

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. IPR2023-00529
U.S. Patent No. 7,653,414

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

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1004	<i>Curriculum Vitae</i> of Mr. James Proctor
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1006	U.S. Patent No. 8,184,603 to Waylett et al. (“Waylett”)
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	U.S. Pat. No. 6,816,706 to Hohnstein (“Hohnstein”)
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1011	U.S. Pat. No. 4,284,848 to Frost (“Frost”)
1012	U.S. Pat. No. 7,136,651 to Kalavade (“Kalavade”)
1013	Excerpt from “GSM Networks: Protocols, Terminology, and Implementation,” by Gummar Heine, Artech House Mobile Communications, published December 1998
1014	Excerpt from Newton’s Telecom Dictionary, 20 th Edition, published March 2004
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1021 (new)	RFC 3261 (https://www.rfc-editor.org/rfc/pdf/rfc3261.txt.pdf) (captured 3/27/2028)
1022 (new)	Deposition Transcript for Dr. Todor Cooklev

For the reasons below, and those in the Petition (“Pet.”), the Board should determine the challenged claims are unpatentable.

A. Lemko Advances an Incorrect Claim Construction

1. The term “distributed mobile architecture” should be construed according to its plain and ordinary meaning.

The term “distributed mobile architecture” (“DMA”) 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. Resp. 20 (“The term ‘distributed mobile architecture (DMA)’ 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 11, 14-15), the Board should reject Lemko’s proposed construction. Lemko does not dispute that the prior art discloses a “mobile architecture” under its plain meaning. *See* EX-2026, 71:22-72:4 (explaining that such an architecture serves mobile devices). Rather, the parties’ dispute focuses on the term “distributed.”

The plain meaning of “distributed,” as Mr. Proctor explains, is that that parts of the system are placed in different locations throughout a network. EX-2026, 71:22-72:4. This understanding is consistent with the intrinsic record, for example,

where Figure 1 depicts Figure 1 DMAs 106, antennas 104, and coverage sites 102 distributed in different locations. EX-1001, FIG. 1, *see also id.*, 1:59-60 (describing Figure 1 as “a diagram of a distributed and associative communication system”).

Lemko’s proposed construction is incorrect because it improperly imports limitations from the specification. *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). Lemko’s proposed construction includes two requirements: a DMA system (1) is “connected with other DMA systems through peer-to-peer connections” and (2) has “distributed call-routing functionality.” Resp. 19. Notably, Lemko did not propose an express construction in the specification or during prosecution for “distributed mobile architecture.” EX-1022, 16:5-13 (admitting the ’414 patent provides no express definition of the term “DMA”). And none of the statements in the ’414 patent specification rise to the level of a “clear and unmistakable disclaimer” that would limit the claim scope absent that express limitation. *Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1372–73 (Fed. Cir. 2014). Further, Lemko relies upon mere exemplary embodiments for its peer-to-proposal. *See* EX-1001, 4:15-17 (describing these figures as non-limiting, exemplary embodiments), 4:61-63 (same). *Skedco, Inc. v. Strategic Operations, Inc.*, 685 Fed. Appx. 956 at 960 (Fed. Cir. 2017). For example, Figure 23 (block 2310) confirms a peer-to-peer connections is only

exemplary by using “e.g.” as opposed to the more definitional “i.e.”. *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1374 (Fed. Cir. 2014) (“e.g.” is exemplary, “i.e.” is definitional); EX-1001, Fig. 23. Moreover, Lemko’s expert admits that the proper construction of this term does not require a peer-to-peer connection between every DMA server. EX-1022, 59:15-20. Consequently, Lemko’s proposed construction should be rejected as a matter of law.

Further, claim differentiation confirms that the term “DMA” was not meant to be limited to a peer-to-peer connection. The ’414 patent discloses an embodiment using “an Internet protocol network” to create “a peer-to-peer connection.” EX-1001, 4:30-31. Claims 3 and 10 recite this embodiment of “an Internet Protocol (IP) peer-to-peer connection between” DMA systems. EX-1001, claims 3 and 10. If the “DMA” term requires “peer-to-peer connection,” as Lemko argues, then these limitations of dependent claims 3 and 10 would be redundant. Indeed, other patents by the same inventor note that “in not all cases will the DMA servers 406 be able to participate as peers in an IP network 410.” *See* IPR2023-00531, Paper 8, 13. Therefore, claim differentiation supports that Lemko’s proposed construction is incorrect.

