IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

HEADWATER RESEARCH LLC,	§	
	§	
Plaintiff,	§	NO. 2:23-CV-00397-JRG-RSP
	§	(Lead Case)
v.	§	
	§	
AT&T SERVICES, INC., AT&T MOBILITY LLC, and AT&T CORP.,	§	NO. 2:23-CV-00398-JRG-RSP
	§	(Member Case)
	§	
Defendants.	§	

CLAIM CONSTRUCTION ORDER

Headwater Research LLC accuses AT&T Services, Inc., AT&T Mobility LLC, and AT&T Corporation of infringing claims of U.S. Patents 8,589,541, 8,924,543, 9,198,042, and 9,215,613. Generally, the patents relate to wireless communication networks.

The parties present 10 terms for construction. Having considered the parties' briefing, along with arguments of counsel at a November 19, 2024 hearing, the Court resolves the disputes as follows.

I. BACKGROUND

A. U.S. Patents 8,589,541 and 9,215,613

These related patents[1] concern managing traffic flow over a network and, more specifically, inhibiting degradation of the "overall network experience" when "very high bandwidth applications and content" consume network resources. '541 Patent at 7:50–58; *see also* '613 Patent at

[1] *See* '613 Patent at [60] (noting the underlying application is a "[c]ontinuation of application No. 14/082,040, filed on Nov. 15, 2013, which is a division of application No. 13/134,028, filed on May 25, 2011, now Pat. No. 8,589,541").

1:23–31. Such degradation increases costs and reduces profits. '541 Patent at 7:56–58. The patents teach addressing the problem by applying a particular service usage policy to low-priority communications, like "background activity," that restricts or delays the communication from consuming network resources.

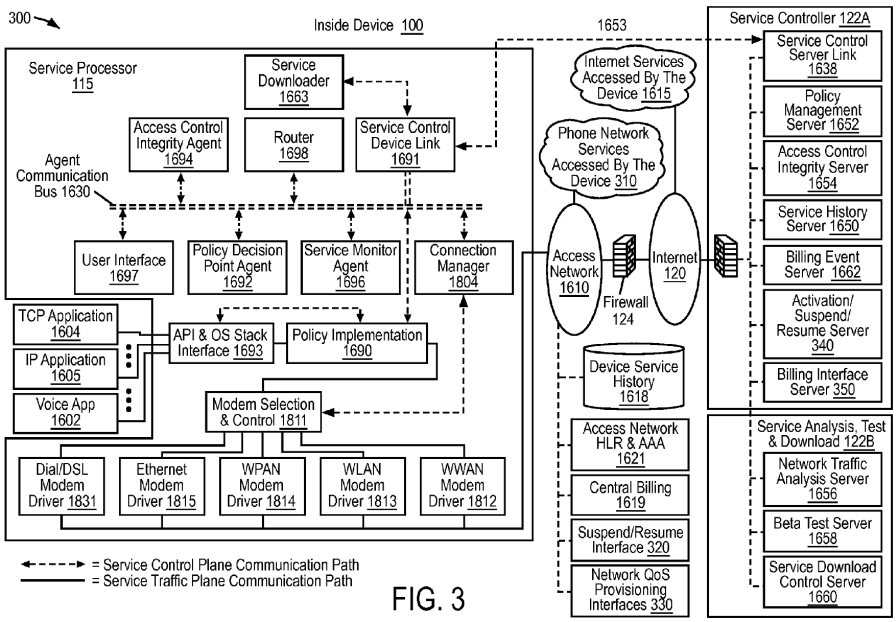


FIG. 3

Figure 3 (above) of each patent shows an architecture for "protecting network capacity" that includes a service controller 122A connected to a service processor 115 through the internet 120. The service controller has a policy management server 1652, which transmits service usage policies to the service processor over a service control link 1653. The policy management server manages policy settings on the service processor and may set policy on a policy implementation agent 1690 positioned between an "API & OS Stack Interface 1693" and "Modem Selection and Control 1811." The policy implementation agent 1690 is also connected to the agent communication bus 1630. Because of its position between the interface and drivers, the agent can prevent or otherwise manage use of the network resources—what the patent calls "traffic shaping." *See, e.g.*,

'541 Patent at 49:58–62 (explaining "the policy management server 1652 receives, requests, and/or otherwise obtains a measure of network availability/capacity and adjusts traffic shaping policy and/or other policy settings based on available network availability/capacity (e.g., a network busy state)"); *id.* at 52:54–58 (noting an application interface agent literally or virtually tags "application layer traffic so that the policy implementation agent(s) 1690 has the necessary information to implement selected traffic shaping solutions").

The patents' claims adjust network use based on whether the application requesting the use is a foreground or background activity. Claim 1 of the '541 Patent recites:

> 1. A non-transitory computer-readable storage medium storing machine-executable instructions that, when executed by one or more processors of a wireless end-user device, cause the one or more processors to:
>
> identify a **service usage activity** of the wireless end-user device, the **service usage activity** being associated with a first software component of a plurality of software components on the wireless end-user device, the **service usage activity** comprising **one or more prospective or successful communications** over a wireless network;
>
> determine whether the **service usage activity** comprises a background activity;
>
> determine at least an aspect of a policy based on a user input obtained through a user interface of the wireless end-user device or based on information from a network element, the policy to be applied if the **service usage activity** is the background activity, the policy at least for controlling the **service usage activity**; and
>
> if it is determined that the **service usage activity** is the background activity, apply the policy.

