presented any evidence showing that the accused service requests are "recited in the claimed ICL," because Plaintiff's expert never opines on that claim element. (D.I. 240 at 10–11). By contrast, Defendant admits that Dr. Medvidovic has

presented a theory as to why the Query and Observation data structures "meet every requirement of the claimed ICL." (*Id.*). Defendant appears to adopt a position that expert testimony on these two claim limitations should be treated as completely separate. (*See id.*). This view ignores the interrelatedness of the two requirements. I agree with Plaintiff that the opinions and evidence demonstrating that the data structures meet the requirements of the ICL necessarily help show whether they were recited in the ICL. (*See* D.I. 259 at 2; Hearing Tr. at 14–23).

Furthermore, Dr. Medvidovic does appear to opine that the Query and Observation data structures are recited in the claimed ICLs of their respective Architectures. Dr. Medvidovic's report states that, in the Legacy Architecture, "the service request is expressed in Cortana's interagent communication language (ICL)." (D.I. 263-1, Ex. 1 ¶ 381(d) (emphasis omitted)). He explains that the "Bond" data structure rules serve as the ICL and the Query data structure adheres to those rules. (*See id.* ¶ 381(e) ("[T]he service request adheres to the conversational protocol of Cortana's ICL because it follows the rules of data structures, or 'schemas,' written in the Bond language (or syntax)." (emphasis omitted)); *id* ¶ 447 ("Query . . . is implemented in the Platform.Query and Cortana.CU.RequestData data structures defined in Bond schemas.")). With respect to the Cortex Architecture, Dr. Medvidovic similarly opines that the service request is transmitted "[u]sing the ICL" and discusses the data structure rules that form the ICL and that are followed by the Observation data structure. (*Id.* ¶ 98(g); *see id.* ¶¶ 98(e), 138, 141). I therefore disagree with Defendant's assertion that Plaintiff has provided no evidence to show that the accused service requests are "recited in the claimed ICL." To the extent that confusion existed regarding Dr. Medvidovic's opinion on the recitation requirement, Defendant could have questioned Dr. Medvidovic at his deposition, but chose not to. (*See* Hearing Tr. at 54:7–15).

For the foregoing reasons, I deny Defendant's motion for summary judgment of noninfringement based on the "service request adhering to an ICL" limitation.

c. Compound, Arbitrarily Complex Goal

Defendant moves for summary judgment of non-infringement of independent claim 29 of the '115 patent on the basis that the accused server code does not perform the element of "interpreting a service request to determine a base goal that may be a compound, arbitrarily complex base goal." (D.I. 240 at 17 (citing '115 patent, 31:29–61)). In particular, Defendant argues that Dr. Medvidovic has not shown Cortana employs a "compound, arbitrarily complex base goal." (*Id.* at 17–18). I construed "base goal" to mean "starting goal." I construed "compound goal" and "complex goal" to mean "a single-goal expression comprising multiple sub-goals." (D.I. 143 at 5). I construed "arbitrarily complex goal expression," "arbitrarily complex base goal," and "arbitrarily complex goal" to mean "a single goal expression expressed in a language or syntax that allows multiple sub-goals and potentially includes more than one type of logical connector (e.g., AND, OR, NOT), and/or more than one level of logical nesting (e.g., use of parentheses), or the substantive equivalent." (*Id.*).

Dr. Medvidovic opines that the "base goal" limitation is satisfied by something in Cortana called an "intent." (D.I. 263-1, Ex. 1 ¶¶ 128–29, 408–09). An intent "represents the goal the user wants to achieve" when it expresses a request to Cortana. (*Id.* ¶¶ 105, 128, 388, 408). Plaintiff contends Cortana has functionality that allows this intent to be a "complex goal" and an "arbitrarily complex goal." (D.I. 259 at 14 (citing D.I. 263-1, Ex. 1 ¶¶ 130–44, 410–16)). Defendant maintains the intent does not fall within the scope of the claim constructions because it does not express "multiple sub-goals." (D.I. 240 at 17–18; D.I. 280 at 8–10). Plaintiff does not dispute this contention. Plaintiff, instead, argues that "if a base goal requires multiple

subgoals to be fulfilled, it also, by definition includes those subgoals." (D.I. 259 at 12 (citing D.I. 263-2, Ex. 2 ¶ 62)). Put differently, Defendant takes the position that the "multiple sub-goals" must be expressed within the "single-goal expression." (D.I. 240 at 17–18; D.I. 280 at 8–10). Plaintiff takes the position that the "multiple sub-goals" implicitly can be part of the "single-goal expression" as long as satisfaction of the received user command requires multiple sub-goals to be fulfilled. (D.I. 259 at 11–13).

