

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MICROSOFT CORPORATION AND AFFIRMED NETWORKS, INC.,
Petitioners,

v.

LEMKO CORPORATION,
Patent Owner.

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

**PETITIONERS' REPLY
TO PATENT OWNER'S RESPONSE**

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TABLE OF EXHIBITS

Ex. No.	Brief Description
1001	U.S. Patent No. 7,855,988
1002	U.S. Patent No. 7,855,988 File History
1003	Declaration of James Proctor
1004	CV of James Proctor
1005	U.S. Patent Application Publication 2007/0021120 (“Flore”)
1006	3GPP TS 23.002 v7.1.0, “Network Architecture,” March 2006
1007	Service of Complaint for Patent Infringement served on Microsoft Corp., <i>Lemko Corp. v. Microsoft Corp. and Affirmed Networks Inc.</i> , 3:22-CV-00363-L (N.D. Texas)
1008	Service of Complaint for Patent Infringement served on Affirmed Networks Inc., <i>Lemko Corp. v. Microsoft Corp. and Affirmed Networks Inc.</i> , 3:22-CV-00363-L (N.D. Texas)
1009	RESERVED
1010	RESERVED
1011	RESERVED
1012	Declaration of Ingrid Hsieh-Yee, Ph.D, certifying the publication date of 3GPP TS 23.002 v7.1.0
1013	Declaration of Michael R. Rueckheim in Support of Motion for Pro Hac Vice Admission
1014 (new)	Transcript of March 11, 2024 Deposition of Dr. Todor Cooklev, IPR2023-00531

I. Introduction

For the reasons below and those set forth in the Petition (“Pet” or “Paper 3”), the Board should determine claims 1, 3-9, and 20 (“Challenged Claims”) of U.S. Patent No 7,855,988 (“’988 Patent”) are unpatentable.

A. Claim Construction

1. “Distributed Mobile architecture” Should be Construed According to its Plain and Ordinary Meaning.

The term “distributed mobile architecture” should be given its plain and ordinary meaning—that is, the term should be accorded to its plain and ordinary meaning of each of its individual terms. Patent Owner admits as much. Paper 15, 18 (“The term ‘distributed mobile architecture’ should be construed consistent with the plain meaning of its words. . .”). There is no special definition or disclaimer here that would dictate a different result. *See Toshiba Corp. v. Imation Corp.*, 681 F.3d 1358, 1369 (Fed. Cir. 2012) (“Absent disclaimer or lexicography, the plain meaning of the claim controls.”).

As in the institution decision (“ID”) (Paper 8, 12), the Board should reject Lemko’s proposed construction. Lemko does not dispute that the prior art discloses a “mobile architecture” under its plain meaning. Ex-2027 (“Proctor depo”), 12:17-22 (explaining that such an architecture serves mobile devices). Rather, the parties’ dispute appears to focus on the term “distributed.”

The plain meaning of “distributed,” as Mr. Proctor explains, is “something that is part of a broader network or intended to be part of a broader network.” Ex-2027, 13:22-14:10. This understanding is consistent with the intrinsic record, for example, where Figure 4 depicts DMAs 406, antennas 404, and coverage sites 402 distributed in different locations. Ex-1001, Figure 4, *see also id.*, 6:31-33 (describing Figure 4 as an embodiment of “a distributive and associated telecommunications system”).

2. The Board Should Reject Lemko’s Construction of “DMA”

a. Lemko’s construction is unsupported by the claims

Lemko erroneously argues that “[t]he ’988 Patent discloses and *claims* a *distributed* mobile architecture (‘DMA’).” (emphasis added). Paper 15, 8. No Challenged Claim is directed to the distributed mobile architecture *itself*. For example here, and unlike the Lemko claims at issue in U.S. 7,653,414 (IPR2023-00529), no Challenged Claim recites even a “DMA system.” Rather, the claims of the ’988 patent are directed to a method performed by a functional component, a “[first/second] DMA gateway,” and recite characteristics of the DMA gateways; *i.e.*, that they have “home DMA register[s]” and that they “participate in a DMA gateway communications network.” Ex-1001, 19:37-41.

Lemko argues that the Board should import its lengthy construction for “Distributed Mobile Architecture (DMA)” —which has three separate limitations, including a negative limitation—into *every* instance where it is used as a prefix or

qualifier for specific components (e.g. “receiving *at* a first distributed mobile architecture (DMA) *gateway*.”) Lemko cites no precedent for this type of construction, and there is none. *Compare, e.g., Omega Eng’g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1323 (Fed. Cir. 2003) (negative limitations must find support either in “the words of the claim” or through an “express disclaimer or independent lexicography in the written description that would justify adding that negative limitation”).