'541 Patent at 110:14–31 (disputed terms in bold). Claim 1 of the '613 Patent recites:

> 1. A wireless end-user device, comprising:

> . . .
>
> a non-transient memory to store
>
> > . . .
> >
> > a **differential traffic control policy** applicable to at least some Internet service activities by or on behalf of the first one or more applications;
>
> an interface to allow a user to augment the **differential traffic control policy** for the first one or more applications but not for the second one or more applications and/or services; and
>
> one or more processors configured to
>
> > . . .
> >
> > **classify whether a particular application capable of both interacting with the user in a user interface foreground of the device, and at least some Internet service activities when not interacting with the user in the device user interface foreground, is interacting with the user in the device user interface foreground**, and
>
> selectively allow or deny one or more Internet service activities by or on behalf of the particular application based on whether or not the particular application is one of the first one or more applications, the **differential traffic control policy**, including any applicable user augmentation of the **differential traffic control policy**, and the classifications performed by the one or more processors.

'613 Patent at 105:51–106:25 (disputed terms in bold).

B. U.S. Patent 9,924,543

The '543 Patent relates to user service plans for wireless networks. Prior-art service plans limit users' ability to customize a device's use of the network. Moreover, configuring the network to implement a particular service plan is difficult and resource intensive, requiring employees configuring the device to track use of the network for devices that subscribe to the particular plan. *See*

generally '543 Patent at 7:55–8:6.

As a solution, the '543 Patent teaches "[a] technique involv[ing] modular storage of network service plan components and provisioning of same." '543 Patent at [57]. As shown in FIG. 2 of the patent (below), a datastore collection 202 has datastores for filters 210, components 212, plans 214, and rules 218. The filters datastore includes "traffic control filter data structures that, when used, allow, block, throttle, delay (for a fixed period of time), and defer (until an event)" network traffic. *Id.* at 12:57–60. The components datastore includes "a set of filter packages, including at least one filter, and a set of policies." *Id.* at 13:6–12. The rules datastore includes policy rules, like structures for traffic control policies 220, charging policies 222, and notification policies 224. *Id.* at 13:25–36. Finally, the plan-catalogs datastore 206 includes combinations of components from the collection of datastores associated with service plans 202 and the collection of datastores associated with subscribers 204. *Id.* at 14:22–27.

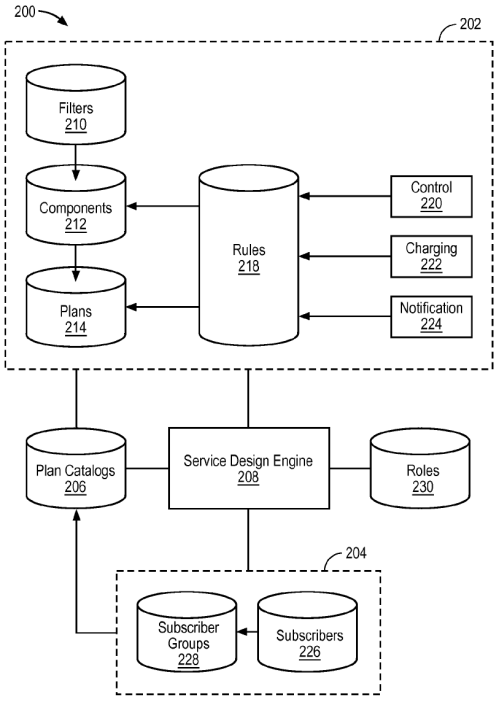


FIG. 2

The claims are directed to a system that creates a "network provisioning instruction set" from first and second service plan components. The system then provides the "network provisioning instruction set," which also includes network traffic inspection and policy enforcement instructions, to the network for implementation. For example, Claim 1 recites:

> 1. A network service plan provisioning system communicatively coupled to a wireless end-user device over a wireless access network, the network service plan provisioning system comprising one or more network elements configured to:
>
> obtain and store a first **service plan component** and a second **service plan component**,
>
> the first **service plan component** comprising (1) information specifying a first traffic classification filter for filtering a traffic event in a network traffic inspection system, the traffic event being associated with the wireless end-user device and (2) a first network policy enforcement action that is triggered in a network policy enforcement system when the traffic event possesses a characteristic that matches the first traffic classification filter, and the second **service plan component** comprising (a) information specifying a second traffic classification filter for filtering the traffic event in the network traffic inspection system, and (b) a second network policy enforcement action that is triggered in the network policy enforcement system when the traffic event possesses a characteristic that matches the second traffic classification filter;
>
> process the first **service plan component** and the second **service plan component** to create a network provisioning instruction set . . . , the network provisioning instruction set comprising one or more traffic inspection provisioning instructions for the network traffic inspection system and one or more policy enforcement provisioning instructions for the network policy enforcement system, the network traffic inspection system and the network policy enforcement system implementing one or more policies applicable to the wireless end-user device;
>
> provide the one or more traffic inspection provisioning

> instructions to the network traffic inspection system; and
>
> provide the one or more policy enforcement provisioning instructions to the network policy enforcement system.

'543 Patent at 58:64–59:34 (disputed terms in bold). From this patent, the parties only dispute the scope of "service plan component."