No reasonable jury could find that Cortana's intent satisfies the "complex goal" or "arbitrarily complex goal" elements. The plain and ordinary meanings of the claim constructions require the intent to convey that there are multiple sub-goals in the expression. Plaintiff's position does not account for the requirement, in the claim construction of "complex goal," that the "single-goal expression" itself comprise multiple sub-goals. Plaintiff's interpretation similarly conflicts with the claim construction of "arbitrarily complex goal." The requirement for "language or syntax that allows multiple sub-goals" would be rendered meaningless if there was no need for multiple sub-goals to be expressed. *See Wasica Fin. GmbH v. Cont'l Auto. Sys., Inc.*, 853 F.3d 1272, 1288 n. 10 (Fed. Cir. 2017) ("It is highly disfavored to construe terms in a way that renders them void, meaningless, or superfluous."). There would similarly be no need for the language or syntax to "potentially include more than one type of logical connector (e.g., AND, OR, NOT), and/or more than one level of logical nesting (e.g., use of parentheses), or the substantive equivalent."

Plaintiff's interpretation would render the "multiple sub-goals" limitation pointless as any "goal" is subject to division into an infinite number of implicit sub-goals.[8] To illustrate this

[8] The term "sub-goal" has not been construed in any meaningful way. (*See* D.I. 143 at 6 (construing "sub-goals" to mean "subgoals, when not modified by 'one or more,' means 'two or more subgoals.'"). I apply the plain and ordinary meaning of the term, which is "a goal that is

issue, we can look to an example, taken from the '115 patent, that Plaintiff references in its briefing. (*See* D.I. 259 at 12 (citing '115 patent, 24:31–39; D.I. 263-2, Ex. 2 ¶ 70)). The example involves a user command of "PLAY IT," in relation to a multipart message where part one of the message is recorded as a voicemail message and part two recorded as a text-to-speech message. *Id.* Dr. Medvidovic split this goal into two sub-goals: "Play Part 1 of the message AND play Part 2 of the message." (D.I. 263-2, Ex. 2 ¶ 70). I do not see why these sub-goals could not be broken down further. For example, assuming "PLAY IT" referred to only the voicemail message, one might segment this goal into implicit sub-goals of identifying the file location of the message to be played, identifying the file format of the message, or even playing different segments of the message (e.g. "Play the first five seconds of the message AND play the second five seconds of the message," etc.).

No reasonable jury could find that the accused server systems infringe claim 29 of the '115 patent. The other asserted claims of the '115 patent (claims 33, 38, 41, and 43) all depend from claim 29. I therefore grant summary judgment of non-infringement of all asserted claims of the '115 patent.

d. Scheduling Based on Reasoning

Defendant moves for summary judgment of non-infringement of independent claims 50 and 53 of the '560 patent. (D.I. 240 at 20). Claims 50 and 53 require "using reasoning to determine sub-goal requests based on non-syntactic decomposition of the base goal and using said reasoning to co-ordinate and *schedule* efforts by the autonomous service-providing electronic agents for fulfilling the sub-goal requests in a cooperative completion of the base

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involved in or secondary to achieving a larger goal." *Subgoal*, MERRIAM-WEBSTER, https://www.merriam-webster.com/dictionary/subgoal (last visited April 10, 2024).

goal." ('560 patent, 35:4–9, 36:21–26) (emphasis added). Defendant argues that Plaintiff failed to present any evidence that demonstrates that the accused server systems schedule based on reasoning. (D.I. 240 at 20).

In discussing claim 50, Dr. Medvidovic incorporates, by reference, his prior discussion of "the reasoning Cortana uses to determine sub-goal requests" in relation to what Dr. Medvidovic labels "claim 29[iv](b)."[9] (D.I. 263-1, Ex. 1 § 10.1.6 ¶¶ 324, 327 (citing *id.* § 9.1.10) (discussing the limitation claim 50); *see id.* § 10.2.8 ¶ 346 (adopting, for the claim 53 limitation, the § 10.1.6 analysis); *id.* § 9.1.10 (discussing claim "29[iv](b): determining sub-goals required in completing the base goals by using reasoning that includes one or more of domain-independent coordination strategies, domain-specific reasoning, and application-specific reasoning comprising rules and learning algorithms.")). Dr. Medvidovic then discusses how this reasoning is used in relation to "non-syntactic decomposition of the base goal." (*Id.* § 10.1.6.2 ¶ 325).