Lemko’s construction of “DMA” requires “DMA servers” “connected with other DMA servers through peer-to-peer connections.” Paper 15, 8, 18, 29. This argument ignores that a DMA server is not a requirement of the challenged claims at all. Rather, the claims specify that the first DMA gateway receives communications information, where the received communications information is “indicating one or more devices *accessible by one of a DMA server* and a legacy communications network.” Ex-1001, 19:34-36. No Challenged Claim requires that any action or method step be performed by a DMA server, much less requires multiple DMA servers connected through peer-to-peer connections¹. The claim

¹ Ex-1014, 38:2-8 (“Q. So are you saying that when Lemko’s claims recite a distributed mobile architecture, they are necessarily requiring more than one DMA server? A. ... I think my declaration doesn’t exactly give an answer to this question.

language supports a broader reading of “DMA” which does not require peer-to-peer connections between DMA servers.

Lemko construction of “DMA” also requires “DMA servers have distributed call-routing functionality.” Paper 15, 8, 18, 29. However, none of the claims recite “distributed call-routing functionality” on *DMA servers*. Rather, the Challenged Claims recite “routing” by DMA gateways: “routing the communication from the first DMA gateway to the target device by relaying the communication from the first DMA gateway to the second DMA gateway via the DMA gateway communications network.” Ex-1001, 19:45-48. Thus, the claim language places no constraint on the connections between DMA servers or on call-routing functionality of DMA servers. A patentee “is free to choose a broad term and expect to obtain the full scope of its plain and ordinary meaning unless the patentee explicitly redefines the term or disavows its full scope.” *Thorner v. Sony Comput. Ent. Am. LLC*, 669 F.3d 1362, 1367 (Fed. Cir. 2012).

Lemko could have drafted claims directed to a DMA infrastructure or DMA system to cover the alleged “peer-to-peer” architecture of its purported invention. Lemko could have also drafted apparatus claims defining the purported “distributed

And please correct me if I am – if I am wrong on this. So it seems to me I haven’t thoroughly studied this.”)

call routing” functionality of the DMA server. It did neither, instead pursuing broad method claims that undisputedly do not recite any steps performed by DMA servers. It would be unprecedented to re-draft the claims, which only require receiving *information indicating* devices *accessible by a DMA server*, with requirements of the DMA server itself, as Lemko now proposes.

Lemko’s construction commits the cardinal sin of importing limitations from embodiments of the specification into the claims. *TalexMedical, LLC v. Becon Med. Ltd.*, No. 2021-2069, 2022 WL 2898934, at *6 (Fed. Cir. July 22, 2022) (reversing PTAB construction that imported limitation from embodiment); *Sisvel International S.A. v. Sierra Wireless, Inc.*, 81 F.4th 1231, 1236 (Fed. Cir. 2023) (affirming the Board’s findings that a key claim term be given its plain and ordinary meaning and not limiting the claims to specific embodiments in the specification).

b. Lemko’s construction improperly attempts to import mere embodiments into the claims

As the Board noted, each of the citations Lemko relies upon from **the specification** uses *permissive*, rather than definitional, language. Indeed, save for the title of the ’988 patent, the terms “distributed mobile architecture” or “DMA” are never even used in isolation—only as prefixes. *See, e.g.*, Ex-1001, Abstract (“methods and devices for routing communications between distributed mobile architecture (DMA) *servers* using DMA *gateways* are disclosed.”).

More specifically, Lemko largely relies on the patent’s description of Figure 4, spanning from column 6, line 31 to column 7, line 12, to support its construction. Paper 15, 19 (citing 6:63-65), 20 (citing 6:46-6:62 and 6:65-7:12), 21 (citing 6:31-65 and Fig. 4), 21-22 (citing 6:46-49), and 25 (citing 6:46-58). The patent, however, expressly prefaces all of these paragraphs with permissive and non-limiting language: “**FIG. 4 illustrates a non-limiting, exemplary embodiment** of a distributive and associated telecommunications system generally designated 400.” Ex-1001, 6:31-32. And the patent’s description of figure 4 states “FIG 4 is a diagram of a **particular illustrative** embodiment of a distributed and associative communications system.” *Id.*, 2:19-20. Where the patentee chooses to use non-limiting language in the specification directed to example embodiments, characteristics of these embodiments should not be read into the claim. *Skedco, Inc. v. Strategic Operations, Inc.*, 685 Fed. Appx. 956 at 960 (Fed. Cir. 2017) (“This guidance is especially apt here because the patent refers to the drawings ... as ‘exemplary embodiment[s].’”)