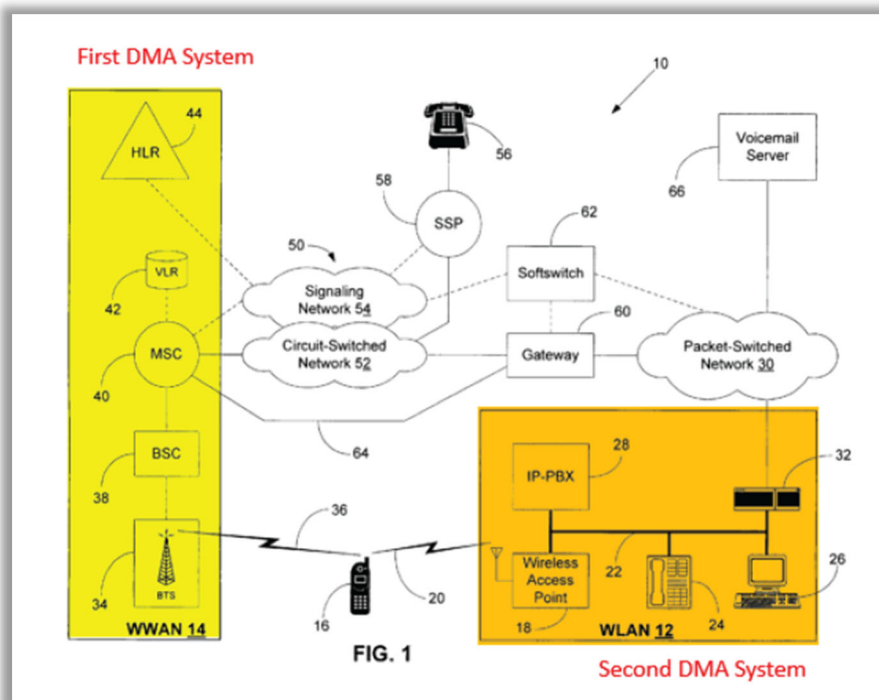
The Board should thus construe the term “DMA” according to its plain and ordinary meaning and not Lemko’s proposed construction.

2. The proposed combination renders obvious a DMA system and network.

The Mauer/Waylett combination discloses a DMA system and network under either parties' construction for the reasons below.

a. The Mauer/Waylett combination discloses a DMA system and network under its plain and ordinary meaning.

Using multiple NIBs together, as in the Mauer/Waylett combination, results in a “DMA network” under the plain and ordinary meaning. See Pet. 11-16. The Petition explained that a POSITA would have modified Mauer's network architecture to include Waylett's NIB in each of Mauer's WWAN and WLAN, resulting in at least two DMA systems used together, shown below.



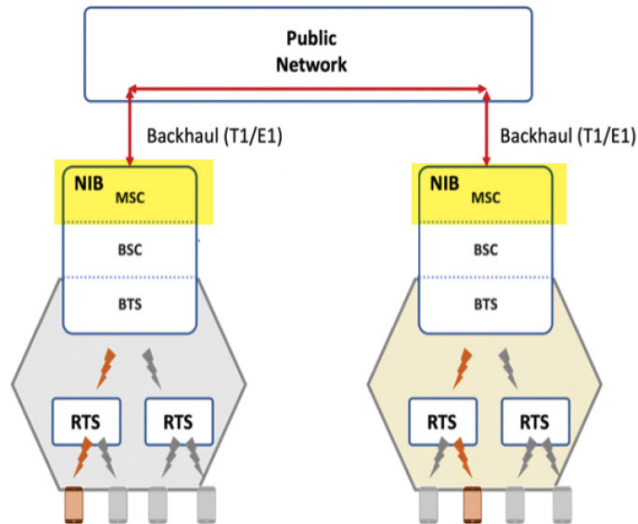
Pet. 21. As the Board correctly noted at institution, ID at 37, the Petition explains WWAN 14 (“a first DMA system”) and WLAN 12 (“a second DMA system”) collectively form a “DMA network” and, further, voicemail server 66 is external to the WWAN 14 and WLAN 12 (“outside of the DMA network”). Pet., 21, 39, 43. Mauer, as modified to use Waylett’s NIBs, thus discloses a DMA network including multiple DMA systems.

Lemko’s arguments are rendered meritless by improperly attacking references individually, and relying on an incorrect construction. First, Lemko attacks Mauer’s conventional network individually without addressing the Petition’s combination. *See* Resp. 36-37; *Bradium Techs. LLC v. Iancu*, 923 F.3d 1032, 1050 (Fed. Cir. 2019) (“A finding of obviousness, however, cannot be overcome ‘by attacking references individually where the rejection is based upon the teachings of a combination of references.’”). Lemko also argues that Petitioners failed to give any weight to the disputed terms. Not so. As shown above, the Mauer/Waylett combination uses multiple NIBs for Mauer’s networks collectively resulting in a DMA network. *See* Pet. 13 (“The combination would involve using Waylett’s Network-in-a-box 224 in each of Mauer’s WWAN 14 and WLAN 12, resulting in at least two DMA systems.”). Lemko also asserts that Petitioners do not explain how Waylett’s NIBs are nodes in a DMA network. Resp. 40-41. Not so. For example, the Petition explains that each of Waylett’s NIBs include a MSC and a BSC within