Defendant argues Dr. Medvidovic never addresses how the reasoning discussed in relation to claim 29[iv](b) and "non-syntactic decomposition of the base goal" is related to scheduling. (D.I. 240 at 21–22). I disagree. Dr. Medvidovic opines, "Cortana uses this reasoning to coordinate and schedule efforts by the skills to fulfill sub-goal requests as explained in claim 29[iv](b)." (D.I. 263-1, Ex. 1 § 10.1.6.2 ¶ 326). The claim language supports Dr. Medvidovic's assertion that his discussion regarding "using reasoning to determine sub-goal requests based on non-syntactic decomposition of the base goal" is relevant to how Cortana uses

[9] I cite and address only those sections of Dr. Medvidovic's report that discuss the relevant claim element in the context of the Cortex Architecture. I see no need separately to address this limitation in the context of the Legacy Architecture. Dr. Medvidovic provides an almost identical analysis for the Legacy Architecture, with any deviations reflecting differences in the source code that do not change the parties' arguments or my conclusion. (*See* D.I. 263-1, Ex. 1 § 12.1.10 ¶¶ 492–503 (discussing the claim 50 limitation); *id.* § 13.1.6 ¶¶ 599–606 (adopting, for the claim 53 limitation, the § 12.1.10 analysis); D.I. 240 at 20–23; D.I. 259 at 15–17).

"said reasoning" for scheduling. ('560 patent, 35:4–9, 36:21–26; *see* D.I. 263-2, Ex. 2 ¶¶ 143–44). Dr. Medvidovic's source code analysis expands on the connection between this reasoning and scheduling. (*See* D.I. 263-1, Ex. 1 § 10.1.6.3 ¶¶ 328–32). He discusses "using that reasoning to coordinate and schedule efforts by the skills to fulfill sub-goal requests," "Semantic Frames," "skill candidates," "queues" and pieces of the source code. (*Id.*). In his reply report, Dr. Medvidovic opines that a person of ordinary skill in the art would understand how such aspects relate to scheduling. (D.I. 263-2, Ex. 2 ¶ 145; *see* D.I. 263-1, Ex. 1 § 10.1.6.3 ¶ 328). While Defendant claims that Dr. Medvidovic's discussion of skill candidates, queues and other features in the source code does not actually address use of reasoning for scheduling, it provides no expert testimony or other evidence in support of its assertion. (D.I. 280 at 10). I therefore deny Defendant's motion for summary judgment of noninfringement of independent claims 50 and 53, and dependent claim 54, of the '560 patent.

e. Doctrine of Equivalents

Plaintiff indicated it would limit its direct infringement case to literal infringement. (D.I. 259 at 36). I dismiss Defendant's motion regarding Plaintiff's doctrine of equivalents allegations as moot.

2. Indirect Infringement

Defendant moves for summary judgment with respect to Plaintiff's induced infringement and contributory infringement claims. (D.I. 240 at 35, 37). At oral argument, Plaintiff's counsel informed the court it would be dropping its contributory infringement allegations, including what it had mislabeled as an induced infringement claim related to third-party manufacturer Harmon Kardon. (Hearing Tr. at 88:6–89:13). Defendant's summary judgment briefing, perhaps due to this mislabeling, did not discuss any induced infringement arguments outside of the narrow

theory involving Harmon Kardon.[10] (D.I. 240 at 35). I therefore dismiss Defendant's motion as moot.

3. Willful Infringement

Defendant moves for summary judgment of no willful infringement. (D.I. 240 at 39). "A finding of willful infringement requires knowledge of both the patent and its infringement of the patent." *Intuitive Surgical, Inc. v. Auris Health, Inc.*, 549 F. Supp. 3d 362, 377–78 (D. Del. 2021). A determination of willfulness requires a finding of "deliberate or intentional" infringement. *SRI Int'l, Inc. v. Cisco Sys., Inc.*, 14 F.4th 1323, 1330 (Fed. Cir. 2021); *Eko Brands, LLC v. Adrian Rivera Maynez Enters., Inc.*, 946 F.3d 1367, 1378 (Fed. Cir. 2020). A finding of "subjective willfulness," proof that the defendant acted in the face of a risk of infringement that was "either known or so obvious that it should have been known to the accused infringer," can satisfy this standard. *WesternGeco LLC v. ION Geophysical Corp.*, 837 F.3d 1358, 1362 (Fed. Cir. 2016) (quoting *Halo Elecs. Inc. v. Pulse Elecs., Inc.*, 579 U.S. 93, 101 (2016)) (internal quotations omitted), *rev'd on other grounds*, 585 U.S. 407 (2018).

