

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

PATENT OWNER SUR-REPLY

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I. INTRODUCTION

Lemko's distributed mobile architecture ("DMA") introduced a novel paradigm for mobile communications networks that was a clear departure from the conventional, hierarchical network architectures that dominated the industry. Petitioners do not dispute that the networks shown in the asserted references, Mauer (Ex. 1005) and Waylett (Ex. 1006), are such conventional, hierarchical networks. Alone or in combination, these references do not disclose or render obvious the distributed networks of the Challenged Claims.

II. THE CHALLENGED CLAIMS ARE PATENTABLE OVER MAUER AND WAYLETT

A. Mauer in View of Waylett Does Not Disclose a Destination Preference Register (All Grounds and Claims)

Mauer and Waylett do not disclose the claimed destination preference register ("DPR"). POR, 46-58. The '414 Patent discloses a method for routing calls from a DMA network to a user device ("UE") that is not accessible via the DMA network. POR, 14-15, 46-47; '414 Patent, Fig. 2, 5:3-20. When a call from within the DMA network is made to a UE that is not subscribed to the DMA network, the DMA servers consult the DPR to determine how to route the call. '414 Patent, 5:62-6:4, 9:59-10:4, 9:32-37; Ex. 2021 ("Cooklev Decl."), ¶¶97-98. Petitioners argue that Mauer's disclosure of routing a call to a voicemail server when the UE is unavailable

is a “preferred call path to route the call.” Pet., 40-42. This argument fails for multiple reasons.

1. Claim Construction: “the call” refers to and requires “a call from a first mobile subscriber to a second mobile subscriber” (Claims 1 and 8) or “a call from a mobile subscriber to a destination device” (Claim 11)

Mauer’s voicemail server is not the second mobile subscriber (Claims 1 and 8) or the destination device (Claim 11) because it is not the original target of the call from the first mobile subscriber to the second mobile subscriber. POR, 52-54. Petitioners concede this factual point and raise a belated claim construction issue, contending that “the call” need not be to the second mobile subscriber or a destination device. Reply, 15-16. The Board should reject this construction on straightforward antecedent basis grounds.

For Claims 1 and 8, antecedent basis demands that “the call” that is routed outside the DMA network is the same “call from a first subscriber to a second mobile subscriber” recited earlier in the claims. *University of Massachusetts v. L'Oréal SA*, 36 F.4th 1374, 1380 (Fed. Cir. 2022) (“the” is “the language for invoking an antecedent—for repeating, not departing from, the claim’s prior reference” to a phrase). This plain reading is also consistent with the specification’s description of routing the call to a destination mobile directory number of a device that is accessible but not via the DMA network. ’414 Patent, 9:26-10:19.

For Claim 11, antecedent basis requires that “**the call**” that “is directed to a destination device that is outside of the DMA network” is the same “call from a mobile subscriber” recited earlier in the claim.

While Petitioners rely on attorney argument that the “the call” (or the “preferred call path”) need not be destined for a second mobile subscriber, they do not address these antecedent basis problems that are fatal to their construction. Reply, 15-16. Petitioners’ statements on this issue are inconsistent with the claims. Compare Reply at 15 (“Claims 1 through 8 are silent as to the destination of that route”) with Claim 1 (reciting “a call from a **first mobile subscriber to a second mobile subscriber**”) and Claim 11 (reciting “a call from a mobile **from a mobile subscriber**” and that “**the call is directed to a destination device** that is outside of the DMA network”).¹ In both cases, “the call” that is routed is the same “call” that is initiated. There is no language in the claims that suggests that the “call” that is routed can be to a different entity than the call that is initiated.

Nor do Petitioners explain how their interpretation is consistent with the intrinsic record. *TalexMedical, LLC v. Becon Med. Ltd.*, No. 2021-2069, 2022 WL 2898934, at *6 (Fed. Cir. July 22, 2022) (finding error a construction that “failed to consider the possibility that [its construction is] inconsistent with the intrinsic evidence”); *Apple Comput., Inc. v. Articulate Sys., Inc.*, 234 F.3d 14, 25 (Fed. Cir.