Additionally, even the language Lemko specifically cites within the patent’s description of the exemplary embodiment uses permissive language. *See, e.g.*, Ex.-1001, 6:52-53 (“**For example**, the DMA servers 406 **can** switch and route calls received via each antenna 404”), 6:63-65 (“the controlling logic **can** be distributed and decentralized”), 7:4-9 (“user data stored in a database, e.g. a home locator

resource (HLR) or a visitor locator resource (VLR) *can* be distributed equally”) (emphasis added for each). Case law cautions against importing particular embodiments—particularly those that use permissive language—into the claims precisely because the public is not provided sufficient (or in this case any) notice of the scope of the claims. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1323 (Fed. Cir. 2005) (observing that “although the specification often describes very specific embodiments of the invention, we have repeatedly warned against confining the claims to those embodiments”).

Lemko also relies on a two-column range, Ex-1001, 9:36-11:27, which discusses Figure 6. Paper 15, 19. Again, however, the specification makes clear that FIG. 6 is only “a diagram of a *particular illustrative embodiment*.” Ex-1001, 2:23-25. *See also id.*, 10:53-56 (“*Embodiments* of the present disclosure enable devices on separate networks to communicate with each other via DMA gateways that bridge separate network and communications systems. *In the example* of FIG. 6...”).

Finally, Lemko relies on column 9 of the patent. *See* Paper 15, 22 (citing Ex-1001, 9:9-14), 23 (citing 9:12-14, 9:9-24), 25 (9:18-21, 9:36-54). This column, however, once again describes “*embodiments* of DMA servers [that] are configured to handle the handing off of communications.” Ex-1001, 9:4-6. There is nothing definitional in any of the language that Lemko cites that warrants arbitrarily

importing features or characteristics from these embodiments into the claims; none of the statements in the '988 patent specification rise to the level of a “clear and unmistakable disclaimer” that would limit the claim scope absent that express limitation. *Cont'l Circuits LLC v. Intel Corp.*, 915 F.3d 788, 797-798 (Fed. Cir. 2019).

c. The specification expressly contradicts Lemko's construction

As the Board noted, the specification describes an embodiment in which DMA servers *do not participate as peers*: Ex-1001, 9:12-14 (describing “in not all cases will the DMA servers 406 be able to participate as peers in an IP network 410”). *See* ID, 13. The patent provides further discussion of DMAs not participating as peers that supports the Board's finding. *See, e.g.*, Ex-1001, 9:12-21 (“However, in not all cases will the DMA servers 406 be able to participate as peers in an IP network 410. For example, if one or more of the coverage sites 402 are in rural locations or other locations remote from other coverage sites 402, there may not be access to the IP network 410 in the remote coverage sites 402. Accordingly, embodiments of the present disclosure describe ***DMA gateways to enable DMA servers to communicate with one another*** when one or more of the DMA servers cannot participate directly in the IP network.”), 4:10-16 (“while one or more DMA servers may communicate with one another over a private IP network, when a private IP network is not available, ***the DMA servers may communicate through a plurality***

of DMA gateways...”), 12:7-14 (“An advantage of including satellite-based DMA gateways is the ability *to bridge DMA servers* or groups of DMA servers *with one another* even though the DMA servers or groups of DMA servers may be disposed remotely from each other where ground-based DMA gateways or ground-based communications media between the DMA servers are overtaxed, unreliable, unavailable, or otherwise undesirable.”), 12:15-19 (“Using satellite-based gateways 702 and 704, communications *between the DMA servers*, the device they serve, and the legacy network operates in a similar manner to the communications between devices as described with reference to Fig. 6.”).

Notably, the POR admits that DMA servers do not require a peer-to-peer connection, and instead can communication via DMA Gateways:

However, the '988 Patent describes two different scenarios. Where the *DMA servers are able to connect as peers* with an existing DMA network, they do so ... When *a new DMA server cannot join an existing DMA network*, a DMA gateway connects the new DMA server to the existing DMA network (and/or one or more legacy networks) via a DMA gateway network.

Paper 15, 23-24 (citing Ex-1001, 9:12-14).