Plaintiff contends that Defendant "knew (at least based on the disclosures on the face of the '115 patent, which it cited in its own patent application) that the Asserted Patents were assigned to SRI International, the company that spun off Siri, Inc., and that one of the inventors of the Asserted Patents, Adam Cheyer, was a co-founder of Siri, Inc. and developed the Siri Technology." (D.I. 259 at 38–40). Plaintiff maintains that Defendant knew of or was willfully blind to its likely infringement because "[d]espite knowing that a Siri-like technology would

[10] Plaintiff's counsel claims that Plaintiff has another induced infringement theory related to Defendant "inducing end users to use Windows . . . . the interface by which a user can access the Cortana software." (*Id.* at 88:24–91:24). I express no opinions about this induced infringement theory as it was not addressed in the briefing.

likely infringe the Asserted Patents, Microsoft 'looked the other way' and deliberately developed Cortana to compete with Siri." (*Id.* at 38 (citing D.I. 262, Exs. 1, 7)). I am skeptical that the citation to the '115 patent on one of Defendant's patent applications supports the multiple logical leaps required to conclude that Defendant knew of Siri's relationship to the Asserted Patents. Even assuming awareness of this relationship, Plaintiff provides no evidence to suggest that Defendant knew "that a Siri-like technology would likely infringe the Asserted Patents." (*Id.*). Plaintiff's citations to an article calling Cortana "Microsoft's Siri killer" and an internal market report exploring areas of investment for Cortana only establish that Defendant's Cortana and Siri were competing products. (*See* D.I. 262, Exs. 1, 7). They do not provide any support for the contention that Defendant knew, or was willfully blind, to likely infringement of the '115 patent and the '560 patent. I therefore grant Defendant's motion for summary judgment on willful infringement.

Defendant alternatively moves to exclude Dr. Medvidovic from testifying on Defendant's state of mind. (D.I. 240 at 40). Given my ruling on Plaintiff's willful infringement claim, I dismiss Defendant's *Daubert* motion as moot.

4. Damages

Defendant argues it is entitled to summary judgment on damages on the basis that the damages theory advanced by Plaintiff's experts, Dr. Reed-Arthurs and Mr. Kennedy, is flawed as a matter of law. (D.I. 240 at 23). Plaintiff's damages theory rests on a survey, conducted by Dr. Reed-Arthurs, directed towards identifying feature preferences in new computer purchases exhibited by the 1500 participants. (*See* D.I. 264-1, Ex. 1 ¶¶ 44–106). Dr. Reed-Arthurs used the survey results to conduct a mixed logit regression analysis and market simulations that purport to determine consumers' willingness to pay ("WTP") for the infringing functionality.

(*See id.* ¶¶ 107–54). Acknowledging that the WTP values obtained from these analyses did not reflect all the different considerations accounted for in real world pricing, she applied an adjustment factor to her results. (*See id.* ¶¶ 156–62). This adjustment factor was the "ratio of (Microsoft average Windows license net ASP [average sales price]) / (consumer [WTP] for a computer with Windows OS relative to the same computer with a Linux OS)." (D.I. 264-1, Ex. 1 ¶ 161). As part of his hypothetical negotiation analysis, Mr. Kennedy relied on Dr. Reed-Arthurs' adjusted WTP measure to derive his estimate of a reasonable royalty that Defendant would have been willing to pay per computer running Windows 10. (*See* D.I. 265-1, Ex. 1).

Defendant attacks the opinions of both experts as inadmissible under FED. R. EVID. 702. (D.I. 240 at 23–31).

a. Mr. Kennedy's Reasonable Royalty Calculations

i. Windows 10 Non-Infringement

Defendant argues that Mr. Kennedy's per unit royalty calculation, based on sales of Windows 10, is improper because Windows 10 does not directly infringe. (D.I. 240 at 25). Defendant insists that, to be sufficiently tied to Plaintiff's server code infringement theory, a proper damages calculation must be tied to actual consumer usage of the accused server code. (*Id.* at 26).

The key inquiry to a damages analysis is identifying "what the parties to the hypothetical negotiation would have considered." *Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1334 (Fed. Cir. 2009). The Federal Circuit has expressed flexibility with damages theories:

> [W]e have never laid down any rigid requirement that damages in all circumstances be limited to specific instances of infringement proven with direct evidence. Such a strict requirement could create a hypothetical negotiation far-removed from what parties regularly do during real-world licensing negotiations. As shown by the evidence in this case, companies in the high-tech computer industry often strike licensing deals in which the amount paid for a particular technology is not

> necessarily limited to the number of times a patented feature is used by a consumer. A company licensing a patented method often has strong reasons not to tie the royalty amount strictly to usage. The administrative cost of monitoring usage can be prohibitively expensive. Furthermore, with some inventions, say for example a method of detecting fires, value is added simply by having the patented invention available for use. Thus, potential licensors and licensees routinely agree to royalty payments regardless of whether the invention is used frequently or infrequently by the consumer.