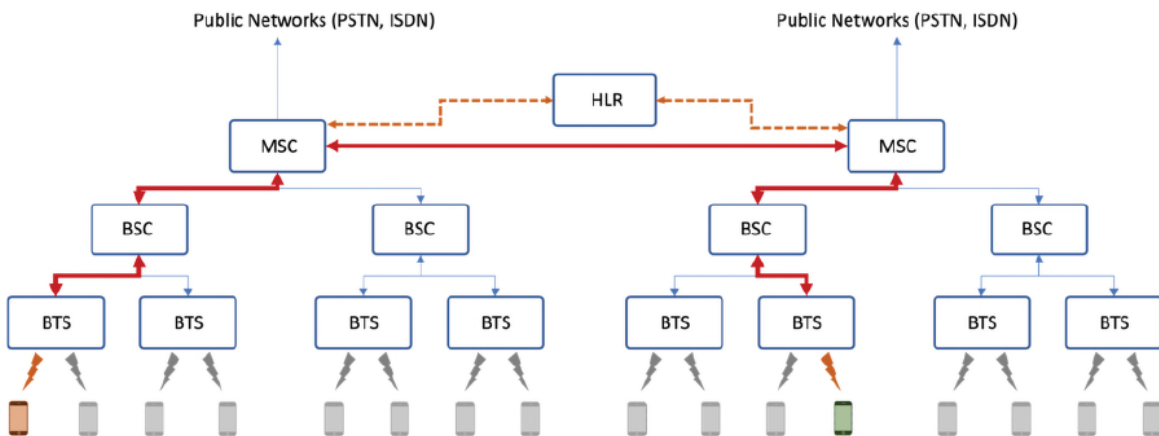
the same enclosure, and multiple NIBs used in different networks in Mauer result in a DMA network, which is consistent with the '414 Patent's description of "distributed and decentralized" (*see* EX-1001, 4:45:47). *See* Pet. 13; EX-1006, 9:41–42. Lemko's remaining arguments rely on the incorrect claim construction requiring peer-to-peer connections between DMA systems. *See* Resp. 36-40.

Moreover, to the extent that the Board credits any of Lemko's references to extrinsic evidence regarding Waylett (e.g., *see* Resp. 16 citing Ex. 2013), the extrinsic evidence further shows that Waylett's NIB uses a "distributed architecture." EX-1020, 1 (describing benefits as including "Distributed architecture maximizes efficiency, and allows service extension and capacity expansion");¹ *see* also Pet. 58-59, 66. Further, Lemko's illustration of Waylett's NIB network also confirms that it uses a "*distributed architecture*" that implements MSC functionality in NIBs at different locations rather than using centralized MSCs:

¹ EX-1020 is an archived InterWave webpage—directly linked to Exhibit 2012 relied on by Lemko to show how Waylett's NIB works. *See* Resp. 65-66.



Resp. 39 (annotated); EX-1022, 40:5-14 (admitting the above figure of Waylett’s NIB includes MSC, BSC, and BTS functionality); *see id.*, 50:20-51:2; *see* EX-2023, ¶11 (“Lemko’s claimed distributed architecture system removes the centralized MSCs.”); Resp. 5-6 (illustrating centralized MSCs, shown below):



Given that Waylett distributes MSC functionality into multiple NIBs, it satisfies the claimed “DMA system” under its plain and ordinary meaning. *See* Pet. 58-59.

The Mauer/Waylett combination thus discloses both a “DMA system” and “network” under their plain and ordinary meaning.

b. Mauer and Waylett also disclose a DMA system and Network under Patent Owner’s construction.

To the extent that the Board adopts Lemko’s proposed construction, the Petition explained how the Mauer/Waylett combinations renders obvious the additional requirements Lemko is attempting to insert.

The Mauer/Waylett combination renders obvious a network of DMA systems that distribute call-routing functionality. The Petition explains that Waylett discloses the “*call routing functionality*” included in Waylett’s NIB systems (“*a DMA system*”). Pet. 69-72. Further, Lemko admits the MSC performs such call routing functionality. Resp. 6 (“Centralized MSCs authenticate callers and route calls to other users (referred to as ‘UEs’ by convention)"); *see also* EX-2023, ¶6 (“The MSCs provided the call management and routing functionality for the networks....”). The Mauer/Waylett combination includes this MSC functionality in Waylett’s NIB. Pet. 22 (“[A]s combined with Waylett, each MSC would be implemented in Waylett’s NIB 224.”); *see* EX-1006, 9:41–42. As shown above, *see* §I.A.2.a, the Mauer/Waylett combination implements this MSC functionality in NIBs at different locations rather than using centralized MSCs. The Mauer/Waylett combination thus discloses a “*DMA system*” and “*DMA network*” even with Lemko’s additional requirement that the DMA systems distribute call-routing functionality.

