

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

IPA TECHNOLOGIES INC.,

Plaintiff,

v.

MICROSOFT CORPORATION,

Defendant.

Civil Action No. 18-00001-RGA

MEMORANDUM ORDER

This Memorandum Order addresses the issue of claim construction of two terms in U.S. Patent No. 6,851,115 (“the ’115 patent”), U.S. Patent No. 7,069,560 (“the ’560 patent”), and U.S. Patent No. 7,036,128 (“the ’128 patent”) (“the Asserted Patents”). The parties submitted a Joint Claim Construction Brief (D.I. 131), and I heard oral argument on April 18, 2023.¹

IPA brought this case against Microsoft in 2018. (D.I. 1). IPA also brought a companion case against Amazon. *IPA Techs. Inc. v. Amazon.com, Inc.*, No. 1:16-cv-1266 (“the Amazon case”). The cases have proceeded on different timetables. I long ago issued a claim construction order in the Amazon case. (Amazon case, D.I. 128).

I. LEGAL STANDARD

“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) (internal quotation marks omitted). “[T]here is no magic formula or catechism for conducting claim construction.’ Instead, the court is free to attach the appropriate

¹ Citations to the transcript, which is not yet docketed, are in the format “Tr. ___.”

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 (internal quotation marks omitted).

“[T]he words of a claim are generally given their ordinary and customary meaning. . . . [Which 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.” *Id.* at 1312–13 (citations and internal quotation marks omitted). “[T]he ordinary meaning of a claim term is its meaning to [an] ordinary artisan after reading the entire patent.” *Id.* at 1321 (internal quotation marks omitted). “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 upon 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 upon 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.*

II. PATENTS AT ISSUE

The parties agree that, for claim construction purposes, claim 29 of the '115 patent is representative. (D.I. 131 at 1). That claim reads as follows:

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, claim 29) (disputed terms italicized).

III. CONSTRUCTION OF AGREED-UPON TERMS

I adopt the following agreed-upon constructions:

CLAIM TERM	CLAIMS	CONSTRUCTION
“layer”	’115 patent: claim 29 ’560 patent: claims 50, 53 ’128 patent: claim 22	“a set of rules that are a part of the ICL”
“layer of conversational protocol”	’115 patent: claim 29 ’560 patent: claims 50, 53 ’128 patent: claim 22	“a layer which governs the structure of interagent communications”
“task completion advice”	’115 patent: claim 29	“one or more parameters containing advice on how to execute a task”
“task completion constraints”	’115 patent: claim 29	“one or more parameters containing constraints on how to execute a task”
“capability”	’115 patent: claims 29, 30	“a function an agent can perform”
“symbolic name”	’115 patent: claim 33	“a name that is used to identify an agent and need not be unique.”
“task declaration”	’115 patent: claim 33	“a statement of an agent task”
“request for a service” / “service request”	’115 patent: claim 29, 34-36 ’560 patent: claims 50, 51, 53	“The ‘request for a service’/’service request’ must be recited in the claimed ICL and must meet every requirement of the claimed ICL”
“base goal”	’115 patent: claims 29, 38 ’560 patent: claim 50, 53	“starting goal”
“cooperative task completion / cooperative completion of the base goal”	’115 patent: claim 29 ’560 patent: claims 50, 53	plain and ordinary meaning

