

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MICROSOFT CORPORATION and AFFIRMED NETWORKS, INC.,
Petitioner,

v.

LEMKO CORPORATION,
Patent Owner.

Case IPR2023-00531
U.S. Patent No. 7,855,988

PATENT OWNER SUR-REPLY

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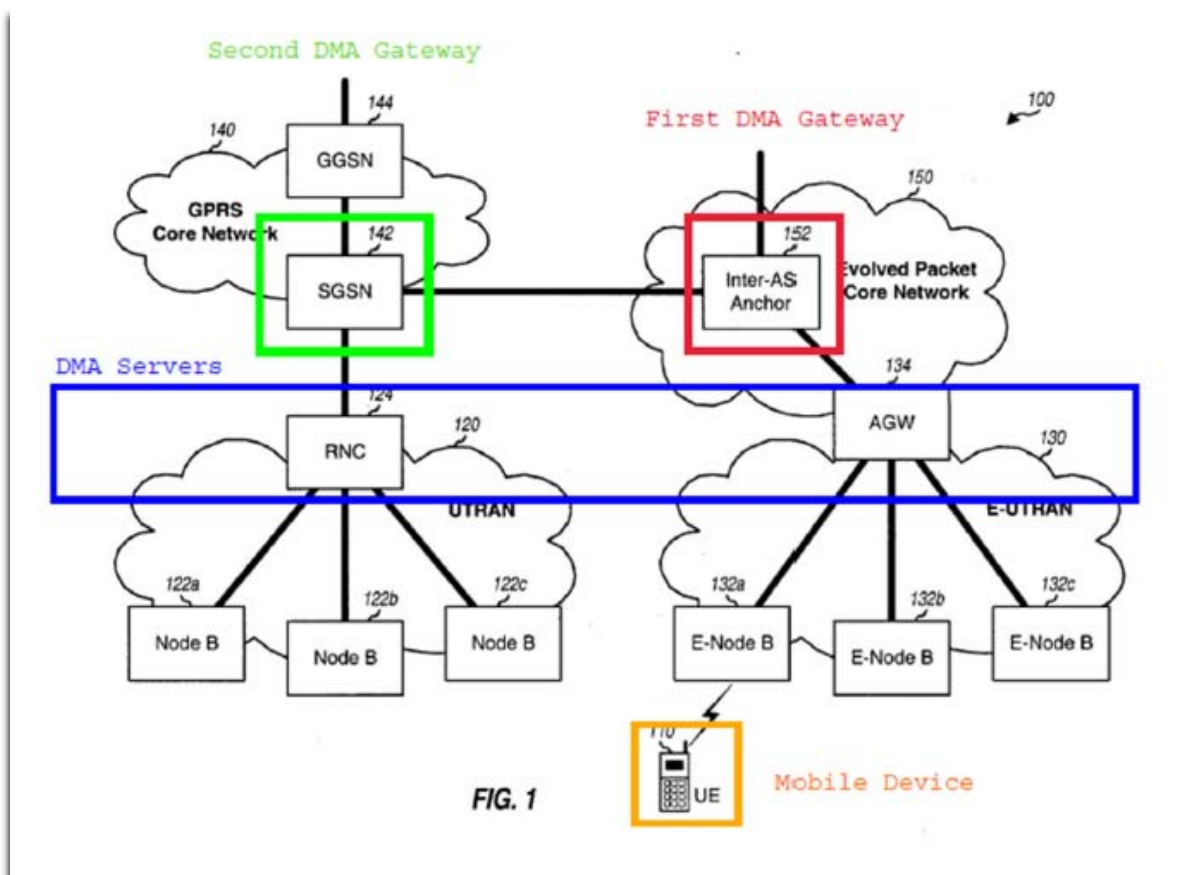
I. INTRODUCTION

The parties have a fundamental disagreement over the meaning of “distributed mobile architecture.” Construed in accordance with its plain and ordinary meaning and the specification, a ***distributed*** mobile architecture is one where the routing functionality is distributed to individual nodes. This is in contrast to legacy communications networks that are hierarchical in nature, where the routing functionality is centralized. Petitioners concede that Flore cannot anticipate the Challenged Claims under that construction and, instead, contend that any mobile network that is spread over a geographical area is “distributed,” an untenable position that would cover any mobile network, renders “distributed” meaningless, and is contrary to the claims, specification and purpose of the Challenged Claims.

The Board need not reach this claim construction dispute, however, because even under Petitioners’ infirm construction, Flore cannot anticipate the Challenged Claims for multiple reasons.

First, Flore does not disclose receiving at a first DMA gateway, “communications information for a communications network ***accessible by a second DMA gateway***, the communications information indicating one or more devices accessible by one of a DMA server and a legacy communications network.” This limitation plainly requires that the communications information identify the communications network that is used to connect to the target UE (the UE that is

receiving the call), which must be **accessible by a second DMA gateway**. However, the record shows, and Petitioners admit, that Flore’s PDP context identifies a UE accessible via Flore’s AGW, which is the alleged **first DMA gateway** (the gateway for the UE originating the call), not the **second DMA gateway**. Paper 21 (“Reply”) at 16 (“[A]t the time the update PDP context message is sent, the UE is accessible by AGW . . .”).



Paper 1 (“Pet.”) at 11 (Petitioners’ annotations designating AGW 134 as corresponding to the “First DMA Gateway”).