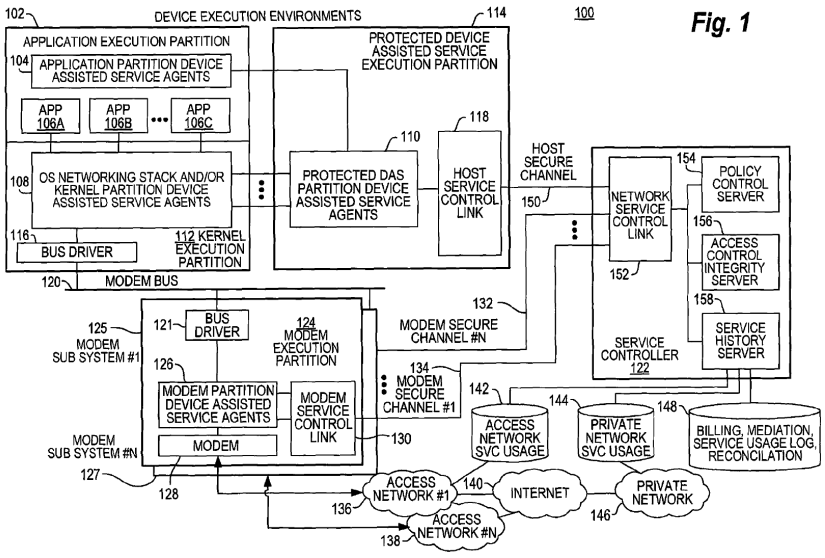
C. U.S. Patent 9,198,042

The '042 Patent relates to a method of securely managing "service policy settings" of an end user device of a wireless network. As described by the Abstract, the method includes:

> determining, based on [a] report [from an end user device], that a particular service policy setting of the end-user device needs to be modified, . . . ; and, in response to determining that the particular service policy setting needs to be modified, sending configuration information to the end-user device, the configuration information configured to assist in modifying or allowing modifications to the particular service policy setting.

'042 Patent at [57]. The "particular service policy setting" is "stored in a protected partition configured to deter or prevent unauthorized modifications." *Id.*

Figure 1 (below) shows "a secure execution environment for device assisted services" that can implement the claimed method. '042 Patent at 2:10–12. The environment 100 includes an application execution partition 102, a protected device assisted service (DAS) execution partition 144, a service controller 122, and a modem subsystem 125. The service controller 122 connects to the protected DAS execution partition and modem subsystem through host secure channel 150 and modem secure channel 134, respectively. "[T]he only mechanism for modifying the configuration of the operation, execution code, execution instructions and/or settings of certain device assisted service processor agents executing in the protected DAS partition 114 is through the service control link." *Id.* at 7:54–59. Thus, "only the service controller 122 may modify the operation or service policy settings for the agents located in" the protected partition 114. *Id.* at 7:61-63.



Claim 1 closely tracks the language of the Abstract. It recites:

1. A method comprising:

receiving, over a service control link, a report from a wireless end-user device, the report comprising information about a **device service state**;

determining, based on the report, that a particular **service policy setting** of the wireless end-user device needs to be modified, the particular **service policy setting** being stored in a **protected partition** of the wireless end-user device, the **protected partition** configured to deter or prevent unauthorized modifications to the particular **service policy setting**, the particular **service policy setting** being associated with a service profile that provides for access by the wireless end-user device to a network data service over a wireless access network, the particular **service policy setting** configured to assist in controlling one or more communications associated with the wireless end-user device over the wireless access network; and

is in response to determining that the particular **service policy setting** needs to be modified, sending configuration information to the wireless end-user device over the service control link, the configuration information configured to assist in modifying or allowing modifications to the particular

service policy setting.

'042 Patent at 19:21–45 (disputed terms in bold).

II. LEGAL STANDARDS

A. Generally

"[T]he 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*). As such, if the parties dispute the scope of the claims, the court must determine their meaning. *See, e.g., Verizon Servs. Corp. v. Vonage Holdings Corp.,* 503 F.3d 1295, 1317 (Fed. Cir. 2007) (Gajarsa, J., concurring in part); *see also Markman v. Westview Instruments, Inc.,* 517 U.S. 370, 390 (1996), *aff'g,* 52 F.3d 967, 976 (Fed. Cir. 1995) (*en banc*).

Claim construction, however, "is not an obligatory exercise in redundancy." *U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997). Rather, "[c]laim construction is a matter of [resolving] disputed meanings and technical scope, to clarify and when necessary to explain what the patentee covered by the claims . . . ." *Id.* A court need not "repeat or restate every claim term in order to comply with the ruling that claim construction is for the court." *Id.*

When construing claims, "[t]here is a heavy presumption that claim terms are to be given their ordinary and customary meaning." *Aventis Pharm. Inc. v. Amino Chems. Ltd.,* 715 F.3d 1363, 1373 (Fed. Cir. 2013) (citing *Phillips,* 415 F.3d at 1312–13). Courts must therefore "look to the words of the claims themselves . . . to define the scope of the patented invention." *Id.* (citations omitted). The "ordinary and customary meaning of a claim term 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 1313. This "person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in

which the disputed term appears, but in the context of the entire patent, including the specification." *Id.*

Intrinsic evidence is the primary resource for claim construction. *See Power-One, Inc. v. Artesyn Techs., Inc.,* 599 F.3d 1343, 1348 (Fed. Cir. 2010) (citing *Phillips,* 415 F.3d at 1312). For certain claim terms, "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." *Phillips,* 415 F.3d at 1314; *see also Medrad, Inc. v. MRI Devices Corp.*, 401 F.3d 1313, 1319 (Fed. Cir. 2005) ("We cannot look at the ordinary meaning of the term . . . in a vacuum. Rather, we must look at the ordinary meaning in the context of the written description and the prosecution history."). But for claim terms with less-apparent meanings, courts consider "those sources available to the public that show what a person of skill in the art would have understood disputed claim language to mean . . . [including] the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art." *Phillips,* 415 F.3d at 1314.