Lemko argues that a DMA server which cannot join a DMA network and thus connects to a DMA gateway instead “is just the initial node in a new DMA network” and that “the relevant property of a DMA network is that the DMA servers *within a DMA network* communicate as peers.” Paper 15, 24-25. But Lemko does not dispute that two DMA servers may communicate using an

intervening DMA gateway. Indeed, Lemko admits that “if DMAS 622 could not join DMA network 640 as a peer, the ’988 patent discloses connecting the server to DMA gateway 602 *so that it could still communicate with UEs registered with DMA network 640.*²” Paper 15, 24.

In the scenario where DMAS 622 cannot join second private IP network 640, it must use DMAG 602 to contact any of the UEs registered to second private IP network 640 (652, 654, 655, 658). DMAG 602 contacts each of the UEs via the DMAS with which the UE is registered, such as one of DMA servers 642, 644, 646. This connection between DMA servers is indisputably not peer-to-peer, but traverses DMAG 602, DMAG Network 606, and DMAG 604 (in addition to first and second private IP networks 620 and 640, respectively). *See also* Ex-1014 (Cooklev Dep. Tr.), 78:18-79:12.

Thus, it appears Lemko is attempting to further limit its own construction, to “(2) are connected with other DMA servers within a single private IP network through peer-to-peer connections” underscoring that its construction is incorrect.

² The specification does not refer to network 640 as a “DMA network”, but rather as “second private IP network.” (Ex-1001, 9:61-62.)

d. Lemko's negative limitation regarding the "DMA network" is irrelevant and incorrect

Lemko's construction of "DMA" requires the negative limitation that "DMA" is a "*network architecture*... that is not a legacy communications network." Paper 15, 18. There is no support for this negative limitation.

Lemko argues that the "*claims* distinguish distributed mobile architecture (DMA) *networks* from these legacy communications networks." Paper 15, 26; *see also id.*, 27 ("Thus *every claim* distinguishes *DMA networks* from legacy communication networks."). This is flatly incorrect. Critically, there is no recitation of a "DMA network" anywhere in the claims. Rather, the claims require that the device "indicated" in the received communications information is accessible by either a DMA *server* or a legacy communications network. Ex-1001, 19:35-37 ("the communications information indicating one or more devices accessible by one of a DMA server and a legacy communications network"). *See* ID, 11 ("we are unpersuaded that Petitioner was required to establish a construction for "DMA infrastructure" or "DMA network." *These phrases do not appear in the claim.* Nor is it clear what these phrases are referring to").

The dependent claims Lemko cites likewise do not include the term "DMA network." Claim 22 merely requires that a DMA gateway has one interface to communicate with a legacy communications network and another to communicate with a DMA *gateway* communications network. The claims thus do not even

recite the term “DMA network,” much less distinguish them from legacy networks as Lemko claims.

Nor does the limited reference to “DMA network” in the specification support Lemko’s theory. The specification states, “[o]ne or more DMA detection modules 1152 provide instructions to the processor for detecting the presence of accessible DMA servers and integrating the servers into the DMA network.” Ex-1001, 16:66-17:2. As the Board noted, the term “is used to refer to the particular arrangements shown in Figures 11-13, which arrangements the claims are not limited to.” Paper 8, 11.

While Lemko annotates Figure 6 so that “network 600” is encapsulated within a blue box it labels “‘DMA’ infrastructure”, the specification does not equate “network 600” with a “DMA network” or “DMA infrastructure.” Paper 15, 27-28. *See*, Ex-1001, 9:37-40 (“FIG. 6 illustrates **a network 600** that includes a first DMA gateway... and a second DMA gateway 604 that communicate over a DMA gateway network 606.”) And, as discussed above, Lemko equates the term “DMA network” with a private IP network (*e.g.*, second private IP network 640) having multiple DMA servers connected peer-to-peer, **not** the entirety of network 600. *See* Section I.A.2.b, *supra*.

To support Lemko’s negative construction, Dr. Cooklev argues that legacy networks are not peer-to-peer, and DMA networks are peer-to-peer, and therefore a

“DMA network” must exclude a “legacy network.” Ex-2021, ¶ 74 (emphasis added); Ex-1014, 59:11-17. Dr. Cooklev’s testimony is irrelevant, because the term “DMA network” does not appear in the claims. And, as discussed above, the connection between DMA servers is not necessarily peer-to-peer, and may include DMA gateways connecting DMA servers.