This goes to a core difference between the purpose of the Challenged Claims and the purpose of Flore. The Challenged Claims are directed to solving a specific problem relating to providing mobile networks with distributed routing functionality, specifically, the challenge of identifying the network through which **a target UE** can be located, when the target UE may not be in the same distributed network as the originating UE. Part of the Challenged Claims' solution is to include in the "communications information" information about communications networks accessible by the **second** DMA Gateway where the target UE can be contacted.

In contrast, Flore is directed to handling a situation where a UE is moving from a 4G network (Evolved Packet Core Network 150) to a 3G network (GPRS Core Network 140). To avoid an interruption in the customer's service, Flore teaches a method for transferring the customer's connection from one network to the other. But this inter-network transfer problem does not involve sending communications information that identifies the "communications network" where the UE can be reached.

Second, Flore's PDP context also is not the claimed "communications information" because it does not include the type of location information stored in the claimed "home DMA register." See Paper 15 ("POR") at 38-39. This location information is the type of data that "indicat[es] one or more devices accessible by one of a DMA server and a legacy communications network." Petitioners admit that

the PDP context does not contain location information for devices or *any* information about the “DMA server” or “legacy communications network” accessible. Petitioners raise unsupported and belated claim construction arguments in their Reply with the aim of stripping this limitation of patentable weight.

Third, Flore does not anticipate the Challenged Claims because it is limited to conventional hierarchical networks, distinguished by the ’988 Patent, and, therefore, does not disclose the requisite DMA, DMA servers, or DMA gateways.

Finally, Flore fails to disclose the additional limitations of the dependent Challenged Claims.

II. FLORE DOES NOT DISCLOSE THE CLAIMED “COMMUNICATIONS INFORMATION”

A. Petitioners Admit that Flore’s PDP Context Does Not Identify a Device Accessible by a Second DMA Gateway

The Challenged Claims require that a first DMA gateway receive “communications information for a communications network *accessible by a second DMA gateway*, the communications information *indicating one or more devices accessible* by one of a DMA server and a legacy communications network.” ’988 Patent at Claim 1.

Under this plain language, the communication information must identify a device accessible by a communications network accessible by the *second* DMA gateway. Flore does not anticipate the Challenged Claims because Flore’s PDP

context, the alleged “communication information” identified by Petitioners, identifies a device accessible by Flore’s AGW, which is accessible via the alleged *first* DMA gateway (Inter-AS Anchor 152), not the alleged *second* DMA gateway (SGSN 142). Pet. at 11; POR at 36-37. Petitioners admit this. See Reply at 16 (“at the time the update PDP context message is sent, the UE is accessible by **AGW**”).¹ The Challenged Claims are novel.

Petitioners contend that the claims do not require “that the identified device must be accessible by a DMA server via the second DMA gateway.” Reply at 16 (emphasis omitted). But that is an express claim limitation. ’988 Patent at Claim 1 (reciting “communications information for a communications network *accessible by a second DMA gateway*”).

Petitioners also belatedly argue that the claims do not require “the identified device must be accessible by a DMA server via the second DMA gateway at the time the communications information is received.” Reply at 16 (emphasis omitted). Petitioners’ new theory is directly contradicted by the plain language of the claim which includes a present tense requirement that the UE be “*accessible by* one of a DMA server and a legacy communications network.” ’988 Patent at Claim 1. The Board should decline Petitioners’ invitation to rewrite the claims to cover “communications information . . . indicating one or more devices *not currently*

¹ Unless indicated otherwise, all emphasis is added.

accessible by one of a DMA server and a legacy communications network” via the second DMA gateway.

Accordingly, Flore does not anticipate the Challenged Claims.

B. Flore Does Not Disclose “Communications Information For a Communications Network Accessible by a Second DMA Gateway”

Flore’s PDP context is also not “communications information *for a communications network*” because it does not identify any communications network. See POR at 36-37.

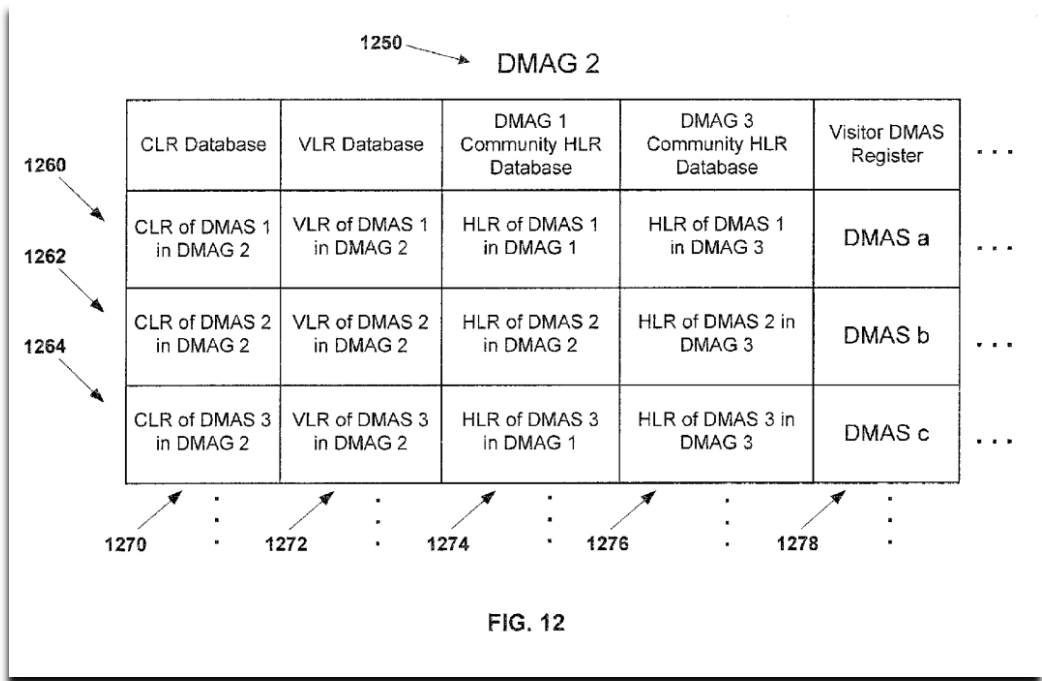
When the Challenged Claims recite “communications information for a communications network,” they are referring to the portion of register information stored in the home DMA register of a DMA gateway that identifies the communications network. ’988 Patent at 17:29-31 (“FIGS. 12 and 13 show tables depicting how communications information including register data is stored in the DMA gateways”); *id.*, Claim 1 (“storing the communications information in a home DMA *register* of the first DMA gateway”). This register information identifies the communications network *and* the devices served by that communications network:

DMA gateways provide information to one another regarding the communications networks they service by exchanging *register data describing the networks they service*. The *register data describes devices for which the*

networks they service are the home network as well as for what devices are visiting on their networks.

’988 Patent at 11:20-25.

This definition of register data is consistent with the specification’s description of the home DMA register, where each entry in the table represents communications information for a particular communications network:



Id. at Fig. 12. This register data provides (1) the identity of the gateway that serves the network (e.g., DMAG 1), (2) the identity of the particular network (e.g., DMAS1 in DMAG 1), and (3) the location information for devices accessible via the communications network (e.g., HLR of DMAS 1 in DMAG 1). *Id.* at 17:63-18:8.

In accordance with this understanding, the communications information for a communications network” maps the identity of the communications network to the

devices served by the network. *Id.* at 11:2-25 (“DMA gateways provide information to one another regarding the communications networks they service by exchanging **register data describing the networks they service.**”); *see also id.* at 14:6-9, 15:14-35, 13:66-14:2. It is this information, stored at the first DMA gateway, that enables the benefits of the claimed invention. ’988 Patent at 11:10-27; *see also* POR at 12-14. Accordingly, the specification explicitly contradicts Petitioners’ unsupported assertion that the “communications information for a communications network” need not identify the communications network. *TalexMedical, LLC v. Becon Med. Ltd.*, No. 2021-2069, 2022 WL 2898934, at *6 (Fed. Cir. July 22, 2022) (finding error in Board’s claim construction where the Board “failed to consider the possibility that [its construction is] inconsistent with the intrinsic evidence”).

Petitioners argue in Reply that “communications information for a communications network” actually means information identifying an SGSN. Reply at 15. To be clear, in no way does “receiving the identity of SGSN 142 ‘identify’ UTRAN 120,” **even if** UTRAN 120 is the only network served by SGSN 142, because “communications information for” UTRAN 120 is (undisputedly) not sent to the Inter A/S anchor. Moreover, there is no basis to rewrite the Challenged Claims as Petitioners propose. Thus, Flore cannot anticipate the Challenged Claims as it does not disclose the claimed communications information.

C. Flore Does Not Disclose “Communications Information” that is “Stor[ed]” in a “Home DMA Register”

A third reason Flore’s PDP context is not “communications information” is that it is not stored in a “home DMA register,” as recited in the Challenged Claims, because PDP context is not location register information. See POR at 38-39.

“[R]egister data describe[s] the networks they service” and “describes devices for which networks they service.” ’988 Patent at 11:20-25. As established in the POR, the claimed “home DMA register” stores location register information “for its own network or any other networks.” See POR at 38-39. Petitioners admit that “the PDP context is not stored in the HLR.” Reply at 19. Not only is the PDP not stored in an HLR, but it is also not stored in any *other* location register because it is not location register information. See *id.*; ’988 Patent at Claim 9 (reciting receiving the communications information from HLR, VLR, and CLR registers).

Petitioners attack a strawman with their arguments regarding HLR data. Reply at 17-18. Patent Owner never argued that the home DMA register must store “*HLR*” data. Reply at 17. Instead, it pointed out that “’988 Patent discloses that the ‘communications information’ includes ‘register information, such as home location register (HLR) information’ stored in the home DMA register.” POR at 38; see also ’988 Patent at 15:14-23.

Thus, at a minimum, the Challenged Claims require that the communications information include location register information because it is stored in a location

register. This understanding is fully consistent with the dependent claims, which confirm that another network's HLR is one of several possible location registers that serves as the source for the "communications information." *Cf.* Reply at 18 (attempting to manufacture a claim differentiation problem where none exists).

Petitioners concede that the PDP context does not include location register information and is not stored in a location register. Reply at 18-19. And while Petitioners half-heartedly suggest that the routing information includes "information . . . needed to tunnel packet data traffic destined for a GPRS MS to the SGSN where the MS is registered," the location information stored in the home DMA register represents the location of the **devices** accessible by communications networks accessible via a DMA gateway, not the location of a **gateway**, like Flore's SGSN. Reply at 18, Pet. at 15-16 (suggesting that this limitation is met by storing the identity of the SGSN rather than the communications network).