B. Indefiniteness

"[A] patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention." *Nautilus, Inc. v. Biosig Instruments, Inc*., 572 U.S. 898, 901 (2014). The claims "must be precise enough to afford clear notice of what is claimed" while recognizing that "some modicum of uncertainty" is inherent due to the limitations of language. *Id.* at 908. "Indefiniteness must be proven by clear and convincing evidence." *Sonix Tech. Co. v. Publ'ns Int'l, Ltd.*, 844 F.3d 1370, 1377 (Fed. Cir. 2017).

III. THE LEVEL OF ORDINARY SKILL IN THE ART

The level of ordinary skill in the art is the skill level of a hypothetical person who is presumed to have known the relevant art at the time of the invention. *In re GPAC*, 57 F.3d 1573, 1579 (Fed. Cir. 1995). In resolving the appropriate level of ordinary skill, courts consider the types of and solutions to problems encountered in the art, the speed of innovation, the sophistication of the technology, and the education of workers active in the field. *Id.* Importantly, "[a] person of ordinary skill in the art is also a person of ordinary creativity, not an automaton." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007).

Here, the parties agree a skilled artisan would have "at least a bachelor's degree in computer science, computer engineering, or a similar field, and approximately two years of industry or academic experience in a field related to computer software development and/or computer networking." Dkt. No. 70 at 7 (quoting Turnbull Decl., Dkt. No. 70-6 ¶ 29); *see also* Turnbull Decl., Dkt. No. 78-5 ¶ 29).

IV. THE DISPUTED TERMS

A. "one or more prospective or successful communications [over a wireless network]" ('541 Patent, Claim 1 and dependents)

Plaintiff's Construction	Defendants' Construction
Not indefinite; plain and ordinary meaning	Indefinite

Claim 1 is directed to computer instructions that cause a processor to "identify a service usage activity of the wireless end-user device, . . . the service usage activity comprising *one or more prospective or successful communications* over a wireless network." '541 Patent at 110:17–23 (emphasis added). Once the service usage activity is identified, the system determines whether to apply a policy based on the activity. *Id.* at 110:29–31.

Defendants argue that "one or more prospective or successful communications" is indefinite because a skilled artisan would not understand the scope of the claim with reasonable certainty. Dkt. No. 78 at 3. They focus on the words "prospective" and "successful," which are not used outside the claims. They say a "prospective communication" could refer to any of:

(1) "a communication potentially initiated in the future (*e.g.*, email app set to sync which would require communications with a server)";

(2) "a communication initiated only when app determines one must be made (*e.g.*, when email app initiates a sync routine but before sending request to the operation system ('OS'))";

(3) "a communication initiated only when the application requests permission from the OS to access the network (*e.g.*, email app invokes API call for network permissions)";

(4) "a communication initiated only when the application actually sends its content to the OS for routing over the wireless network (e.g., email app invokes API call sending data)"; or

(5) "a communication only once it is sent over the wireless network but has not reached its destination (*e.g.*, OS sends data to network)."

Id. at 5.

Plaintiff replies that "prospective communications" are communications that "potentially travel over a wireless network," and "not only communications that successfully travel." Dkt. No. 83 at 1. It rejects Defendants' first and last proposed interpretations—that is, (1) and (5)—because the former is not a communication and the latter is not "prospective" given it has already traveled across the network. *Id.* at 2. As for the other interpretations, Plaintiff calls them "incomplete and disembodied from any actual system." *Id.*

This term is not indefinite. The specification explains that "service usage activity" can be, for example, allowed, restricted, delayed, throttled, or prevented by a service usage policy. *See,*

e.g., '541 Patent at 19:49–53 (noting implementation of a network activity policy might result in well-known traffic control techniques "such as throttle, delay, priority queue, time window, suspend, quarantine, kill, [and] remove"), 63:39–41 ("the service controller throttles other devices on the link so that the requested [quality of service] level can be achieved"). In the context of the invention, it's the policy implementation manager positioned between the drivers and interface that implements the policy. As such, a skilled artisan would understand the claims' use of prospective (but unsuccessful) communications as communications that would have been delayed or changed by the implemented policy of Claim 1. The Court therefore construes "prospective communication" as "communication(s) that are successful, or that may become successful unless prevented by application of the policy."

B. "service usage activity" ('541 Patent, Claim 1 and dependents)

Plaintiff's Construction	Defendants' Construction
No construction necessary; plain and ordinary meaning	"an activity by the first software component that requires usage of a wireless network connection"

According to Defendants, the underlying dispute concerns whether "service usage activity" can be a software component, or whether it is an activity generated by the software component. Dkt. No. 78 at 7. Asserting the latter, they note the claim language requiring that the "service usage activity" be "associated with a first software component" that comprises "communications over a wireless network." *Id.* From the specification, they point to the description of a "service usage activity" as something generated by "an application, an operating system (OS), and/or other device function." *Id.* at 8 (quoting '541 Patent at 19:10–15, and citing *id.* at 18:50–54, 42:2–3, 57:15–18).

According to Plaintiff, the dispute is not whether the "service usage activity" can be an application or software component, but whether Defendants' construction improperly requires the

"activity" to be generated when the claims only contemplate an "association" with a "software component." Dkt. No. 83 at 2–3; *see also* Dkt. No. 70 at 12 (asserting Defendants' construction is inconsistent with dependent claims that require the "activity" to be "by the first software component"). Moreover, Plaintiff says that while a "service usage activity" can relate to a wireless network, it doesn't require that relationship, so "requires usage" in Defendants' construction is not proper. Dkt. No. 83 at 3 (citing '541 Patent at 107:2–5, 107:13–18).