II. Under the Board’s Proper Constructions, Flore Anticipates the Challenged Claims

The purported deficiencies in the Flore prior art Lemko identifies are premised on its improper claim constructions of “Distributed Mobile Architecture.”³ Under the correct constructions articulated by the Board in the ID, Flore anticipates the Challenged Claims.

A. Flore discloses a “DMA gateway communications network”

Lemko argues that identifying an interface between two DMA gateways is insufficient to satisfy this term because an *interface* itself is not a network. Paper

³ Lemko falsely accuses Petitioner of “shifting their analysis.” Paper 15, 33, fn2. The Petition consistently maintains that the RNC 124 and AGW 134 satisfying the “DMA server” limitations, including by providing an *annotated* figure that is replicated in Lemko’s response. Paper 15, 32. And it is undisputed that data to/from Node Bs in UTRAN 120 must traverse RNC 124—therefore the UE 110 is likewise accessible from RNC 124 (the “DMA server.”)

15, 34-35. This argument is premised on a limitation that is simply not present in the claims. Lemko incorrectly states that “the claims require that a ‘network’ be used to connect DMA gateways’.” *Id.* But the claims only require that the “first DMA gateway and the second DMA gateway *participate* in a DMA gateway communications network.” Ex-1001, 19:37-39. There is no requirement that there be a “network” *between* each DMA Gateway, only that each DMA gateway is connected to another *as part of a network*.

In the Flore reference, the Inter-AS Anchor and SGSN are connected via the Gn interface, and form a “DMA gateway communications network” in which each of the SGSN and Inter-AS Anchor participates. As Mr. Proctor explains, and as correctly noted by the Board, “because they communicate with each other via a Gn interface, ‘a POSA would have understood that the SGSN [142] (the ‘second DMA gateway’) and Inter-AS Anchor 152 (the ‘first DMA gateway’) participate in a DMA gateway communications network.” ID, 22 (citing Paper 3, 14), emphasis added. Additionally, Flore necessarily includes *other* SGSNs and IASAs connected to the depicted SGSN and IASA, collectively all of these form a DMA gateway communication network.

B. Flore identifies “communications information for a communications network accessible by a second DMA gateway.”

Lemko argues that “Flore’s PDP context” does not satisfy claim limitation 1[b] because “[t]here is nothing in a PDP context that identifies any network accessible by a second gateway.” Paper 15, 36. Lemko again misreads the claims.

The claims do not require that the communications information *identify a network* accessible by a second gateway. Rather, the claim simply recites “receiving . . . communications information *for* a communications network accessible by a second DMA gateway.” Ex-1001, 19:32-35.

Nonetheless, the Inter-AS Anchor in Flore receives information in the PDP Context update message that is sufficient to identify a network accessible by the second gateway (the SGSN). The message received by Inter-AS Anchor 152 includes information about UE 110, as well as routing information for IP packets, QoS profiles. Ex-1005, [0046]; Ex-1003, ¶¶ 89-90. And Lemko admits the identity of SGSN 142 is sent. Paper 15, 38. It is undisputed that SGSN 142 only services UTRAN 120. Thus, receiving the identity of SGSN 142 “identifies” UTRAN 120. Under the proper interpretation of the claim, the routing information, QoS profiles, and address of SGSN 142 are all related to and “*for* a communications network” [UTRAN 120] that is “accessible by” the second DMA gateway (SGSN 142).

C. Flore Discloses “Communications Information Indicating One or More Devices Accessible by One of a DMA Server and a Legacy Communications Network.” (Claims 1, 7, 8)

Lemko argues that Flore does not meet the claim because Flore’s PDP context is sent before the UE is handed over, while “the UE is still subscribed to the first network’s AGW.” Paper 15, 37. Lemko again creates limitations where none exist: (1) that the identified device must be accessible by a DMA server *via the second DMA gateway*, and (2) that the identified device must be accessible by a DMA server via the second DMA gateway *at the time the communications information is received*. Paper 15, 37.

There is no basis for injecting the above limitations into the claims, which only require receiving communications information “indicating one or more devices accessible by *one* of a DMA *server* and a legacy communications network.” Ex-1001, 19:34-36. Lemko does not dispute that, at the time the update PDP context message is sent, the UE is accessible by AGW, which satisfies the “DMA server” language. Paper 15, 37 (“at the time the PDP context is sent, the UE is still subscribed to the first network’s AGW 134.”) And Lemko also does not dispute that, *after* the handover is complete, the UE is accessible by RNC 124 (also a “DMA server” under Petitioner’s interpretation) via SGSN 142 (the second DMA gateway). Lemko’s attempt to inject to requirements that not present in the claims should be rejected. Under the correct construction, Flore discloses this limitation.