III. FLORE DOES NOT DISCLOSE A DMA, A DMA SERVER, OR A DMA GATEWAY, WHEN PROPERLY CONSTRUED

A core concept of the '988 Patent is a "distributed mobile architecture," abbreviated "DMA." The term appears 870 times in the '988 Patent, including 14 times in Claim 1 alone. Because the phrase "DMA" does not carry an established meaning in the art (Petitioners do not suggest that it does), the term may not be construed more broadly than its corresponding description, which describes a mobile network architecture with distributed call routing functionality and peer-to-peer

connections and between the network nodes. POR at 18-25. Petitioners do not dispute that the Challenged Claims are novel over Flore under Patent Owner's proposed construction. *See, e.g.*, Reply at 13.

Ignoring the principle that the term DMA cannot be construed more broadly than its corresponding description, Petitioners rely on their experts' extemporaneous, unsupported suggestion that "distributed" encompasses any mobile network with nodes located in different geographical locations. Reply at 1-2 (citing Ex. 2027, 13:22-14:10). This definition is nonsensical because every mobile network extends through space, so Petitioners' construction would eliminate the "distributed" requirement and rewrite DMA to cover all mobile networks. As the Federal Circuit has held, "interpretations that render some portion of the claim language superfluous are disfavored." *Power Mosfet Techs., L.L.C. v. Siemens AG*, 378 F.3d 1396, 1410 (Fed. Cir. 2004). Reading "DMA" out of the Challenged Claims would be especially egregious here given the emphasis on the distributed nature of the claimed mobile architecture throughout the '988 Patent. Instead, the Board should "construe claims with an eye toward giving effect to all of their terms" lest it "undermine[]" the essential notice function of patent claims. *Haemonetics Corp. v. Baxter Healthcare Corp.*, 607 F.3d 776, 781 (Fed. Cir. 2010).

Petitioners' cite no intrinsic or extrinsic support for their ersatz definition. That is unsurprising because the term "distributed" refers to a **network architecture**, not

the physical location of a network's nodes in space. Ex. 1014 at 57:2-6. Petitioner fails to address, let alone rebut, the mountain of unacknowledged and un rebutted evidence and expert testimony regarding the difference between distributed and hierarchical **network architectures**. POR at 2-8 (citing Exs. 2003, 2012, 2022, 2023, 2025, 2030); Ex. 2021 ("Cooklev Decl."), ¶¶ 35-42. Thus, as discussed further below, the Board should adopt Patent Owner's proposed construction for DMA.

A. "Distributed Mobile Architecture" Cannot be Construed More Broadly Than its Corresponding Disclosure

When a claim term does not have a plain and ordinary meaning in the art, as is the case for DMA, it should be construed "only as broadly as provided for by the patent itself." *Irdeto Access, Inc. v. Echostar Satellite Corp.*, 383 F.3d 1295, 1300 (Fed. Cir. 2004); *see also Vehicle IP, LLC v. Cellco P'ship*, 757 F. App'x 954, 958 (Fed. Cir. 2019) (affirming the district court's reliance on the specification to determine the construction of "dispatch" after "finding that the term lack[ed] a plain or established meaning in the relevant art.") (citing *Indacon, Inc. v. Facebook, Inc.*, 824 F.3d 1352, 1357 (Fed. Cir. 2016)).

Because it is undisputed that "distributed mobile architecture" lacks an established meaning, Petitioners' arguments on lexicography and disclaimer are misplaced. *See* Reply at 1, 3-8; *Vehicle IP*, 757 F. App'x at 958 (because the term lacks a "plain or established meaning," the party's reliance on *Thorner v. Sony Comput. Ent. Am. LLC*, 669 F.3d 1362 (Fed. Cir. 2012) is "misplaced"). The Board

only considers whether the inventor acted as a lexicographer or disclaimed some claim scope when determining whether to **depart** from the plain and ordinary meaning, so those claim construction cannons are not relevant when, as here, the parties agree that a claim term has no plain meaning in the art. *Id.*

Here, the “Background” section describes the challenges associated with legacy networks, where call routing was performed at centralized nodes called MSCs or SGSNs. *See* ’988 Patent at 1:37-65 (describing such networks as being expensive to deploy (requiring a minimum number of users) and difficult to expand); *see* POR at 25. The ’988 Patent resolved these challenges with a novel “distributed mobile architecture” with call routing functionality distributed among the “DMA” servers, which are connected via peer-to-peer connections:

As illustrated in FIG. 4, ***each DMA server 406 is interconnected with the other DMA servers 406*** via an Internet protocol network 410. As such, there ***exists a peer-to-peer connection 412 between each DMA server 406*** in the system 400 For example, ***the DMA servers can switch and route calls.***

’988 Patent at 6:46-53; *see also id.* at Fig. 4; POR at 18-25. Each “DMA” server “switch[es] and route[s] calls” because the call routing functionality (*i.e.* controlling logic (MSC)) is distributed on the servers. ’988 Patent at 6:52-53; *see also id.* at Abstract, 6:46-7:12, 4:1-19, 9:36-11:27, Figs. 1, 5-6; *see also* POR at 9-11. In this

network architecture, the “DMA” servers route calls via peer-to-peer connections without having to go through a centralized hub (*i.e.* MSC), as in legacy networks. *See* POR at 19-20 (citing ’988 Patent at 6:46-6:62). Petitioners’ proposed geographical dispersion construction ignores all of this.