The Mauer/Waylett combination also renders obvious a DMA using peer-to-peer connections between DMA systems. Claim 3 specifically requires an IP peer-to-peer connection between the first and second DMA router. In addressing that claim, the Petition explains Mauer’s network architecture uses notification messages based on Session Initiation Protocol (SIP)—a peer-to-peer protocol.² *See* Pet. 44. Lemko does not appear to contest that Mauer discloses SIP connections, *see* Resp. 37, but only that the alleged “peers” in these connections are mobile devices. In doing so, Lemko cites to Mauer describing “a call from a WWAN ... routed to ... a softswitch element [which] ‘attempts to establish the call ... via WLAN’ by sending a SIP ... message.” Resp. 36 (citing EX-1005, 10:65-13:67 and 11:8-36). Given that the WWAN (“the first DMA system”) and WLAN (“the second DMA system”) are coupled to each other via the softswitch, SIP messages sent by the softswitch would involve the WWAN and the WLAN, which, as explained earlier (*see* §I.A.2.a) are

² Lemko argues that peer-to-peer connections were added to the SIP protocol in 2016 based on RFC 7890 (EX-2033). But RFC 7890 references RFC 3261 (EX-2033, 17) (<http://www.rfc-editor.org/info/rfc3261>) showing SIP included peer-to-peer relationships as early as 2002. EX-1021 at 13, 20-21, 34, 69.

modified to satisfy both claimed DMA systems. Hence, Mauer's SIP connections are peer-to-peer connections between DMA systems.

Lemko's arguments that the Mauer/Waylett combination does not disclose peer-to-peer connections are meritless. Resp. 37-39. Lemko first argues that the SIP connection is not between DMA servers. Resp. 37-38. Not so. Mauer explains that softswitch 62 routes calls from a mobile station and communicates call requests through WLAN 12 and packet-switched network 30. EX-1005, 7:30-35, 8:58-61. Mauer also describes an example call signaling that "uses SIP" between devices in WLAN 12 and WWAN 14. 10:65-11:7. Thus, the Mauer/Waylett combination includes a peer-to-peer connection for calls between DMA servers.

Lemko next argues that Waylett uses conventional back-haul communications to route calls. The Petition explained that the Mauer/Waylett combination implements Mauer's softswitch 62 functionality from Figure 2, including its SIP signaling, in Waylett's NIB. *See* Pet. 14-15. Lemko's arguments thus attack the references individually, *Bradium*, 923 F.3d at 1050, and do not address the Mauer/Waylett combination that uses Mauer's SIP communication between its WLAN and WWAN networks. *See* Pet. 44.

Therefore, the Board should determine that the Mauer/Waylett combination renders obvious claimed "DMA system" and "network" even under Lemko's incorrect construction.

3. The Petition provided sufficient rationales to combine Mauer and Waylett resulting in the challenged claims.

Petitioner provided three reasons why a POSITA would have combined Mauer and Waylett to arrive at the challenged claims. Pet. 15-16. Lemko's arguments fail to rebut any of these rationales.

Lemko either fails to address the combination proposed in the Petition or mischaracterizes the proposed combination. *See generally* Resp. 41-44. First, Lemko argues a strawman combination—a single NIB used in Mauer's cellular network 222 and WLAN network 228, *see* Resp. 42—and does not address the Petition's combination of replacing both Mauer's networks each with a single NIB. *See* Pet. 13 (“The combination would involve using Waylett's Network-in-a-box 224 *in each* of Mauer's WWAN 14 and WLAN 12, resulting in at least two DMA systems.”); *see also* Pet. 11-16.

Second, Lemko improperly attacks the combination, arguing that “adding an extraneous NIB would run contrary to Waylett's express teachings of reducing costs and expenses.” Resp. 43. But, Lemko overlooks the fact that Waylett itself teaches an embodiment using multiple NIBs. EX-1006, 17:7-12. Lemko's expert admits as much. EX-1022, 27:8-13 (admitting Figure 11 shows a private wide-area network connecting two NIBs). Thus, Waylett does not teach away from the Mauer/Waylett combination that uses multiple NIBs.

Finally, Lemko argues that a POSITA would have used the NIB as an adjunct to Mauer's existing WWAN, not a replacement, and that it would be non-sensical to replace the entire WWAN with Waylett's NIBs. Resp. 44. Lemko's argument ignores that Waylett's NIB is a cost-effective solution to be used "in certain rural or impoverished areas" that would otherwise not be able to afford the expensive "typical approach used by wireless [carriers]." EX-1006, 1:60-65. These areas, as explained by Waylett, would benefit from Waylett's cost-effective solution for WWAN access regardless of the geographical footprint. EX-1006, 2:3-16. Waylett's explanation is an express teaching, suggestion and/or motivation and relied on in the Petition. See Pet. 15-16. See *Ortho-McNeil Pharm., Inc. v. Mylan Labs., Inc.*, 520 F.3d 1358, 1364–65 (Fed. Cir. 2008) (noting that the teaching-suggestion-motivation test, flexibly applied, remains an important tool in an obviousness analysis).

None of Lemko's reasons above rebut the Petition's rationales for combining Mauer and Waylett to arrive at the claimed invention.

B. The Mauer/Waylett combination renders obvious the claimed "destination preference register."

Claims 1 and 8 recite "*when the second mobile subscriber is not located within the first, [second, or third] wireless coverage area, determining a preferred call path to route the call outside of the DMA network based on information stored at a destination preference register (DPR)*" "*stored at the first DMA system.*" Claim 11

recites another DPR limitation: “*a destination preference register (DPR) that stores one or more preferred call paths for calls to be routed outside of a DMA network that is accessible to the DMA system.*”

Lemko argues that the Petition does not disclose the above limitations fail for the reasons below.