Id. (citations omitted). With the Federal Circuit's guidance in mind, I find that Mr. Kennedy's opinion "reflects a reliable application of [economic] principles and methods" to the case. Mr. Kennedy was not required to base his damages theory on actual customer usage rather than an estimated per unit royalty. It is undisputed that end users access Cortana, and thereby trigger the accused server code, through Windows 10. Defendant benefits from the server code by providing an interface for Cortana access in Windows 10 to boost sales of the operating system. (*See* D.I. 259 at 24–25 (citing D.I. 262-23, Ex. 23 at 75:7–25)). It appears appropriate for the hypothetical negotiators to consider the impact Cortana access would have on the sales revenue of Windows 10. Plaintiff's damages theory, which purports to estimate the effect of Windows 10 including access to the infringing feature on the average consumer's purchasing preferences and, subsequently, on Defendant's Windows 10 sales and pricing strategy, appears to be a reasonable way of measuring this impact. (*See* D.I. 265-1, Ex. 1 ¶¶ 243–245). Defendant has not persuaded me otherwise.

Defendant points out that, despite its advocation for flexibility, the Federal Circuit concluded the damages award in *Lucent* "ought to be correlated, in some respect, to the extent the infringing method is used by consumers." *Lucent*, 580 F.3d at 1334. The court, however, made this statement in response to Lucent's contention that the "damages award [was] supported by the pervasive use of forms throughout the three software programs." *Id.* The Federal Circuit explained:

> What this position lacks is the requisite focus on the infringed claim. The damages award can't be supported by evidence that the infringers also used additional, non-infringing features. Only when the date-picker is used to fill out a form does infringement occur. All other means of filling out a form, such as typing in the entire date, do not infringe. The damages award ought to be correlated, in some respect, to the extent the infringing method is used by consumers.

Id. *Lucent* therefore stands for the proposition that damages calculations based on "usage" are still subject to the general requirement that "[t]he royalty base for reasonable royalty damages cannot include activities that do not constitute patent infringement." *AstraZeneca AB v. Apotex Corp.*, 782 F.3d 1324, 1343 (Fed. Cir. 2015). *Lucent* in no way limits damages theories to those tied to usage; in fact, it endorses the opposite conclusion. *See Lucent*, 580 F.3d at 1334. Defendant has not demonstrated that Mr. Kennedy's decision to base his royalty calculation on Windows 10 sales is prohibited by *Lucent*.

ii. Entire Market Value Rule

Defendant contends that Mr. Kennedy's per unit royalty violates the entire market value rule by failing to apportion damages between the patented and unpatented features of the Windows 10 product. (D.I. 240 at 26–27). Defendant's position is that the only proper method of separating the value of the infringing features from that of the non-infringing features is through actual usage of the Cortana server code. (*Id.* at 26). As discussed above, a blanket requirement that apportionment be based on consumer usage does not accord with *Lucent*'s counseling of flexibility. I turn to whether Mr. Kennedy's per unit royalty calculations properly apportions damages based on the facts of the case. *See Uniloc USA, Inc. v. Microsoft Corp.*, 632 F.3d 1292, 1315 (Fed. Cir. 2011) ("The patentee must sufficiently tie the expert testimony on damages to the facts of the case." (citing *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 591 (1993)) (cleaned up)).

"Where multi-component products are involved, the governing rule is that the ultimate combination of royalty base and royalty rate must reflect the value attributable to the infringing features of the product, and no more." *Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201, 1226 (Fed. Cir. 2014) (citing *VirnetX, Inc. v. Cisco Systems, Inc.*, 767 F.3d 1308, 1326 (Fed. Cir. 2014)). "When the accused infringing products have both patented and unpatented features, measuring this value requires a determination of the value added by such features." *Id.* "Logically, an economist could do this in various ways—by careful selection of the royalty base to reflect the value added by the patented feature, where that differentiation is possible; by adjustment of the royalty rate so as to discount the value of a product's non-patented features; or by a combination thereof." *Id.* "The essential requirement is that the ultimate reasonable royalty award must be based on the incremental value that the patented invention adds to the end product." *Id.*