Lemko applies this same argument for dependent claims 7-8. Paper 15, 40-42. For the same reasons above, Lemko’s argument for dependent claims 7-8 should be rejected.

D. Flore discloses “storing the communications information in a home DMA register of the first DMA gateway”

Lemko asserts that Flore’s PDP context is not “communications information” that is stored in “a home DMA register of the first DMA gateway” because it “does not store location register information for its own network or any other networks.” Paper 15, 38-39. Lemko’s argument is based on yet another faulty claim construction.

By the plain words of the claim, there is nothing that requires “communications information” to include “HLR information” or “location register information for its own or any other networks.” As the Board properly observed, “Claim 1 does not... describe storing *HLR information* in the ‘home DMA register.’” ID, 15. The Board also properly noted that “the claims do not require the ‘communications information’ to identify devices on home networks that DMA gateways service.” *Id.* Lemko again improperly imports limitations from embodiments into the specification, and indeed the extrinsic evidence (*see* Ex-2021, ¶102) into the claims. Ex-1014 at 92:8-93:20 (“[a]nd so in Claim 1 of the ’988 patent, is it your opinion that the communications information must include location information? No. I understand you are talking about the claims.”).

Furthermore, the fact that dependent claim 9 requires the “communications information includes communications register information including at least one of” (1) a portion of a communication location register (“CLR”); (2) “a portion of home location register (HLR) data for the communications network;” and (3) a portion of the VLR data proves that Lemko’s construction is incorrect. Claim 9 does not even require HLR data—it allows a system to include CLR or VLR data instead—thus it would be utterly illogical and contrary to the doctrine of claim differentiation to require claim 1 to require HLR data in the “communications information.”

Under the correct construction, the Petition shows evidence described in TS 23.002 v7.1.0 (Ex-1006) which states that the routing information contained in the location register function includes “information ... needed to tunnel packet data traffic destined for a GPRS MS to the SGSN *where the MS is registered...*” Ex-1006, 13-14, emphasis added. This *location register function*, therefore, serves as a “home DMA register.” Ex-1001, 15:33-35 (describing “home DMA register storing information about the devices it services”).

E. Flore discloses dependent claim 9

Lemko argues “because the PDP context is stored in the GGSN location register, not the HLR, the PDP context does not contain information that is ‘part of a portion of home location register (HLR) data for the communications network.’” Paper 15, 43.

This is non-sensical; just because the PDP context is not stored in the HLR does not mean the PDP cannot store part of HLR data. For example, if there is overlap between the data stored in a PDP context and an HLR the limitation that the “communications information” stores a “portion of the home location register data” is satisfied. Indeed, Mr. Proctor testified that the HLR “is the location register to which a mobile subscriber is assigned for record purposes, and “because the Inter-AS anchor is the acting GGSN for the subscriber, the PDP context includes ... ‘communication register data including a portion of’ HLR data,” including routing information, the IP address of the UE, the IP address of the Inter-AS Anchor, and QoS profiles. Ex-1003, ¶ 121.

Furthermore, claim 9 may be satisfied by showing that the “communications information” includes “a portion of visitor location register (VLR) data for the communications network.” Ex-1001, 20:24-25. Even to the extent that Lemko’s arguments with regard to the HLR is true, the PDP context contains a portion of VLR data. It is undisputed that the PDP context includes the identity of the SGSN. Paper 15, 38. VLR data also includes the SGSN identity. Ex-1006, 19 (“The VLR contains also the information needed to handle the calls set-up or received....The following elements are included:... the identity of the SGSN where the MS has been registered.”)

III. Conclusion

The Board should find the Challenged Claims unpatentable.

Dated: March 28, 2024

Respectfully submitted,

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(*pro hac vice* granted)

CERTIFICATE OF COMPLIANCE

I hereby certify that this Petitioner's Reply to Patent Owner's Response complies with the type-volume limitations of 37 C.F.R. § 42.24(c)(1) because it contains 4,237 words (as determined by the Microsoft Word word-processing system used to prepare the petition), excluding the parts of the reply exempted by 37 C.F.R. § 42.24(c).

Dated: March 28, 2024

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CERTIFICATE OF SERVICE

I hereby certify, pursuant to 37 C.F.R § 42.6, that on March 28, 2024, a complete copy of **PETITIONERS' REPLY TO PATENT OWNER'S RESPONSE** was served upon the following, by Electronic Mail:

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