1. The voicemail server is located outside the “*DMA network*” in Mauer/Waylett’s combination.

As the Petition explained, based on the testimony of Mr. Proctor, the voicemail server is located outside of the DMA network in Mauer/Waylett architecture. Pet. 43, *citing* EX-1003, ¶131 (“Mauer’s Figure 1 shows that voicemail server 66 is external to its WWAN 14 and WLAN 12 (i.e., ‘*outside of the DMA network*’).”). Mr. Proctor confirmed as much in his deposition. *See* EX-2026, 68:16-18 (“Well I don’t think the voicemail server would be part of the DMA network. That would be external to it.”); *id.*, 115:4-11. With reference to Mauer’s Figure 1, the Petition explains WWAN 14 (“*a first DMA system*”) and WLAN 12 (“*a second DMA system*”) collectively forming a “*DMA network*” and further that voicemail server 66 is external to the WWAN 14 and WLAN 12 (“outside of the DMA network”). Pet. 21, 43. Thus, the voicemail server is located outside the DMA network in Mauer/Waylett combination.

Lemko’s challenges are meritless. Lemko first attempts to focus on Mauer’s disclosures that the voicemail server is located in Mauer’s network 10. *See* Resp.

48 *citing* EX-1005, 8:25-34; *see also* Resp. 51 *citing* EX-1016, 4:56-57, 5:39-42, 7:64-67. But these arguments attack Mauer individually rather than the Mauer/Waylett combination that includes the voicemail server outside the DMA network. *Bradium*, 923 F.3d at 1050. Further, the Petition’s evidence showing that the voicemail server is connected to Mauer’s DMA network satisfies the claim requirement that the “*call paths for calls to be routed*” be “*accessible to the DMA system*” and does not confirm the server is inside the DMA network.

Lemko also cites Dr. Cooklev’s interpretation of extrinsic evidence to support its contention that voicemail servers are typically part of a mobile architecture. Resp. 50, *citing* EX-2034. This argument fails for the same reason. This evidence does not address the combination presented in the Petition, especially given that Waylett’s NIB incorporates both the MSC and BSC functionality depicted in Exhibit 2034. *Bradium*, 923 F.3d at 1050. Indeed, during deposition, Dr. Cooklev stated that the only components in Mauer’s Figure 1 that are part of the WLAN in his opinion “are the between the phone 16 and the access point 18” (EX-1022, 74:18-22) and Mauer’s voicemail server 66 is several components removed from those parts. Lemko does not provide an explanation to support the argument that the extrinsic evidence applies to Mauer/Waylett combination. *Id.*, *see also* EX-2021, ¶104.

2. The challenged claims do not require that the preferred call path be destined for the “*second mobile subscriber*.”

The challenged claims require that the DPR include information used to “route calls” when a mobile subscriber is not located within certain coverage areas. The Petition explains that the DPR in the Mauer/Waylett combination includes information pertaining to a voicemail server, *see* Pet. 40-41, and that such calls can be destined for voicemail server as an alternate communication option when the mobile device is unavailable within certain coverage areas. Pet. 37-38, 41. The Petition thus explains that the Mauer/Waylett combination satisfies the claimed “*destination device*” using Mauer’s voicemail server.

Lemko argues that the claims require that the claimed call be ultimately destined for the second mobile subscriber. Resp. 47, 52-54. Not so. Claims 1 through 8 are silent as to the destination of that route, while claim 11 recites the call outside the network is “*directed to a destination device*”—not a mobile subscriber device. None of the claims thus require either the claimed “*preferred call path*”³ or “*call*” to be ultimately destined for a second mobile subscriber.

³ None of the claims tie the preferred call path to a location of the second subscriber or the destination device. Moreover, this interpretation is consistent with the antecedent basis for “the call.” Resp. 52-53.

The Petition sufficiently explains that in Mauer's modified architecture, information identifying Mauer's voicemail server 66 (*e.g.*, an IP address or a domain name of a voicemail server), located outside of the "DMA network" is the "*preferred call path to route the call.*" Pet. 40-42. The Board correctly noted this at institution. *See* ID at 37.

3. A mobile subscriber that is inaccessible is outside of the coverage areas of the claimed wireless network.

The Petition explained that a communication session with the voicemail server 66 would be established whenever a mobile device is inaccessible to the coverage areas for WWAN 14 and WLAN 12 or alternatively, two WWANs. Pet. 39. The Petition further explained that Figure 2 of Mauer attempts to establish a communication session with both wireless networks, *See* Pet. 37-38 *citing* EX-1005, Fig. 2, and uses an alternate communication option (*i.e.*, calling a voicemail server) if those attempts are unsuccessful. The failure to establish a communication session with the mobile subscriber in each network happens after determining the "*mobile subscriber is not located within the first [and second] wireless coverage area[s].*" Pet. 37.