As Mr. Kennedy's apportionment relies on Dr. Reed-Arthurs' adjusted WTP results, Defendant's criticism is, in essence, an attack on whether Dr. Reed-Arthurs' WTP calculations distinguish between the values of infringing and non-infringing features. Dr. Reed-Arthurs' mixed logit regression analysis and market simulation analysis seek to measure willingness-to-pay for the infringing feature separate from the willingness-to-pay for other features. (*See* D.I. 264-1, Ex. 1 ¶¶ 116–18, 137–53; *id.* at 254–58 of 284 (Ex. 9a, 9b); *id.* at 265 of 284 (Ex. 11)). Plaintiff asserts, "Dr. Reed-Arthurs' conjoint survey willingness-to-pay results . . . is inherently a measure of the value of the patented features." (D.I. 259 at 27). Defendant has given me no reason to doubt Plaintiff's claim. Defendant does not, for example, cite to any testimony from its own expert that supports its criticisms. I note that Defendant did not challenge Dr. Reed-Arthurs' survey description of the infringing feature. (*See* D.I. 264-1, Ex. 1 ¶ 56 (listing as a

tested feature the "Flexible Support" option, which purports to include the infringing feature, versus the "Standard Support" option, which does not)).

In its reply brief, Defendant objects to the use of Windows 10 as a royalty base on the basis that Windows 10 does not infringe. (D.I. 280 at 14–15). As explained above, Defendant sought to increase sales of Windows 10 by embedding access to Cortana into the operating system. Considering the facts of this case, it is reasonable for Mr. Kennedy to tie his damages theory to Windows 10.

For the stated reasons, I decline to exclude Mr. Kennedy's damages opinion.

b. Dr. Reed-Arthurs' Survey and Adjustment Factor

Defendant contends that Dr. Reed-Arthurs' survey results were "flawed and generated absurd results." (D.I. 240 at 28). Defendant asserts that Dr. Reed-Arthurs' adjustment factor "has no basis in science or the facts of this case." (*Id.*). I note that Defendant does not point to any criticism raised by its expert in support of its argument. Attorney argument alone does not provide a sufficient basis to find Dr. Reed-Arthurs' testimony unreliable. *See Ecolab, Inc. v. Amerikem Lab'ys, Inc.*, 98 F. Supp. 2d 569, 579 (D.N.J. 2000) ("No one versed in scientific analysis whose testimony is before the Court suggests that testing an aggregate solution yields misleading results. This Court will not deem the test unreliable based purely on surmise and attorney argument."), *vacated and remanded on other grounds, sub nom. Ecolab, Inc. v. Envirochem, Inc.*, 264 F.3d 1358 (Fed. Cir. 2001). I find the attorney argument in Defendant's briefing unpersuasive for the following reasons.

i. Reliability of Survey Results

Defendant argues that Dr. Reed-Arthurs' survey results are inherently unreliable and flawed. (D.I. 240 at 28). Defendant criticizes the survey's "absurd results." (*Id.*). In particular,

Defendant contends that the survey results greatly overstated the average consumers' WTP. (*Id.* (citing D.I. 264-1, Ex. 1 ¶¶ 156–62) (noting Dr. Reed-Arthurs' conclusion that the average consumer would be willing to pay up to $47 more for the infringing feature while the average cost of Windows 10 was $65)). Defendant further argues that, because Dr. Reed-Arthurs' survey results overstated WTP, any adjustment factor based on the same survey results necessarily results in an arbitrary adjustment. (*Id.* at 29).

The focus of the *Daubert* inquiry "must be solely on principles and methodology, not on the conclusions that they generate." *Daubert*, 509 U.S. at 580. While Defendant is welcome to challenge Dr. Reed-Arthurs' conclusions at trial, the supposed absurdity of her results does not impact admissibility. Furthermore, Dr. Reed-Arthurs reasonably explained why an economist would expect consumer WTP to outpace the price for Windows 10 set by Defendant. (D.I. 264-1, Ex. 1 ¶ 159). Dr. Reed-Arthurs explained how her adjustment factor attempts to account for this disparity. (*See id.* ¶¶ 158–62). Apart from its bare assertion that Dr. Reed-Arthurs is trying to "hide the absurdity of this result behind a smokescreen of references" (D.I. 280 at 16), Defendant provides no evidence from which I can conclude that Dr. Reed-Arthurs' analysis leads to arbitrary and unreliable results.

Defendant seizes on the fact that only 4 out of 1500 survey respondents had purchased a Linux-based computer. (D.I. 240 at 29). Defendant argues that Dr. Reed-Arthurs' survey sample "cannot have reliably produced a consumer WTP for Linux where less than 0.3% of respondents had purchased a Linux computer." (D.I. 280 at 18 n. 14). Defendant's position appears to be that the survey does not accurately capture WTP for a computer with Windows 10 relative to a computer with Linux because the participants were overwhelmingly skewed towards Windows 10 users over Linux users.

Defendant's position is based on a misunderstanding regarding the purpose of capturing consumer WTP. As Dr. Reed-Arthurs indicates, the survey was meant to provide results to calculate the "the average willingness-to-pay of all computer purchasers." (D.I. 264-1, Ex. 1 ¶ 129). The proper basis for assessing accuracy is the survey population's representativeness of the actual consumer population.