The Court agrees with Defendants that a "service usage activity" cannot be the "software component" itself. Plaintiff also seems to agree. *See* Dkt. No. 83 at 2–3 (noting "Headwater never argued that 'service usage activity' can be 'an application itself' or the 'software component' of the claims"). In fact, the specification provides examples of what a "service usage activity" is:

> [P]ersistent or frequent traffic resulting from *network resource requests, network data accesses or other network interaction* can also degrade network capacity, network performance, and/or network resource whether or not the aggregate bandwidth demand as measured by the total data throughput is high or not. Thus, techniques are needed to preserve network capacity by, for example, differentially controlling *these types of network service usage activities* in various ways depending on the type of service activity requesting network access and/or requesting transactions with network resources.

'541 Patent at 15:8–18 (emphasis added). Thus, the specification identifies "network resource requests, network data accesses or other types of network interaction" as "types of network service usage activities"—not applications or software components. Various dependent claims also support this interpretation by suggesting the "service usage activity" can be, for example, allowed, restricted, delayed, throttled, or prevented, *see* '541 Patent at 116:43–47 (Claim 71), 123:1–4 (Claim 159)—actions that don't apply to "applications" or "software components."

That said, the Court sees no reason to require the activity to be performed "by the first software component," which even Defendants say "is not the issue." Dkt. No. 78 at 7. Nor is

"service usage activity" inherently limited to wireless networks, although Claim 1 does impose that issue separately. *Id.* at 110:21–23 ("the service usage activity comprising one or more prospective or successful communications over a wireless network"). With the clarification that "service usage activity" is not an application or a software component, the Court will give this term a "plain and ordinary meaning" construction.

C. "background activity" ('541 Patent, Claim 1)

Plaintiff's Construction	Defendants' Construction
Not indefinite; plain and ordinary meaning	Indefinite

Claim 1 requires instructions for "determin[ing] whether the service usage activity comprises a background activity" and, if it does, applying a specific policy "for controlling the service usage activity." '541 Patent at 110:23–24. For example, as discussed above, the policy may allow, restrict, delay, throttle, or prevent the service usage activity. *Id.* at 74:51–55; *see also id.* at 116:45–47 (reciting, in Claim 71, "a setting for assisting the first software component in restricting, allowing, blocking, throttling, deferring, time-scheduling, or queuing the service usage activity").

Defendants assert "[t]he specification provides diverging possibilities for where the line between [foreground activity and background activity] is drawn." Dkt. No. 78 at 11 (citing '541 Patent at 107:49–108:2). For example, "[r]ules that define which service [] activities to classify as, e.g., background service usage activities can be user-selected, set by a service provider, or through some other applicable means." '541 Patent at 107:67–108:2. Defendants thus conclude a skilled artisan would not know the boundaries of "background activity" with reasonable certainty. Dkt. No. 78 at 11.

Plaintiff says "background activity" is a known term in the art, and "the specification provides extensive disclosures about background activities." Dkt. No. 70 at 14 (citing '541 Patent at

14:47–15:4). It also points to the patent's distinction between background and other activities. *Id.* at 15 (citing Turnbull Decl., Dkt. No. 70-6 ¶ 72 (discussing a "background class" "generally used for lowest priority service usages (e.g., typically used for e-mail with and without downloads/attachments, application software updates, OS software updates, and/or other similar applications/functions")).

This term is not indefinite. To start, the parties agree "background activity" has an ordinary meaning to a skilled artisan. *See* Hr'g Tr., Dkt. No. 88 at 18:8-13. That meaning applies unless there is lexicography or disavowal, both of which must be clear and unmistakable. *See Thorner v. Sony Comput. Entm't Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012) (noting "[t]he words of a claim are generally given their ordinary and customary meaning as understood by a person of ordinary skill in the art [except] 1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of a claim term either in the specification or during prosecution"); s*ee Pacing Techs., LLC v. Garmin Int'l, Inc.*, 778 F.3d 1021, 1024 (Fed. Cir. 2015) ("To act as a lexicographer, a patentee must 'clearly set forth a definition of the disputed claim term' and 'clearly express an intent to define the term.'" (citing *Thorner*, 669 F.3d at 1365)). Defendants, however, assert the specification uses the term so ambiguously that its ordinary meaning no longer applies—almost like reverse lexicography. But the Court knows of no claim construction principle that supports that result, nor do Defendants offer any authority for that proposition. Because here the parties don't dispute that ordinary meaning, the Court will give this term a "plain and ordinary meaning" construction.

D. "device service state" ('042 Patent, Claim 1 and dependents)

Plaintiff's Construction	Defendants' Construction
No construction necessary; plain and ordinary meaning.	"information about the current status of the device required to adequately define the actions needed from the service controller to maintain proper device-assisted service (DAS) system operation"

Defendants assert lexicography. For support, they point to the specification's explanation that "the information reported from the device and received or derived outside the device that is required to adequately define the actions needed from the service controller to maintain proper DAS system operation is sometimes referred to herein as the 'device service state.'" Dkt. No. 78 at 17 (quoting '042 Patent at 17:59–18:11). Plaintiff disputes any lexicography, and suggests Defendants' definition creates more ambiguity. Dkt. No. 70 at 18. Plaintiff does not, however, identify what it considers to be the ordinary meaning of the term.