Accordingly, guided by the specification, the Board should construe DMA to require a non-legacy communications network with distributed call functionality between peer-to-peer connected servers.

B. Petitioners’ Claim Construction Arguments Are Meritless

1. Petitioners’ Construction of “Distributed” is Inconsistent With the Intrinsic and Extrinsic Evidence

Petitioners effectively offer no construction for the term “distributed mobile architecture,” and instead purport to present a “plain and ordinary meaning” of the individual word “distributed.” Reply at 1-2. Thus, Petitioners have impermissibly put the burden on the Board to construe the full term “distributed mobile architecture” without providing any analysis or evidence on what the full term means. *Ford Motor Co. v. Mass. Inst. Of Tech.*, No. IPR2020-00010, Paper 9 at 15 (P.T.A.B. Mar. 26, 2020) (rejecting the petitioner’s construction when the Board “would have to draft a claim construction analysis without any help from Petitioner”).

Moreover, Petitioners offer no support for their proposed construction from the record beyond the off-the-cuff statement of their expert during deposition, who immediately qualified his statement explaining that his understanding of the word

“distributed” refers to distributed *functionality* and *information*, not the *geographical location* of nodes, as Petitioners suggest. Ex. 2027 at 14:11-15:4; Ex. 2026 at 74:19-22 (“Q. What needs to be distributed? A There needs to be functionality distributed.”). Rather than support Petitioners’ geographical distribution, this testimony supports Patent Owner’s position that the routing *functionality* must be distributed.

Moreover, under Petitioners’ proposed construction, *every* network architecture (*e.g.*, legacy mobile network 610) would be a DMA simply because it is “part of a broader network.” But because the specification defines DMA in contrast to a legacy network, any construction that transforms a legacy network into a DMA is “not a tenable theory in light of the specification.” *Network Commerce, Inc. v. Microsoft Corp.*, 422 F.3d 1353, 1359-60 (Fed. Cir. 2005) (finding that the party’s construction for “download component,” based on the combination of individual dictionary definitions of “download” and “component,” was “not a tenable theory in light of the specification.”). To the contrary, the record is replete with undisputed, unrebutted evidence about what the term “distributed” means in the field of communications networks, including unrebutted explanations about how distributed networks differ categorically from hierarchical ones. See POR at 2-8 (describing conventional hierarchical mobile communications systems); *id.* at 8-10

(describing the distributed mobile communications system of the '988 Patent); '988 Patent at Abstract; 4:1-19, 6:46-7:12, 9:36-11:27, Figs. 1, 5-6.

Tellingly, Petitioners ignore the portions of the specification that describe what the DMA *is* in favor of arguing that the claims should be limited by an unsupported definition that is merely **consistent with** the disclosure. Reply at 2 (relying on Figure 4 “depict[ing] DMAs 406, antennas 404, and coverage sites 402 distributed in different locations”). FIG. 4 depicts the distribution of “DMA servers” in different geographical regions, but unlike the peer-to-peer connections between and the call routing functionality distributed among the DMA servers, it does not purport to describe the DMA as being distributed **because** the DMA servers are in different locations.

The Board, therefore, should reject Petitioners overly-broad definition of “distributed” that is untethered to the intrinsic record.

2. The Specification Does Not Describe the Attributes of a DMA Using Permissive Language

Petitioners’ argument that the specification uses “permissive and non-limiting language,” is equally misplaced because Petitioners apply the wrong law and because the identified language is **not** permissive. See Reply at 5-6.

First, Petitioners contention that the specification’s description of what a DMA is should be disregarded—because it is found in a non-limiting, exemplary embodiment—is contrary to the law. Reply at 6-7. In *Medicines Co. v. Mylan, Inc.*,

853 F. 3d 1296 (Fed. Cir. 2017), the Federal Circuit construed the term “efficient mixing,” which, like the term “DMA,” does not carry “an accepted meaning to one of skill in the art.” *Id.* at 1307. Given the absence of an accepted definition in the art, the Federal Circuit looked to the specification “to ascertain the metes and bounds of” the term even though the relevant example in the specification was characterized as “**non-limiting**.” *Id.* at 1309 (emphasis added) (finding “it entirely appropriate to limit the term ‘efficiently mixing’ to the sole portion of the specification that adequately discloses ‘efficient mixing’ to the public.”).

Applying *Medicines* to this case, the Board should construe DMA in view of the description related to Fig. 4 because it is the only passage in the ’988 Patent that the parties have identified that describes what the DMA is. *Id.* Taking this tack “provides a clear objective standard by which to measure the scope of the term and ‘tethers the claims to what the specification indicates the inventor actually invented.’” *Id.* (internal quotations, alterations and citations omitted). *Skedco, Inc. v. Strategic Ops., Inc.*, 685 F. App’x 956 (Fed. Cir. 2017), cited in Petitioners’ Reply, is inapposite. Unlike *Medecines*, *Skedco* was concerned with the construction of terms with undisputed plain and ordinary meanings in the art, so there was no reason to look to the specification to ascertain their meanings. 685 F. App’x at 960-61.