“inter-agent language” / “inter-agent communication language” / “ICL”	’115 patent: claim 29, 35, 36 ’560 patent: claims 50, 53 ’128 patent: claim 22	“an interface, communication, and task coordination language”
“a content layer”	’115 patent: claim 29	“a layer, which specifies the content of interagent messages”
“event”	’115 patent: claims 29, 39-41 ’560 patent: claims 50, 53 ’128 patent: claim 22	“a message between agents or between an agent and a facilitator”
“non-syntactic decomposition”	’560 patent: claims 50, 53	“separating or resolving into constituent parts based on factors other than syntax”
“agent registry” / “registry of capabilities of the service-providing electronic agents”	’115 patent: claims 29, 30, 32, 33 ’560 patent: claims 50, 51, 53-55	plain and ordinary meaning
“compound goal” / “complex goal”	’115 patent: claim 29	“a single-goal expression comprising multiple sub-goals”
“arbitrarily complex goal expression” / “arbitrarily complex base goal” / “arbitrarily complex goal”	’115 patent: claims 29	“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”
“trigger”	’115 patent: claims 29, 33, 38-44 ’128 patent: claim 2	“a settable mechanism for taking or requesting action when a condition or set of conditions is met”
“event type(s)”	’115 patent: claim 29 ’560 patent: claims 50, 53 ’128 patent: claim 22	“type of event”
“ICL goal(s)”	’128 patent: claim 22	“goal(s) formulated in ICL”
“parameter lists associated with one or more events” / “wherein the parameter lists further refine the one or more events”	’115 patent: claim 29 ’128 patent: claim 22	“lists of parameters that refine associated events”

IV. CONSTRUCTION OF DISPUTED TERMS

- A. **“sub-goal” (’115 patent: claims 29, 45; ’560 patent: claims 50, 53; ’128 patent: claim 22)**
- a. *Plaintiff’s proposed construction:* No construction needed; plain and ordinary meaning. However, to the extent the Court determines that a specific construction is warranted: “a goal that is performed to accomplish a base goal”
 - b. *Defendant’s proposed construction:* “one of multiple requests necessary to achieve a goal”
 - c. *The Court’s construction:* “subgoals, when not modified by ‘one or more,’ means “two or more subgoals”

The parties dispute the relationship between a “sub-goal” and a “request for service.” Defendant argues that these terms are synonymous because, “[i]n the context of the Asserted Patents, a ‘goal’ is a request for service.” (D.I. 131 at 11-12). I disagree. First, as Plaintiff notes (*id.* at 18), Defendant asks me to construe a separate term: “goal.” Neither party has submitted “goal” for construction. I decline to construe it here. Second, I agree with Plaintiff that the intrinsic record reflects that “[g]oals and service requests are related, but distinct, concepts.” (*Id.* at 18). The claim language supports this view. For example, claim 29 of the ’115 patent recites “interpreting a service request in order to determine a base goal,” ’115 patent at 31:59-60, and claim 53 of the ’560 patent recites “determining a base goal based on the service request.” ’560 patent at 36:18. As Plaintiff notes, “[i]f a goal and a service request are viewed as the same entity, there would be no need to interpret one to yield the other.” (D.I. 131 at 18).

Defendant’s response is that, because these claims describe a particular type of goal (“base goals”) rather than just “goals,” a service request nevertheless constitutes a goal. (*Id.* at 23). I am not convinced. The Federal Circuit has stated that, in the absence of evidence to the contrary, different claim terms are presumed to have different meanings. *CAE Screenplates Inc. v. Heinrich Fiedler GmbH & Co. KG*, 224 F.3d 1308, 1317 (Fed. Cir. 2000). I do not think Defendant offers

persuasive reasons to depart from this principle here. Defendant argues that the specification equates goals and requests. (D.I. 131 at 11-12). For instance, Defendant points to a disclosed example in which the patents explain, “**The goal**, now stated in ICL, is then transmitted to the client agent’s parent facilitator in a step 906. The parent facilitator responds **to this service request ...**” ’115 patent at 18:6-8 (emphasis added). I do not think that this language contradicts Plaintiff’s interpretation. The service request, as I understand it, expresses the goal. The goal is therefore a component of the service request, rather than the service request itself. Defendant’s arguments with respect to the prosecution history and recent IPR proceedings (D.I. 131 at 12) do not convince me otherwise.