All of the written description's references to a "device service state" appear in column 18, with the language on which Defendants rely being the earliest use of the term. The paragraphs after that use explain the purpose of the information relating to the "device service state":

> [T]he service controller can be designed so that the programs that execute the various service controller server functions can derive all of the information necessary to properly manage the device at any moment in time by knowing past *device service state* and current *service state* that adequately define the next set of actions the service controller needs to implement to properly maintain the DAS system operation. By designing the system in this way, if the server that is running the service controller server functions for any given device in question were to go down or become disconnected from the device, then another server could later resume proper operation of the DAS system by assigning another service controller server function to the device and recovering or restoring the necessary past *device service state* and the necessary current *device service state*.
>
> For example, this can be accomplished in some embodiments as described below. The service controller saves the current *device service state* into a common database

> (e.g., which can be centralized or distributed) that is available to all service controller server functions. The *device service state* is saved each time the device communicates with the service controller, or at regular time intervals, or a combination of both. The device retains its current and past service state reports even after they are reported at least until the service controller sends the device a message confirming that the service controller has saved a given *device service state*. Once the device receives this save confirmation for a given device state report then it is no longer required to retain that particular device state report once the device has no further use for it.

'042 Patent at 18:17–45 (emphasis added). In other words, the system keeps track of the current and past device service states so that it can recover in the event of some fault.

The Court agrees with Plaintiff that there is no lexicography, because the passage on which Defendants rely is not sufficiently clear. *See Pacing Techs.*, 778 F.3d at 1024 ("To act as a lexicographer, a patentee must 'clearly set forth a definition of the disputed claim term' and 'clearly express an intent to define the term.'" (citing *Thorner*, 669 F.3d at 1365)). For example, Defendants construe the "state" as "information," but Claim 1 already recites "information about a device service state." Thus, under Defendants' construction, that would nonsensically reduce to "information about information about the current status . . . ." That undercuts the clarity required to find the specification "definitional" for this term.

But the spirit of Defendants' construction is correct, and the patent's use of the term shows "device service state"—which no party suggests has an ordinary meaning in the art—relates to operation of the DAS system. Pointing to Claim 14, Plaintiff says this improperly injects "DAS" into the claim, and its recitation elsewhere shows it was not intended as part of Claim 1. Dkt. No. 70 at 18. That argument, however, is not persuasive, as Claim 14 limits the "device service state" of Claim 1 to require one or more of three types of *settings*, only one of which pertains to DAS. *See* '042 Patent at 20:36–38. Thus, to the extent Plaintiff argues Claim 14 has the same scope as

Claim 1 if "device service state" is tied to a DAS *system*, that argument is not persuasive.

When a term "does not not have an ordinary meaning, and its meaning is not clear from a plain reading of the claim, [courts] turn to the remaining intrinsic evidence, including the written description, to aid in [their] construction of that term." *Telemac Cellular Corp. v. Topp Telecom, Inc.*, 247 F.3d 1316, 1326 (Fed. Cir. 2001). Here, the Court construes "device service state" as "the condition of the device as it relates to operation of a DAS system at a point in time." This is supported by the written description's reference to both current and past device service states, from which a service controller can properly manage the DAS system and recover from any fault or disconnection.

E. "service policy setting" ('042 Patent, Claim 1)

Plaintiff's Construction	Defendants' Construction
"policy setting for a network data service"	"rule for governing network service usage that can be implemented on the device"

This dispute centers on the last part of Defendants' proposed construction.[2] In their view, despite the apparent permissive nature of their proposed construction, a "service policy setting" *must* "be implemented on the device." Hr'g Tr., Dkt. No. 88 at 36:19–25. Their briefing points to the specification's description that "a policy control server 154 stores policy settings for the various service plans that can be implemented on the device, and communicates the appropriate policy settings to the appropriate device DAS agents." Dkt. No. 78 at 23 (quoting '042 Patent at 8:26–30). The specification also describes "service usage policy settings" as "reporting that is provided

[2] At the hearing, the parties agreed that "a policy governs just like a rule would govern," thus rendering moot any dispute about the first part of Defendants' construction. *See* Hr'g Tr., Dkt. No. 88 at 33:4–11.

to the service controller regarding device service control state." *Id.* (quoting '042 Patent at 17:46–59). These excerpts, say Defendants, confirm the service policy setting must be implemented on the device. *Id.*

Plaintiff agrees a "service policy setting" *can* be implemented on the device, but disagrees that it *must* be implemented only on the device. Hr'g Tr., Dkt. No. at 37:9–12. It also expresses concern about the ambiguity of the "can be implemented" language in Defendants' construction. *Id.* at 34:4–13.

Defendants' can-be-implemented language, which is really must-be-implemented language, goes too far. The claim already requires the policy setting to be "of the wireless end-user device," confirming this is a *device* policy setting rather than a *network* policy setting. '042 Patent at 19:26. The specification is consistent with that conclusion, explaining "appropriate policy settings [are communicated] to the appropriate *device* DAS agents." *Id.* at 8:26–30 (emphasis added). Moreover, the claim language requires the "service policy setting" to be "configured to assist in controlling one or more communications associated with the wireless end-user device over the wireless access network." *Id.* at 19:36–38. It's hard to imagine that, considering the surrounding claim language, the policy wouldn't be implemented on the device, but the evidence does not warrant requiring that as part of the term's construction. The Court therefore adopts Plaintiff's construction of "policy setting for a network data service."