Second, the ’988 Patent’s description of the DMA as including peer-to-peer connections between each server where “the DMA servers 406 can communicate

with each other via the IP network,” is not permissive. ’988 Patent at 6:46-49. Instead, this passage described necessary characteristics of the DMA (“there exists a peer-to-peer connection 412 between each DMA server 406”) and the inherent capabilities of a system structured in this way (e.g., the capability to “handle telephony traffic” and “switch and route calls”). *Id.* at 6:56-57. As used throughout this paragraph, the word “can” refers to the capabilities of a system formed from connecting DMA servers in a peer-to-peer manner, and does not imply optional functionality. *See, e.g., Interwoven, Inc. v. Vertical Comput. Sys., Inc.*, No. C 10-4645 RS, 2011 WL 6936186, at *10 (N.D. Cal. Dec. 30, 2011) (interpreting the word “can” to mean that the object “must have this attribute”); *see also Watts v. XL Sys., Inc.*, 232 F.3d 877, 883 (Fed. Cir. 2000) (requiring that facially “permissive” language be considered in its full context to determine whether the invention was limited to certain embodiments).

Unlike legacy hierarchical mobile architectures, these peer-to-peer connections enable the nodes of a DMA—the DMA servers—to switch and route calls instead of traversing a backhaul connection to a centralized switch. *See* POR at 4 n.1, 8-14. On the other hand, where the specification discloses possible departures from the system described with respect to Figure 4, it says so expressly:

It should be understood that more than four cellular coverage sites 402 can be included in the system and that

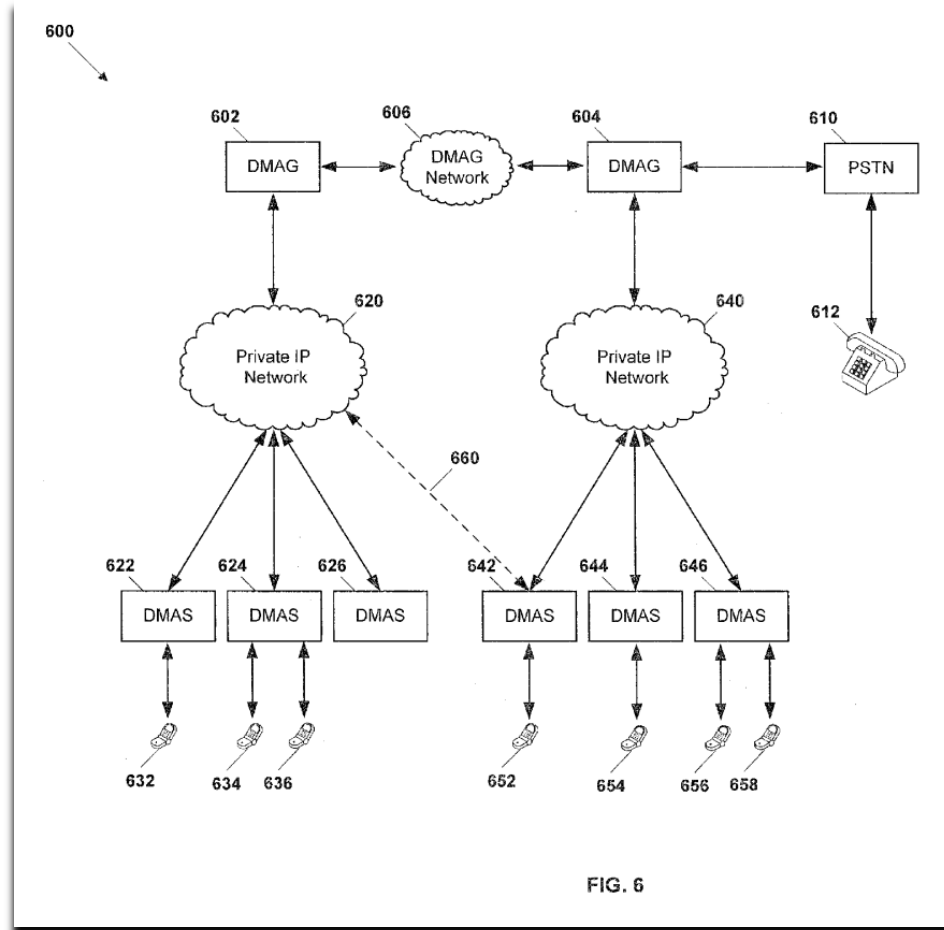
the inclusion of only four cellular coverage sites 402 in
FIG. 4 is merely for clarity and explanation purposes.

'988 Patent at 6:58-62; *see also id.* at 6:24-27 (“The description of embodiments of DMA servers with reference to FIGS. 1-3 are provided for illustration, not limitation. DMA servers also may be embodied in any other suitable form.”).

Accordingly, the applicant knew how to describe certain features—like the number of DMA servers in a DMA network—permissively, but such permissive language was not used to describe the three key characteristics of a DMA that correspond to Patent Owner’s proposed construction.

3. “DMA” Servers Are Connected to Each Other Via Peer-to-Peer Connections

The Board should reject Petitioners’ argument that the '988 Patent discloses embodiments of DMA servers are not connected as peers. Instead, the '988 Patent discloses connecting a plurality of DMA servers together using peer-to-peer connections over a private IP network. '988 Patent at 6:46-62. The '988 Patent provides that there may be multiple separate private IP networks where the DMA servers in one such network are not connected as peers to the DMA servers in the second network. *Id.* at 9:12-17. In these circumstances, DMA gateways enable communications across the separate private IP networks. *Id.* This relationship is shown in Figure 6, where the DMA servers within one network connect as peers and use the DMA gateways to connect to DMA servers in other networks.