Dr. Reed-Arthurs' expert report indicates the survey participants roughly matched real-world demographic data. (*See id.* ¶¶ 18, 106, 149 & n. 162; *id.* at 253 of 284 (Ex. 8) (showing that Windows held 70% and Linux held 2% of the market share of PC operating systems in the U.S. from January 2016 to March 2023, compared to the 70% of survey participants who had most recently purchased Windows OS computers and the 0.3% of survey participants who had most recently purchased Linux computers)). In other words, the fact that participants were heavily skewed towards Windows 10 users over Linux users is actually suggestive of the survey population's representativeness and the survey results' accuracy.

Defendant's criticism regarding the small number of Linux-using survey participants merely implicates the survey sample's size, a problem that reflects that "no survey is perfect." *Marketquest Grp., Inc. v. BIC Corp.*, 2018 WL 1782724, at *5 (S.D. Cal. Apr. 12, 2018); *see i4i Ltd. P'ship v. Microsoft Corp.*, 598 F.3d 831, 856 (Fed. Cir. 2010) ("While the data were certainly imperfect, and more (or different) data might have resulted in a 'better' or more 'accurate' estimate in the absolute sense, it is not the district court's role under *Daubert* to evaluate the correctness of facts underlying an expert's testimony."), *aff'd*, 564 U.S. 91 (2011). Defendant does not show that Dr. Reed-Arthurs' methodology was "fundamentally flawed." *Cf. Citizens Fin. Grp., Inc. v. Citizens Nat. Bank of Evans City*, 383 F.3d 110, 118–20 (3d Cir.

2004). "[M]ere technical unreliability goes to the weight accorded a survey, not its admissibility." *Id.* at 121.[11]

Dr. Reed-Arthurs' expert report "suffice[s] to show that the survey was compiled in accordance with acceptable survey methods." *i4i*, 598 F.3d at 856. Defendant has failed to demonstrate otherwise.

ii. Reliability of Adjustment Factor

Defendant argues that Dr. Reed-Arthurs "made no effort to tie her adjustment factor to the patent or to the specific feature she claims would infringe if added to Windows." (D.I. 240 at 30). While I agree with Defendant that Dr. Reed-Arthurs' report provides little explanation regarding how she arrived at her adjustment factor (*see* D.I. 264-1, Ex. 1 ¶¶ 159–61), Dr. Reed-Arthurs' deposition testimony suggests she saw no need to describe her thought process because the underlying principles behind the adjustment factor were well-known in her field. (*See* D.I. 244-3, Ex. K at 94:16–20 (asserting that "underlying economic principles ... surrounding the adjustment and the thought process behind it are . . . well-known concepts.")). I also disagree with Defendant's position based on my understanding of Dr. Reed-Arthurs' analysis.

Dr. Reed-Arthurs, in applying her adjustment factor, utilizes the following formula:

$$\text{Consumer WTP for the Implicated Voice Assistant Features} * \frac{\text{Windows license ASP}}{\text{Consumer WTP for a computer with Windows OS relative to the same computer with a Linux OS}}$$

(D.I. 264-1, Ex. 1 ¶ 161). This expression can be rearranged as:

$$\frac{\text{Consumer WTP for the Implicated Voice Assistant Features}}{\text{Consumer WTP for a computer with Windows OS relative to the same computer with a Linux OS}} * (\text{Windows license ASP})$$

[11] Examples of "technical unreliability" in a survey include asking leading questions and not having the best universe of survey respondents. *See Southland Sod Farms v. Stover Seed Co.*, 108 F.3d 1134, 1143 (9th Cir. 1997).

Linux, a free, open-source operating system, and Windows 10 have various different features. In the fraction on the left, the WTP in the numerator is an estimate of how much a consumer would be willing to pay for the infringing voice assistant features (which, for the purpose of this analysis, Dr. Reed-Arthurs assumes Windows 10 includes and Linux does not). The WTP in the denominator is an estimate of how much a consumer would be willing to pay for all the additional or different features that Windows 10 has compared to Linux. Thus, the fraction on the left appears to estimate the portion of Window 10's marginal value over Linux's value that is attributable to the voice assistant feature. Viewed in this lens, Dr. Reed-Arthurs' calculation does appear to estimate the real-world dollar value of the infringing feature.[12]