Lemko does not appear to contest this fact, but instead argues that a UE is "inaccessible" when the UE is still inside the coverage area. Resp. 54-56. Not so. Mauer explains that a mobile station is inaccessible when that station is "not [] operating in an area served by the first wireless network" (and thus "outside" the

“wireless coverage area[s]” of the claimed networks). EX-1005, 9:43-45. Thus, the Mauer/Waylett combination use DPR information after determining the “*mobile subscriber is not located within the first [and second] wireless coverage area[s].*” Pet. 37.

4. The Petition provided sufficient rationale for why the Mauer/Waylett combination would use information stored at a DPR at a DMA system.

Based on Mr. Proctor’s testimony, the Petition explained why a POSITA would have modified Mauer’s system to use DPR information stored at a first system. Pet. 40-42. In doing so, the Petition provided three different rationales for modifying the Mauer/Waylett combination to store information pertaining to Mauer’s voicemail server in a destination preference router in the first DMA system. *See* Pet. 41. None of Lemko’s arguments rebut these sufficient rationales to make such a modification.

Lemko argues that the Petition lacks support for why voicemail server information would be shared across multiple DMA servers. The Petition, however, discussed Mr. Proctor’s explanation that such redundancy would be needed to route a call to voicemail if the DMA network connection to the destination phone failed. Pet. 41, EX-1003, ¶125. Lemko also argues that Petitioner’s rationale does not account for modifying the softswitch 62 to yield the claimed DPR limitations by moving the DPR to multiple DMA systems. But that ignores the Petition’s explanation of implementing softswitch functionality in Waylett NIB, Pet. 15, and

does not rebut the redundancy rationale that storing the voicemail information would allow a DMA system to route a call if either the DMA network connection or softswitch 62 failed. Pet. 41-42. Thus, this rationale alone is sufficient for modifying the Mauer/Waylett combination to store information pertaining to Mauer's voicemail server in a destination preference router in the combination's first DMA system.

Petitioner also explained that the GSM standard (EX-1013) confirms that the voicemail server information would be included in the DPR of the Mauer/Waylett combination. Lemko incorrectly asserts that the GSM standard doesn't indicate that IMSI detach occurs when the second mobile subscriber is not located within the claimed wireless coverage areas. Resp. 57. Not so. As Mr. Proctor explains, the GSM standard specifies routing the call to voicemail when a mobile device is detached from a network. EX-1003, ¶¶123, 126; *see also* EX-1013, 3 (disclosing "IMSI detach is a procedure to inform the network that a mobile station will go into an inactive state and thus is no longer available for incoming calls"). Thus, the GSM standard confirms that the DMA system needs the voicemail server information when the mobile station is inaccessible to the DMA network.

Finally, the Petition explained that storing address information for the voicemail server in each DMA would have been obvious, under *KSR*, because it would merely include a known element (i.e., a register) to perform the same function

(i.e., storing contact information for another device) and yielding no more than one would expect from an arrangement (i.e., accessing that information for use to communicate with the voicemail server). Pet. 41-42; EX-1003, ¶¶126-128. Although the Petition states that Mauer does not expressly disclose the specific “DPR” limitation, the Petition explained that storing information in registers was well-known in the prior art.⁴ The Petition further explains Waylett’s disclosure of storing *similar* types of information in registers such as a VLR, pVLR, and pHLR. Pet. 42, EX-1003, ¶127. The Petition also explains that storing the address of the voicemail server in each DMA server would be consistent with the GSM standard used in both Mauer and Waylett. Pet. 41. Accordingly, the claimed DPR storing voicemail information in a DMA server would be obvious under *KSR*. Pet. 42.

C. The Mauer/Waylett combination renders obvious the claimed “community location register.”

Claim 11 recites a “community location register (CLR) that stores information associated with a second HLR of a second DMA system.” Claims 1 and 8 also recite similar CLR limitations: “determining whether the second mobile subscriber is located within a second wireless coverage area of the DMA network that is associated with the second DMA system based on information stored at a community location register (CLR) associated with the second DMA system.”

⁴ The ’414 patent acknowledges that HLRs/VLRs were known. EX-1001, 1:35–48.

The Petition explains that the Mauer/Waylett combination includes a RADIUS server and configuration tables of subscriber identities used to locate subscriber identities and appropriate HLR (“*information associated with a second HLR of a second DMA system*”). Pet. 33-36. Using these tables, the NIB determines a mobile subscribers’ associated HLR (which indicates the home network), including the “HLR in the second DMA,” Pet. 35, to locate a mobile device rather “query[ing] all other NIB HLRs to determine whether they include the sought-after mobile device.” Pet. 36. The Mauer/Waylett combination uses such information about the associated HLR in Waylett’s NIB to locate a mobile station in a second wireless network to determine whether the mobile subscriber is located in the coverage area of that network. Pet. 31-33; *see* EX-1005, Fig. 5, step 226, 13:7-9, EX-1006, 14:61-66 and 21:10-28. The Board correctly notes that only claims 1 and 8 recite this limitation. *See* ID at 44.