The parties also dispute the relationship between a “goal” and a “sub-goal.” Plaintiff and Defendant agree that sub-goals are component goals necessary to achieve a goal. (D.I. 131 at 9 (“subgoals are component goals performed to achieve a base goal”); *id.* at 11 (“subgoal is a component or constituent request that ... is necessary to satisfy the initial goal”)). The disagreement here is whether a sub-goal must be one of multiple sub-goals necessary to achieve a goal, or whether a sub-goal can be the only sub-goal necessary to achieve a goal.

Defendant argues the former. I agree. As Defendant notes (D.I. 131 at 11), the asserted claims refer to both “goals” and “sub-goals.” *E.g.*, ’115 patent, claim 29. Again, in the absence of evidence to the contrary, I must presume that different claim terms mean different things. *CAE Screenplates Inc.*, 224 F.3d at 1317. Thus, a “sub-goal” presumptively differs from a “goal” in some respect. The Merriam-Webster Online Dictionary includes several definitions of the prefix “sub,” the second of which is most apt here: “subordinate portion of” or “subdivision of.” MERRIAM-WEBSTER, <https://www.merriam-webster.com/dictionary/sub> (last visited Apr. 19, 2023). In short, “sub” denotes inferiority with respect to the root word that “sub” modifies. “Sub-

goal,” therefore, suggests something less than a “goal.” The dictionary definition counsels against Plaintiff’s proposed interpretation of sub-goal, which would permit a “sub-goal” to constitute the “goal” itself. (*See* D.I. 131 at 17-18).

The intrinsic record largely supports Defendant’s interpretation. Multiple claims refer to “subgoals,” plural. For example, claim 29 of the ’115 patent recites “constructing a base goal satisfaction plan” that includes “determining **sub-goals** required in completing the base goal.” ’115 patent at 32:9-13 (emphasis added). The Federal Circuit has stated that a plural term is presumed to refer to two or more items. *Apple Inc. v. MPH Techs. Oy*, 28 F.4th 254, 261-62 (Fed. Cir. 2022). “That presumption can be overcome when the broader context shows a different meaning applies.” *Id.* at 262. Plaintiff has not overcome that presumption with respect to every use of “sub-goal.” As I mentioned at oral argument (Tr. at 7-8), the Patentees clearly indicate where a plural term refers to one or more items: They employ the phrase “one or more.” For example, in claim 29 of the ’115 patent, the phrase “one or more” appears four times. ’115 patent at 31:65, 31:67, 32:1, 32:13. Yet that phrase does not accompany “sub-goals.” ’115 patent at 32:12. I take that to mean that “sub-goals,” standing alone, means multiple sub-goals.²

By contrast, other claims recite “one or more” sub-goals. Claim 1 of the ’115 patent does so. ’115 patent at 29:30. So does claim 22 of the ’128 patent. ’128 patent at 37:23. I think the “one or more” language modifying “sub-goals” is clear enough to permit a single sub-goal when “sub-

² Plaintiff argues that such a requirement contradicts the specification, as well as an agreed-upon construction that I have adopted here. (D.I. 131 at 22-23). The parties agreed to construe “arbitrarily complex goal expression” / “arbitrarily complex base goal” / “arbitrarily complex goal” to mean “a single goal expression expressed in a language or syntax that **allows** multiple sub-goals....” (D.I. 138, App. B at 2) (emphasis added). I agree with Defendant (D.I. 131 at 28) that this language does not require single sub-goals, and, in any event, does not override the plain language of the claims discussed above. Neither does the acknowledgment in the specification that “not every goal is itself necessarily complex.” ’115 patent at 14:58-59.

goals” is so modified. Thus, while the phrase “one or more sub-goals” permits a single sub-goal, “sub-goals” without the modifying clause requires at least two sub-goals.