F. "protected partition" ('042 Patent, Claim 1)

Plaintiff's Construction	Defendants' Construction
No construction necessary; plain and ordinary meaning	"a secure device assisted service execution environment"

Claim 1 recites "a particular service policy setting of the wireless end-user device . . . stored in a protected partition of the wireless end-user device, the protected partition configured to deter or prevent unauthorized modifications to the particular service policy setting." '042 Patent at 19:26–32. Plaintiff says the scope of "protected partition" is clear, "[e]specially when considered in the context of the surrounding claim language." Dkt. No. 70 at 22. It accuses Defendants of limiting the claims to disclosed embodiments. *Id.* at 23.

Defendants say the specification equates "protected partition" with a "secure device assisted service execution environment." Dkt. No. 78 at 25–26 (citing '042 Patent at 6:54–65). It disputes that the term is clear, *id.* at 27, and urges the Court to construe the term to aid the jury. *id.* at 25.

Both parties' positions are somewhat flawed. Plaintiff's position does nothing to explain the term's meaning. Defendants, however, don't establish a "partition" equates to an "execution environment." Nor do they show a "protected partition" in the abstract must be part of a DAS system. And if Defendants seek to aid the jury, construing "protected partition" as "a secure device assisted service execution environment" probably does the opposite, even *if* the terms have the same scope. Given the parties' general agreement on the meaning of "protected," the Court construes "protected partition" as a "partition that cannot be accessed without authorization."

G. "differential traffic control policy" ('613 Patent, Clain 1 and dependents)

Plaintiff's Construction	Defendants' Construction
No construction necessary; plain and ordinary meaning	"rules for controlling network traffic that distinguishes between two or more things"

This dispute centers on whether this policy is limited to network activity. There appears to

be no dispute over the language of Defendants' construction, but Plaintiff accuses Defendants of attempting to limit the scope of this policy to one "that can only impact network activity." Dkt. No. 83 at 7; *see also id.* ("If a policy controls traffic and also does something else, that does not mean the policy no longer controls traffic . . . ."). At the hearing, however, Defendants denied any such attempt, Hr'g Tr., Dkt. No. 88 at 29:20–30:2, after which Plaintiff dropped its opposition to Defendants' construction. Accordingly, the Court construes this term as "rule for controlling network traffic that distinguishes between two or more things."

H. "classify whether a particular application capable of both interacting with the user in a user interface foreground of the device, and at least some Internet service activities when not interacting with the user in the device user interface foreground, is interacting with the user in the device user interface foreground" ('613 Patent, Claim 1 and dependents)

Plaintiff's Construction	Defendants' Construction
Not indefinite; plain and ordinary meaning	Indefinite

Claim 1 requires a processor configured to "classify whether a particular application . . . is interacting with the user in the device user interface foreground." '613 Patent at 106:10–17. Similar to their argument for "background activity" above, Defendants say this limitation is indefinite because a skilled artisan would not know with reasonable certainty the boundaries between "foreground" and "background." Dkt. No. 78 at 15. Defendants mainly make a claim differentiation argument, suggesting the only meaningful difference between Claims 1 and 6 is that the latter's "classification" occurs "when the user of the device is directly interacting with or perceiving any benefit from that application." *Id.* Defendants conclude that, "because of claim differentiation, claim 1 necessarily encompasses 'foreground' applications beyond those applications for which the user is 'directly interacting with that application or perceiving any benefit from that

application.'" *Id.* at 16 (quoting '613 Patent, cls. 1, 6).

The Court disagrees. Notably, Defendants' argument is not that the disputed phrase is indefinite based on its own language, but that the phrase is indefinite because of language in another claim. They fail, however, to consider whether Claim 6 might be the indefinite claim. Nor is the Court aware of any authority premising an indefiniteness holding only on claim differentiation, which is "not a rigid rule." *Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1538 (Fed. Cir. 1991).

Defendants correctly note "the usage of a term in one claim can often illuminate the meaning of the same term in other claims," *see Phillips*, 415 F.3d at 1314, but they fail to show that Claim 6 mandates a construction of words in Claim 1 that renders it ambiguous to a skilled artisan. Accordingly, the Court rejects Defendants' challenge and will give this term a "plain and ordinary meaning" construction.

I. "service control link" ('042 Patent, Claim 1 and dependents)

Plaintiff's Construction	Defendants' Construction
Plain and ordinary meaning; no construction necessary "a communication link for service control" (Dkt. No. 83 at 9).	"host secure channel for communication between the end-user device and a network service controller"

Plaintiff considers Defendants' construction too limiting. It notes the specification says a "link" may or may not be "secure," and a "service control link" need not necessarily be limited to a "host." Dkt. No. 83 at 9–10. Defendants stress the specification's statement that "a service control link (e.g., host service control link 118 via host secure channel 150 to network service control link 152) is used for communication between the device assisted service agents and a service controller 122." Dkt. No. 78 at 28 (quoting '042 Patent at 7:27–32).

In essence, the dispute is whether a "service control link" must connect to a service

controller. Although Plaintiff says such a requirement would be "divorced from the plain meaning [of the term]," Dkt. No. 83 at 9, it doesn't present evidence of that plain meaning or, for that matter, whether there even is one. Instead, Plaintiff seemingly adopts the individual meanings of the three words composing the disputed phrase and opts for the broadest interpretation.