Lemko incorrectly argues that the claimed “requisite determination” must be based solely on the information stored in Waylett’s configuration table. None of the claims require such a determination. Rather, the claims require only showing that the Mauer/Waylett combination uses information in the configuration table as part of the determination of whether a mobile device is located in a specific coverage area. Given that the configuration table includes the appropriate HLR and Lemko admits that “Waylett discloses routing a query for [whether a mobile subscriber is

inside a wireless coverage area] to the appropriate HLR/VLR,” Resp. 59, a POSITA would have understood that the routing information from the configuration table is used to identify the appropriate HLR (of another DMA system) used to determine whether a mobile device is located inside a coverage area of its home network. EX-1022, 63:20-64:2 (admitting an HLR helps determine whether a device is located in the coverage area of its home network); *see* EX-1005, Fig. 5, step 226, 13:7-9. Because the appropriate HLR must be identified to route the query, the Mauer/Waylett combination must use the information in the configuration table as a step in the claimed “*determination*.” Mauer, as modified, thus renders the claimed CLR obvious.

D. The Mauer/Waylett combination discloses the claimed “*computer readable medium*.”

Claim 21 recites a “*mobile switching center*,” “*base station controller*,” and “*call detail record (CDR) generation program*,” all of which are “*embedded within the computer readable storage medium*.” The Petition explains that Waylett’s NIB implements these modules on a computer readable storage medium. Pet. 77-78. Lemko does not appear to contest that Waylett discloses MSC, BSC, or CDR functionality, *see* Resp. 66, but only that Waylett’s implementation uses network cards 140, which are not a “*computer readable medium*.” Resp. 61, 64, 66. This is wrong for two reasons.

First, and even assuming Lemko properly characterized Waylett, the claims encompass MSC, BSC, or CDR implemented on a “*computer readable medium*” located on network cards. Network (module) cards include both processors and locally stored instructions to operate such processors. *See* EX-1003, ¶¶177, 221-223. This is also evident from Lemko’s Node1 Product that allegedly practices the challenged claims, *see* EX-2021, ¶¶140-141, and uses network cards, *see* EX-2037, 183 (requiring Lemko Line Controller Card for BTS communication interface); *id.*, 424-425 (describing Lemko Line Controller card used between BTS and PTSN); *see* EX-1001, Fig. 3. Accordingly, the claims do not foreclose the claimed functionality being implemented on a “*computer readable medium*” on a network card.

Second, Patent Owner incorrectly characterizes the evidence showing how Waylett’s NIB include MSC, BSC, and CDR functionality. EX-1022, 49:3-18. In doing so, Lemko relies on EX-2012—an archived InterWave webpage—that describes Waylett’s “NIB platform with network cards.” Resp. 65-66 *citing* EX-2012. But EX-2012 links to another InterWave webpage—Exhibit 1020—that explains that Waylett’s “MSC, BSC, and BTS” implemented in its NIB “are interchangeable” “through [a] software configuration.” EX-1020, 2. Thus, InterWave’s website relied on by Lemko confirms that Waylett’s NIB implements both the MSC and BSC using “software configurations” that are stored on a computer readable medium. EX-1003, ¶¶177, 221-223.

E. Lemko Fails to Show Any Evidence of Secondary Considerations of Non-Obviousness

1. Lemko’s commercial Node1 product lacks the requisite nexus with the claimed “*destination preference register*.”

Lemko “bears the burden of showing that a nexus exists” between the challenged claims and its Node1 product. *Fox Factory, Inc. v. SRAM, LLC*, 944 F.3d 1366, 1373 (Fed. Cir. 2019). Lemko failed to satisfy this burden by not showing that its Node1 product includes the claimed “destination preference register” limitations. Without doing so, Lemko failed to show the requisite nexus between the supposed evidence of secondary considerations and the challenged claims. *Demaco Corp. v. F. Von Langsdorff Licensing Ltd.*, 851 F.2d 1387, 1392 (Fed. Cir. 1988) (requiring a nexus with the product and “the invention disclosed and claimed in the patent”).

Lemko primarily relies on Exhibits 2011 and 2037 to explain how its Node1 product practices the claims even though neither exhibit mentions a “*destination preference register*.” Resp. 69-70; see EX-2037, 490-491, 508-509 (Node1 Technical description describing only HLR, VLR, and CLR.). Thus, Lemko’s Node1 exhibits do not explain how Node1 practices the DPR limitations from the challenged claims.

Lemko’s supposed nexus between its commercial Node1 and the claimed DPR is Exhibit 2038, which is insufficient. Resp. 71. Neither Lemko’s expert nor the inventor explain how Exhibit 2038 shows that Node1 performs the DPR

limitations from the challenged claims, such as a “preferred call path” for routing a call “outside the DMA network.” *See* EX-2023, ¶¶19–20 (describing exhibit as showing only different types of calls); *see* EX-2021, ¶142 (parroting petition). Further, the Node1 user manuals (EX-2037) do not mention a “preferred route” or “hierarchy” mentioned in the inventor’s declaration in describing EX-2038. *Compare* EX-2037 with EX-2023, ¶20. Notably, Lemko’s expert admitted that he “did not do a detailed mapping between the claims and this Lemko product.” EX-1022, 80:8-21. Consequently, Lemko failed to show how its commercial Node1 product⁵ practices the challenged claims’ DPR limitations.