B. “goal satisfaction plan” (’115 patent: claim 29; ’560 patent: claim 50)

- a. *Plaintiff’s proposed construction*: No construction needed; plain and ordinary meaning. However, to the extent the Court determines that a specific construction is warranted: “plan for satisfying a goal that includes delegating sub-goals to specific agents and is consistent with advice parameters.”
- b. *Defendant’s proposed construction*: “plan for satisfying a goal that includes delegating sub-goals to specific agents, involves asking service providing agents to perform actions other than the retrieval of information, and is consistent with advice parameters”
- c. *The Court’s construction*: “plan for satisfying a goal that includes delegating sub-goals to specific agents, is not limited to asking service providing agents to retrieve information, and is consistent with advice parameters.”

Plaintiff’s proposed construction of “goal satisfaction plan” is the same as what I decided in the Amazon case. (Amazon case, D.I. 128 at 1). Defendant argues that this construction “should be modified to give effect to a disclaimer that IPA placed on the public record during prosecution, and which no party in the Amazon case brought to the Court’s attention.” (D.I. 131 at 37). I agree with Defendant that some modification is in order.

During prosecution of the ’115 patent, the Examiner rejected the pending claims as unpatentable over a combination of the Martin publication and the Kiss patent (D.I. 132-4, Ex. D at 132-148), basing its decision in part on the fact that the Kiss patent disclosed the step of “constructing a goal satisfaction plan.” (*Id.* at 133). In distinguishing the Kiss patent, Plaintiff argued that “K[iss] is merely a method of information retrieval from information repositories or data sources,” whereas the goal satisfaction plan in the ’115 patent “involves asking service providing agents to perform **actions** ... as opposed to merely asking the agents to retrieve information from an information repository.” (*Id.* at 112) (emphasis in original).

Defendant argues that Plaintiff's statements amount to "an unequivocal disavowal of the notion that a 'goal satisfaction plan' can cover the retrieval of information." (D.I. 131 at 38). Defendant clarified at oral argument that it does not mean to say that a "goal satisfaction plan" cannot involve information retrieval.³ (Tr. at 36). Defendant maintains, however, that Plaintiff disclaimed a "goal satisfaction plan" that does not include actions. (*Id.*). I do not think that Plaintiff disclaimed so much. "[F]or prosecution disclaimer to attach ... the alleged disavowing actions or statements made during prosecution" must be "both clear and unmistakable." *Omega Eng'g, Inc.*, 334 F.3d 1314, 1325-26 (Fed. Cir. 2003). Although Plaintiff emphasized that the '115 patent's "goal satisfaction plan" involves actions, Plaintiff's purpose in making this point was to illustrate that the "goal satisfaction plan" involves more than just information retrieval. (*See* D.I. 132-4, Ex. D at 111-112). This is far from a "clear and unmistakable" disclaimer of a "goal satisfaction plan" that does not include actions.

I think that Plaintiff did, however, disavow coverage of a "goal satisfaction plan" that is limited to the retrieval of information. Plaintiff argues to the contrary. Plaintiff says, "The inclusion of the term 'merely' in the applicants' descriptions of the prior art indicates that the patented invention **not only** can retrieve information—it also can perform actions." (D.I. 131 at 39) (emphasis in original). I am not convinced. Although Plaintiff did not disavow a "goal satisfaction plan" capable of both retrieving information and performing actions, Plaintiff expressly argued to the Examiner that the service providing agents of the '115 patent "are not merely sources of information." (D.I. 132-4, Ex. D at 112). I do not think that Plaintiff can now argue for a construction of "goal satisfaction plan" that is sufficiently vague that it would encompass exactly that. Thus, I conclude that the term "goal satisfaction plan" means "plan for satisfying a goal that

³ Defendant's proposed construction suggests otherwise. I therefore decline to adopt it.

includes delegating sub-goals to specific agents, is not limited to asking service providing agents to retrieve information, and is consistent with advice parameters.”

IT IS SO ORDERED.

Entered this 27th day of April, 2023.

/s/ Richard G. Andrews
United States District Judge