¹ Unless indicated otherwise, all emphasis is added.

2000) (“[A] claim must be interpreted in light of the teachings of the written description and purpose of the invention described therein.”). The purpose of the DPR—to route a call to the intended destination when the destination is outside of the DMA network—is aligned with Lemko’s interpretation and the clear antecedent basis present in the claim language. ’414 Patent, 9:61-64 (“the DMA establishes the call to the MDN outside of the DMA network via a DMA server that routes the call over the preferred call path”). Thus, the Challenged Claims should be construed to require “the call” be routed to the “second mobile subscriber” (Claims 1 and 8) or the “destination device” (Claim 11). .

The ’414 Patent’s DPR has nothing to do with circumstances where UE are entirely unavailable because, in that case, there is no available call path to reach the device, “preferred” or otherwise, to be stored in a DPR. Mauer’s routing of the call originally intended for a device (the second subscriber’s phone) to a different device (the voicemail server) is therefore fundamentally different, and does not align with the reason the inventor devised the DPR in the first place (to enable calls to devices outside of the DMA network) POR, 46-47; Ex. 1005, 8:33-34 (“establish a call to voicemail server”).

In Reply, Petitioners argue for the first time that the “destination device” (recited in Claim 11) is satisfied by Mauer’s voicemail server. Reply, 15. This argument should be rejected because it is a “meaningfully distinct contention” from

what it raised in the Petition. *Yita LLC v. MacNeil IP LLC*, 69 F.4th 1356, 1367 (Fed. Cir. 2023). Petitioners cite to pages 37-38 and 41 of their Petition, but those arguments are directed to Claim 1. Reply, 15. In analyzing Claim 11, Petitioners originally mapped the “destination device” to UE, not the voicemail server. Pet., 72.

In any event, Petitioners’ new argument makes no sense because, according to Mauer, calls are only routed to voicemail when a call to the UE fails—initial calls are not made to a voicemail server. Therefore, Mauer cannot render obvious the Challenged Claims because its disclosure of “establish[ing] a call to voicemail server” is outside the scope of the claims requiring call routing to the original destinations of “the call.”

2. Mauer’s Voicemail Server is Located Within the Alleged DMA Network

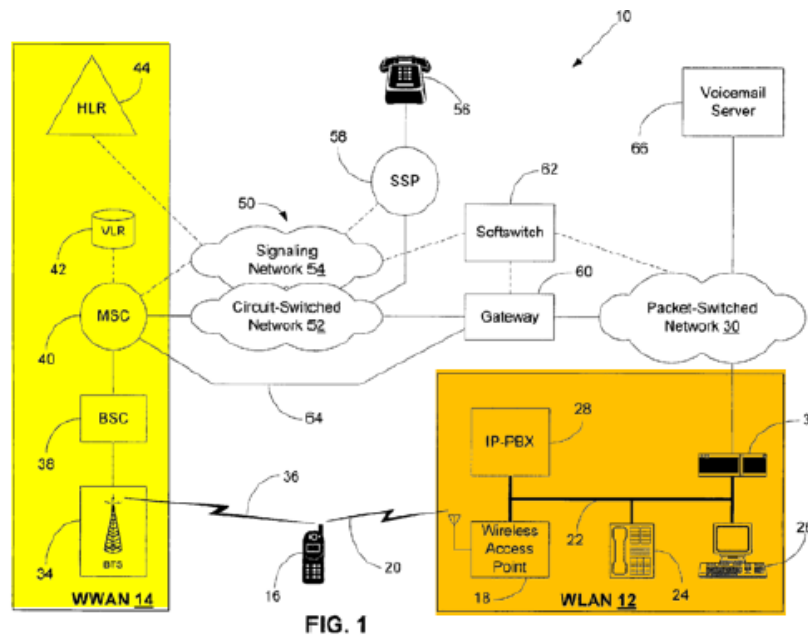
The Challenged Claims are also patentable over Mauer and Waylett because Mauer’s voicemail server is within the alleged DMA network (the modified WWAN and WLAN) and is not, therefore, an external path (*i.e.*, “a preferred call path ***to route the call outside*** of the DMA network”). POR, 47-52; Ex. 1005, 8:25-34.