Because Lemko failed to show how its commercial Node1 product practices the challenged claims’ “*destination preference register*,” the claims lack the requisite nexus to all secondary evidence about such product. *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1246 (Fed. Cir. 2010) (“[The] proponent must establish a nexus between the [evidence of secondary considerations] and the merits of the claimed invention.”).

⁵ Petitioner notes that Lemko’s website describes several different Node1 products, *see* EX-2011, and it is unclear which Node1 product uses Exhibit 2038. *See* EX-2023, ¶20.

2. Even if Lemko’s (3G) Node1 practices the claimed invention, the evidence allegedly supporting secondary considerations references a different Lemko (4G) Node1 Product.

Lemko’s website (EX-2011) shows Lemko has different Node 1 products: one mentioned in Lemko’s evidence of secondary considerations and other products used for evidence of nexus to the challenged claims. One of these Node1 products uses 4G technology (“Lemko 4G (LTE) Node1”), *id.*, 2, while other Node1 products use 2G technology (“Lemko 2G (GSM) Node1”), *id.*, 5, and 3G technology (“Lemko 3G UMTS”/“Lemko 3G (CDMA/EvDO) Node 1), *id.*, 3-4, 6. The Technical description for the Node1 product—used in Lemko’s nexus analysis—refers only to the 2G/3G products. *See* EX-2037, 490, 493 (describing the Node1 product as offering 3G solutions for “CDMA, GSM and UMTS technologies.”). Yet, most of Lemko’s cited evidence⁶ of secondary considerations (Exs. 2043-2045, 2047-2052) all refer to Lemko’s 4G Node1 product. For example, Lemko’s emails (EX-2043 and EX-2044) refer to both evolved packet core (EPC) core and eNodeB—both of which are found only in Lemko’s 4G Node1 product, *see* EX-2011, 2; *see id.* Lemko thus introduces evidence of commercial success of a product that is different than the one (in EX-2037) that Lemko used for nexus.

⁶ Despite alleging the commercial success, Lemko’s expert admitted that he had not “seen evidence regarding dollar amounts or profit.” EX-1022, 81:21-25.

3. Lemko's cited evidence does not support its secondary considerations arguments.

Lemko fails to demonstrate non-obviousness because their remaining evidence of secondary considerations identifies a long-felt need that Waylett already solved or includes evidence directed toward unclaimed features.

a. Lemko's evidence presents a long-felt need that Waylett already identified and solved.

Waylett had already identified and solved the long-felt need described by Lemko. *Geo. M. Martin Co. v. All. Mach. Sys. Int'l LLC*, 618 F.3d 1294, 1304 (Fed. Cir. 2010) (“Where the differences between the prior art and the claimed invention are as minimal..., it cannot be said that any long-felt need was unsolved.”). Lemko characterizes the long-felt problem as the “need for a low-cost distribute[d] network architecture that reduces the deployment cost.” Resp. 72. Lemko acknowledges that “Waylett recognized this industry need,” but contends that it offered a hardware-based approach that did not resolve the problem. Resp. 73 *citing* EX-1006, 1:34-2:13. Not so. InterWave explained that Waylett’s NIB solution mirrors Lemko’s supposed solution: a “distributed architecture that maximizes efficiency, and allows for service extension and capacity expansion at a lower capital expenditure and operational cost.” EX-1020, p. 1. To do so, Waylett’s NIB solution implements the MSC and BSC functionality through a “software configuration.” *Id.*, p. 2; *see* EX-1006, 9:41-42. Further, InterWave’s website advertised that Waylett’s Network-In-A-Box was a “cost-effective solution” that was “ideally suited” for remote areas and

low population density environments, such as “remote villages.” EX-2013, 1. InterWave’s website thus advertised the same problem and identified Waylett’s Network-In-A-Box as the same solution to Lemko’s long felt need over two years before Lemko filed the challenged patent. Resp. 72 (“This was especially a problem for rural and low population density environments”). *Martin*, 618 F.3d at 1305.

b. Lemko’s remaining evidence is directed toward unclaimed features.

Lemko’s remaining evidence of secondary considerations is directed toward unclaimed features. Exhibit 2046’s alleged praise includes Lemko’s Node2 product—a different, unclaimed product. Likewise, Exhibit 2044 is a Lemko email that focus on unclaimed “unique differentiators”:

- 4G features, e.g., Software-based EPC;
- swarming self-organized networks; or
- service chaining/workflow.

See EX-2044. Lemko’s exhibits thus has no nexus with the challenged claims. *Wyers*, 616 F.3d at 1246.

The Board should thus determine that the challenged claims are unpatentable.

Dated: March 28, 2024

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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 5,576 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).

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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** and all corresponding exhibits was served upon the following, by Electronic Mail:

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