Defendant further argues that Dr. Reed-Arthurs "makes no showing that her adjustment factor is an accepted accounting factor or the product of a peer-reviewed study." (D.I. 240 at 29). The Federal Circuit has already rejected Defendant's proposed requirement as impractical. *Summit 6, LLC v. Samsung Elecs. Co.*, 802 F.3d 1283, 1298 (Fed. Cir. 2015) ("That Mr. Benoit's methodology was not peer-reviewed or published does not necessitate its exclusion. We recognize that the fact-based nature of Mr. Benoit's damages testimony made it impractical, if not impossible, to subject the methods to peer review and publication."). As Dr. Reed-Arthurs explained at her deposition, she was "not aware of anybody having ever conducted an analysis under this specific set of facts and circumstances for this specific device class and this . . . case-specific situation." (D.I. 244-3, Ex. K at 94:11–15). She stated this adjustment was "very

[12] Oversimplifying, the approximate values received from Dr. Reed-Arthurs' mixed logit regression analysis for the baseline sample are: a consumer WTP for a voice assistant of $47 and a consumer WTP for a computer with Windows 10 OS compared to one with Linux OS of $873. (D.I. 264-1, Ex. 1 ¶ 19, 124; *id.* at 254 of 284 (Ex. 9a)). The Windows license ASP is $65. (*Id.* ¶ 158). Applying the formula above gives us (47*65)/873 = $3.50. That number roughly matches Dr. Reed-Arthurs' result (*see id.* at 237 of 284 (Ex. 1)), and it makes sense as an estimation of the value of the voice assistant in the context of the actual sales price of a Windows 10 license.

specifically appropriate for this market and the circumstances being used here" and that "some of the underlying principles . . . surrounding the adjustment and the thought process behind it are . . . well-known concepts." (*Id.* at 93:21–23, 94:16–19). She further asserted that the adjustment factor could be equated "to a reduced-form adjustment," which I understand from her testimony to be an accepted methodology. (*Id.* at 94:19–22). Defendant has not provided any evidence for me to conclude that Dr. Reed-Arthurs' adjustment factor is not "ground[ed] in the methods and procedures of science." *Daubert*, 509 U.S. at 590.

In its reply brief, Defendant makes the unsupported assertion that "the adjustment is premised on the assumption that consumers would be willing to pay more for every operating system feature in Windows than they would for the same operating system feature in Linux." (D.I. 280 at 17). It is not clear to me that Dr. Reed-Arthurs makes this assumption. Defendant also does not show why this assumption would be unreasonable or why it would impact admissibility rather than weight.

In sum, Defendant has not identified any fundamental flaws in the "principles and methodology" underlying Dr. Reed-Arthurs' adjustment factor.

iii. Windows 10 Non-Infringement

Defendant maintains that Dr. Reed-Arthurs' survey "tested the wrong product" because Windows 10 does not directly infringe. (D.I. 240 at 30–31). For reasons already discussed in relation to Mr. Kennedy's damages analysis, including that Defendant benefits from the infringing code by incorporating the method of triggering the code into Windows 10, I find that it is proper for Dr. Reed-Arthurs to tie her damages theory to Defendant's Windows operating system. *See supra* Section III.B.4.a.i.

For the foregoing reasons, Defendant's motion to exclude Dr. Reed-Arthurs' damages opinion is denied.

c. Marking

Given my disposition of Plaintiff's motion for summary judgment on marking, I dismiss Defendant's related motion as moot.

IV. CONCLUSION

For the foregoing reasons, Plaintiff's summary judgment and *Daubert* motions (D.I. 236) are GRANTED IN PART, DENIED IN PART, and DISMISSED AS MOOT IN PART. Defendant's summary judgment and *Daubert* motions (D.I. 239) are GRANTED IN PART, DENIED IN PART, and DISMISSED AS MOOT IN PART.

An appropriate order will issue.

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

IPA TECHNOLOGIES INC.,

Plaintiff,

v.

MICROSOFT CORPORATION,

Defendant.

Civil Action No. 18-1-RGA

ORDER

For the reasons stated in the accompanying Memorandum Opinion, IT IS HEREBY ORDERED that:

1. Plaintiff's Motion for Summary Judgment and *Daubert* (D.I. 236) is GRANTED IN PART, DENIED IN PART, and DISMISSED AS MOOT IN PART as set forth in the Memorandum Opinion;
2. Defendant's Motion for Summary Judgment and to Exclude IPA Technologies Inc.'s Expert Opinions (D.I. 239) is GRANTED IN PART, DENIED IN PART, and DISMISSED AS MOOT IN PART, as set forth in the Memorandum Opinion;
3. Summary judgment of non-infringement is GRANTED as to all asserted claims of the '115 patent (claims 29, 33, 38, 41, and 43).

IT IS SO ORDERED.

Entered this 25th day of April, 2024

Richard G. Andrews
United States District Judge