Undisputed extrinsic evidence confirms that Mauer’s voicemail server 66 is ***part of*** the communications network that Petitioners allege to be the DMA network. Cooklev Decl., ¶¶100-104; Ex. 2034; Ex. 2035; *see also* Cooklev Decl., ¶105 (citing Ex. 1016, 4:56-57, 5:39-42, 7:64-67) (Petitioners’ evidence demonstrates a voice-mail system is “coupled” with an MSC, and “[s]itting as nodes on [the] network”).

During cross-examination, Petitioners' expert did not refute this evidence, and he did not submit a Reply Declaration in rebuttal. Ex. 2026 ("Proctor Tr."), 67:9-70:18. Therefore, it is un rebutted that Mauer's voicemail server 66 is part of, or inside of, the alleged networks of WWAN 14 and WLAN 12.

In its Reply, Petitioners argue that Lemko's un rebutted arguments "attack Mauer individually rather than the Mauer/Waylett combination." Reply, 14 (citing *Bradium Techs. LLC v. Iancu*, 923 F.3d 1032, 1050 (Fed. Cir. 2019)). The problem with this argument is that Petitioners exclusively rely on Mauer with respect to the DPR limitation and have not made shown or asserted that Waylett teaches this limitation. Pet., 37-42. The case law against attacking references individually does not shield an obviousness theory from scrutiny where that theory relies on a single reference to satisfy a particular claim limitation. *Hulu, LLC v. DivX, LLC*, No. IPR2020-00647, Paper 28 at 36 n.9 (P.T.A.B. Sept. 27, 2021) (Board rejecting argument that PO attacked references individually based on parsing the original Petition's reliance on a single reference for a disputed claim limitation), *aff'd*, *Netflix, Inc. v. DIVX, LLC*, 84 F.4th 1371 (Fed. Cir. 2023). Here, Petitioners' theory that Mauer teaches the DPR limitation in a Mauer/Waylett combination fails because the evidence of record demonstrates Mauer does not disclose the DPR, and Petitioners have not shown that Waylett fills that gap.

Petitioners’ also mischaracterize Dr. Cooklev’s testimony about which elements are part of Mauer’s WLAN in an attempt to suggest that he admitted that the voicemail server is outside of Mauer’s alleged DMA network. Reply, 14 (citing Ex. 1022, 74:18-22). Petitioners do not point to Mauer’s **WLAN** as the alleged DMA network, they (necessarily) point to the entirety of **telecommunications system 10** as the DMA network. Pet., 18 (equating “wireless telecommunication system 10” with the “DMA network”). Telecommunications system 10 includes several components that are integral to its obviousness analysis, including the WWAN, WLAN, voicemail server, and softswitch.



Id. (annotating Ex. 1005, Fig. 1). In other words, Dr. Cooklev’s testimony about which certain components are part of Mauer’s WLAN (one of the alleged **DMA**

systems) has nothing to do with whether the voicemail server is outside of the alleged *DMA network*. *Id.*

Lastly, Petitioners fail to explain what “Waylett’s NIB” and “MSC and BSC functionality” has to do with whether Mauer’s voicemail server is inside or outside of the communications network. Reply, 14; see *Netflix*, 84 F. 4th at 1377 (“[T]he Board should [] not have to decode a petition to locate additional arguments beyond the ones clearly made. . . . [I]t is the petitioner’s burden to present a clear argument”). Petitioners have not alleged, let alone established, that the communications network formed by implementing Mauer’s communications system with Waylett’s NIBs necessarily alters how and where the voicemail system would be implemented.

Thus, Mauer’s discussion of sending calls to a voicemail server does not disclose determining a preferred call path to route a call outside of the DMA network based on information stored at a destination preferred register.