Id. at Fig. 6. Thus, there is no embodiment in the '988 Patent where DMA servers are not connected through peer-to-peer connections to other DMA servers *within their DMA network*.

4. The “Distributed Mobile Architecture” is Not a “Legacy Communication Network”

Finally, the Board should construe DMA as different from hierarchical legacy communication networks. The '988 Patent treats DMA networks and legacy communication networks as separate and distinct. POR at 25-28. There is a “strong[]” and “clear implication” that when two structures are separately named in

a claim “the named entities are not one and the same structure.” *HTC Corp. v. Cellular Commc’ns Equip., LLC*, 701 F. App’x 978, 982 (Fed. Cir. 2017). Claim 1 recites the “distributed mobile architecture” structure, including the “DMA” server, “DMA” gateways, and “DMA” gateway communications network,” as separate from the recited “legacy communications network.” ’988 Patent at Claim 1. Thus, the two network architectures should be construed as distinct, alternative communications networks.

The specification reinforces, for example, that DMAs and “legacy communication networks” are different network structures by describing a “legacy communication network” as serviced by a central MSC whereas the “distributed mobile architecture” structure has the MSC functionality distributed amongst the “DMA servers.” *Supra* § III.B.2. Indeed, Dependent Claim 5 separates the two structures in this way, defining the “legacy communication network” as “a wireless communications network serviced by mobile switching center (MSC).” ’988 Patent at Claim 5. The difference between DMA networks and legacy networks is further confirmed by Figure 6’s depiction of the two distinct network structures. POR at 27-28 (citing Fig. 6 (annotated)).

In response, Petitioners argue that the Challenged Claims do not recite a “DMA network.” Reply at 11-13. This is irrelevant because the claims recite DMA gateways, DMA servers, and a DMA gateway communications network, each of

which must be given a meaning based on the use of the DMA modifier. Moreover, DMA itself refers to a network, as Dr. Cooklev testified during cross-examination:

Q. Is a distributed mobile architecture a network?

A. Well, it is a network architecture. So I think we can say *yeah, it's a network architecture, and, therefore, it is a network.*

Ex. 1014 at 57:2-6. Thus, a DMA should be construed as being different from a legacy network.

C. Flore's "Legacy Networks" Do Not Satisfy the Claimed "Distributed Mobile Architecture" Structure

It is undisputed that Flore's 3G and 4G networks do not satisfy the claimed "distributed mobile architecture" under Patent Owner's construction. POR at 29-34; Reply at 13 (asserting only that under the "Board's proper constructions" Flore anticipates the Challenged Claims).

Preliminarily, Petitioners inscrutably purport to address anticipation under the "Board's proper construction." But the Board has not considered whether DMA server must be separate from the legacy network, and Petitioners do not identify what "construction" their arguments allegedly align with. For this reason alone, Petitioners have not met their burden under 37 C.F.R. § 42.104(b)(4).

In any event, the Board has repeatedly rejected petitions that map the same prior art element to separately recited claim elements. *See LG Elecs., Inc. v. Polaris PowerLED Techs., LLC*, No. IPR2020-01337, Paper 11 at 17-18 (P.T.A.B. Mar. 9,

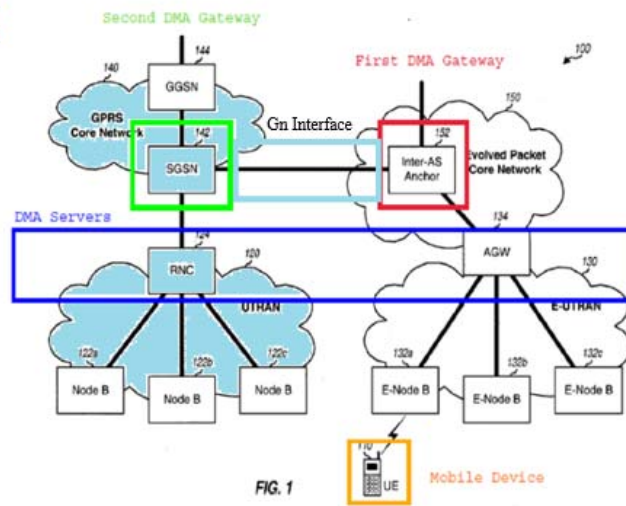
2021) (rejecting the petition that mapped the same prior art element to claim limitations that are separate and distinct because they are “not one and the same structure”).

Here, the Petitioners claim that the RNC 124 is a DMA server while simultaneously claiming that it is part of legacy network 120. Petitioners make the same mistake for the SGSN and Gn Interface, which are both core components of a legacy UTMS network:

Flore’s “Legacy Networks 120 and 140” Structure	The Claimed “Distributed Mobile Architecture” Structure
RNC 124 (of Legacy Network 120)	DMA Server (of the DMA Network Architecture)
SGSN 142 (of Legacy Network 140)	Second DMA Gateway (of the DMA Network Architecture)
Gn Interface (of Legacy Network 140)	DMA Gateway Communications Network (of the DMA Network Architecture)

Pet. at 10-11, 14, 20; *see also id.* at POR at 14-17; Flore at ¶¶ 9, 43. The below annotated version of Petitioners’ Flore figure 1 further illustrates the mapping of Flore’s legacy network architecture to the claimed “distributed mobile architecture” structure:

**Petitioner's Mapping of
Flore's Legacy Network
Architecture to the
Claimed "Distributed
Mobile Architecture"
Network Architecture**



Pet. at 11 (alteration in original with addition of language in top left and blue highlighting).