These facts are similar to those of *Network Commerce, Inc. v. Microsoft Corp.*, 422 F.3d 1353 (Fed. Cir. 2005), which concerned a patent claiming "a method and system for purchasing electronic information, such as software or audio files, over a computer network." *Network Commerce*, 422 F.3d at 1355. The parties disputed the scope of "download component," which appeared in each independent claim. *Id.* at 1358–59. Network Commerce "invite[d] the court to combine individual dictionary definitions of 'download' and 'component'" to conclude "any part of a system involved in the transfer of data from one computer to another would be a download component." *Id.* at 1360. The court, however, concluded that was "not a tenable theory in light of the specification," and agreed with Microsoft that the "download component" must include a "boot program":

> The specification explains that the download file resides in the computer of an online merchant or is accessible to that computer. When the merchant receives an online request for electronic content, the online merchant "downloads and installs the download file" on the customer's computer. This file when downloaded into the customer's computer "extracts [from the download file] the executable boot program and component list." The specification defines the capability of the boot program to include the ability to read "the component list to determine what [electronic content] . . . to download . . . from the appropriate contents supplier server," and the ability to request the appropriate content from the supplier server. Thus, while the download file may contain different things, the specification indicates that it must contain at least the boot program.
>
> In summary, the specification makes clear that the download component must include a boot program, and that the boot program interacts directly with the operating system of the computer without the assistance of any other program.

Id. at 1360–61 (citations omitted; ellipses in original).

Here, summarizing the invention,[3] the specification explains "a service control link . . . is used for communication between the device assisted service agents and a service controller." '042 Patent at 4:32–35; *see also id.* at 7:27–32 (using the same language when describing the embodiment of Figure 1). Notably, *all* of the figures show "service control links" at the service controller, the modem, and the host. *See id.* at figs.1–11 (items 118, 130, 152). Thus, the specification makes clear the "service control link" is not just any link used for service control, but a link used for communication with a service controller. Accordingly, the Court construes "service control link" as "a communication link with the service controller for service control messages."

J. "service plan component" ('543 Patent, Claim 1 and dependents)

Plaintiff's Construction	Defendants' Construction
Plain and ordinary meaning; no construction necessary	"logical grouping of one or more filters and rules"

Plaintiff says this term has a plain and ordinary meaning, but doesn't say what that meaning is. Dkt. No. 70 at 27–29. Defendants focus on the specification's statement that "agents can manage service components (logical grouping of one or more filters and rules)." Dkt. No. 78 at 30 (quoting '543 Patent at 30:27–35). Elsewhere, the patent says the "service plan component," at least of Figure 5, "will always have a filter and a policy event rule." *Id.* at 22:29–30.

Defendants' position is better. Not only does Plaintiff not identify the ordinary meaning of the term, but Defendants' construction is supported by the specification. Figure 2 shows a collection of datastores 202 that includes a filters datastore 210, a components datastore 212, a plans

[3] There is no "Summary of the Invention" section. This language is found under the "Detailed Description," but before the description of figures.

datastore 214, and a rules datastore 218. The components datastore 212 includes:

> a set of filter packages, including at least one filter, and a set of policies. Because components can inherit policy, it is not an explicit requirement that a component include at least one policy. However, when a component is assembled in a service plan offering, the component will have either a policy in the set of policies or will inherit a policy.

'543 Patent at 13:6–12. Based on this excerpt, because there is no apparent ordinary meaning of the term and its meaning is not clear from a plain reading of the claim, the Court construes "service plan component" as "a logical grouping of one or more filters and rules." *See Telemac Cellular*, 247 F.3d at 1326 ("Because the term 'complex billing algorithm' does not have an ordinary meaning, and its meaning is not clear from a plain reading of the claim, we turn to the remaining intrinsic evidence, including the written description, to aid in our construction of that term.").

V. CONCLUSION

Disputed Term	The Court's Construction
"prospective communication [over a wireless network]" ('541 Patent, Claim 1 and dependents)	"communication(s) that are successful, or that may become successful unless prevented by application of the policy"
"service usage activity" ('541 Patent, Claim 1 and dependents)	Plain and ordinary meaning
"background activity" ('541 Patent, Claim 1)	Plain and ordinary meaning
"device service state" ('042 Patent, Claim 1 and dependents)	"the condition of the device as it relates to operation of a DAS system at a point in time"
"service policy setting" ('042 Patent, Claim 1 and dependents)	"policy setting for a network data service"
"protected partition" ('042 Patent, Claim 1 and dependents)	"partition that cannot be accessed without authorization"

"differential traffic control policy" ('613 Patent, Claim 1 and dependents)	"rule for controlling network traffic that distinguishes between two or more things"
"classify whether a particular application capable of both interacting with the user in a user interface foreground of the device, and at least some Internet service activities when not interacting with the user in the device user interface foreground, is interacting with the user in the device user interface foreground" ('613 patent, Claim 1 and dependents)	Plain and ordinary meaning
"service control link" ('042 Patent, Claim 1 and dependents)	"a communication link with the service controller for service control messages"
"service plan component" ('543 Patent, Claim 1 and dependents)	"a logical grouping of one or more filters and rules"

The Court **ORDERS** each party not to refer, directly or indirectly, to its own or any other party's claim-construction positions in the presence of the jury. Likewise, the Court **ORDERS** the parties to refrain from mentioning any part of this opinion, other than the actual positions adopted by the Court, in the presence of the jury. Neither party may take a position before the jury that contradicts the Court's reasoning in this opinion. Any reference to claim construction proceedings is limited to informing the jury of the position.

SIGNED this 19th day of January, 2025.

ROY S. PAYNE
UNITED STATES MAGISTRATE JUDGE