The Petition then asserts that Flore's "legacy networks 120 and 140," and logically its legacy components therein (*e.g.*, RNC, SGSN, Gn interface), also correspond to the claimed "legacy communications network" because they are serviced by a centralized MSC (or SGSN). *See* Pet. at 20; *see also id.* at 13.

Because the recited DMA server communications network and "legacy communications network" are distinct communications networks—as described and claimed—Flore's different network architectures, Flore's legacy networks cannot satisfy both.

D. Flore Does Not Disclose a “DMA Gateway Communications Network”

Flore cannot anticipate the Challenged Claims because it fails to disclose the claimed “DMA gateway communications network.”

In their Petition, Petitioners identified Flore’s Gn interface as the claimed “communications network.” Pet. at 22 (the “PDP Context Response message is sent across the *Gn interface, which is a ‘gateway communications network.’*”); POR at 35. This is in error because this component is simply a legacy interface, not a network itself. POR at 34-35.

Petitioners abandon this argument in their Reply and assert a new theory that the “*Inter-AS Anchor and SGSN . . . connected via the Gn interface, and form a ‘DMA gateway communications network.’*” Reply at 14. In doing so, Petitioners shift their mapping from the “Gn interface” “*which is a*” “gateway communications network” to the Inter-AS Anchor and SGSN now “*form[ing]*” the claimed network. Compare Pet. at 22 with Reply at 14. Where, as here, a petitioner’s new mapping is raised for the first time in reply, the Board should decline to consider the new and untimely reply arguments. See *Comcast Cable Commc’ns, LLC v. Promptu Sys. Corp.*, 838 F. App’x 551, 553-54 (Fed. Cir. 2021) (affirming the PTAB’s decision on not considering the petitioner’s “new mapping raised for the first time in reply.”).

Petitioners’ waived theory also fails on the merits because the Inter-AS Anchor and SGSN are not “DMA gateways.” As shown in the POR, the claimed

“DMA gateways interface a DMA network with another network, such as a different DMA network or a legacy communications network, like the 3G UTRAN and 4G E-UTRAN networks disclosed in Flore.” POR at 12. However, neither the SGSN nor the Inter-A/S Anchor interfaces with a DMA network. Indeed, Petitioners readily admit that the SGSN is part of a legacy network.

IV. FLORE DOES NOT ANTICIPATE THE DEPENDENT CLAIMS

A. Petitioners Do Not Address Dependent Claim 20

Petitioners do not attempt to rebut Patent Owner’s showing that Flore does not anticipate Dependent Claim 20. *See generally* Reply; POR at 43-45. Petitioners’ silence confirms that Flore is not anticipatory and their failure to meet their burden production, not to mention the ultimate burden of persuasion. *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015).

B. Flore Does Not Anticipate Dependent Claims 7 and 8

Petitioners fail to show that Flore anticipates Dependent Claims 7 and 8 for at least the reasons set forth in § II.A, *supra*.

Petitioners also do not address that Flore’s “Update PDP Context Response,” the alleged “communications information,” does not indicate UE devices, let alone ones accessible by DMA servers via the second DMA gateway, as is required by the Independent Claim. POR at 41 (citing Ex. 2029).

C. Flore Does Not Anticipate Dependent Claim 9

Petitioners concede that Flore's PDP context does not include "communications register data" because it is not stored in the HLR. POR at 42-43; *see also* '988 Patent at Claim 9; Reply at 19. Petitioners now argue that the PDP context still includes "a portion of" HLR data" because it allegedly has overlapping data. Reply at 19. That argument departs from Claim 9's requirement that the data is part of the recited registers, and reinforces the point that because the PDP context is not part of any recited register, it does not "store part" of the register location data of those registers. *Id.*

Dependent Claim 9 recites "communications register data" including "location register [] data" of the HLR, VLR, and/or CLR registers. '988 Patent at Claim 9 (reciting the HLR, VLR, and CLR registers). Based on this recitation, the location register data is comes from an HLR, VLR, and/or CLR and is stored in the home DMA register. Because it is undisputed that the PDP context is not location register information, the PDP context does not include "a portion of . . . **location register**" data of the HLR, VLR, and/or CLR registers. POR at 43. Even if there is overlap of data, the PDP context does not "store part" of the location register data. Reply at 19. Therefore, Flore fails to anticipate Dependent Claim 9.

V. CONCLUSION

For these reasons, Patent Owner respectfully requests that the Board hold patentable the Challenged Claims.

Respectfully submitted,

Dated: May 9, 2024

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CERTIFICATE OF COMPLIANCE WITH 37 C.F.R. § 42.24

The undersigned hereby certifies that the portions of the foregoing **PATENT OWNER SUR-REPLY** specified in 37 C.F.R. § 42.24 has 5,590 words in compliance with the 5,600-word limit set forth in 37 C.F.R. § 42.24(c)(4). This word count was prepared using the Microsoft Word word-processing system used to prepare this paper.

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CERTIFICATE OF SERVICE

The undersigned certifies, in accordance with 37 C.F.R. § 42.6(e), and pursuant to agreement by the parties that filing with the Board through the Patent Trial and Appeal Case Tracking System (P-TACTS) constitutes electronic service, that service was made on the Petitioners as detailed below.

<i>Date of service</i>	May 9, 2024
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