3. Mauer’s “Alternative Communication Option” is Not Triggered When “The Call Is Directed to a Destination Device That is Outside of the DMA Network”

Mauer does not teach or suggest a destination preference register as is recited in the Challenged Claims, which is used when a call is being routed to a destination mobile subscriber *outside of the DMA network*. POR, 54-56; Cooklev Decl., ¶¶111-113; Ex. 1005, 9:39-10:5, 9:42-43, 10:54-59.

In Reply, Petitioners repeat their argument based on Mauer's disclosure of a UE being "inaccessible" where the UE "might not be operating in an area served by the first wireless network." Reply, 16-17 (citing Ex. 1005, 9:43-45). But in Mauer, once it is determined that a UE is "inaccessible," it quits connecting the call, which starkly contrasts with routing the call to the target device outside of the DMA network when it is determined that the target device is not accessible via the DMA network. '414 Pat, 9:45-48 ("In a particular embodiment, this is an indication that the call is being made to a mobile directory number that is outside of a DMA network provided by one or more DMAs.").

Thus, Mauer's assignment of "inaccessible" status to a device it cannot contact fails to satisfy the Challenged Claims' requirement that the DPR is used "when" it is "determine[d] that the call is directed to a destination device that is outside of the DMA network" (Claim 11) or "*when* the second mobile subscriber is not located within the first wireless coverage area and is not located within the second wireless coverage area" (Claims 1 and 8).

4. Mauer Does Not Disclose Information Stored at a DPR at a DMA System

Petitioners failed to establish why a POSITA would have been motivated to store information pertaining to Mauer's voicemail server 66 in a destination preference register (DPR) in a DMA server. Pet., 40-42; POR, 56-58. Petitioners' Reply provides no additional declaration, and merely echoes the same conclusory

expert testimony and hindsight reasoning already addressed by the Response. Reply, 17 (citing same Pet., 41; Ex. 1003, ¶125 addressed in POR, 56-57).

Petitioners fail to establish that it would have been obvious, absent hindsight, to store the DPR *at the claimed DMA system*. Mauer located the softswitch in-between several different communications networks because it was built as a centralized-switching center for communications between different networks. Ex. 1005, 7:27-36; Reply, 17-18 (incorporating argument from Pet., 15). Petitioners cite no evidence that a POSITA would modify Mauer's placement of the softswitch. If the softswitch were implemented on a node of Mauer's WWAN (rather than between the WWAN, WLAN, and SSP networks), it would not be able to route calls from the SSP to the WWAN, thereby rendering the softswitch element inoperable for its intended purpose. Ex. 1005, 7:37-52 (describing the use of a softswitch to route calls from a landline telephone to a multi-mode mobile station connected to the WWAN or WLAN). Thus, a POSITA would be motivated not to modify Mauer as Petitioners propose.

In Reply, Petitioners repeat their theory that the GSM standard motivates the proposed modification, but ignore Dr. Cooklev's rebuttal of their flawed characterization of the GSM standard. Reply, 18 (citing Ex. 1013); POR, 57; Cooklev Decl., ¶116. Thus, it is un rebutted that the GSM standard does not disclose or render obvious storing the DPR at a DMA system.

With respect to Claim 11, Petitioners appears to have abandoned its position that it would have been obvious to a POSITA to use Waylett's configuration table to achieve the AAA module that includes the DPR. Reply, 17-19; *see* Pet., 68 (referring to Pet. 30-36). Nor could they continue this argument, as it was an improper and unsupported attempt to incorporate arguments by reference. POR, 58.

Thus, Mauer and Waylett do not render obvious the use of information stored at a DPR where the DPR is stored at the first DMA system (Claims 1 and 8) or where the DMA system includes an AAA module that includes the DPR (Claim 11) for routing the call.

B. The Proposed Combinations of Mauer and Waylett Do Not Teach a DMA Network or DMA System (All Grounds and Claims)

All of the Challenged Claims require a distributed mobile architecture (DMA) network and at least one DMA system. Mauer and Waylett do not satisfy this claim limitation, as correctly construed.

1. Claim construction: “Distributed Mobile Architecture (DMA)” is Distributed with Call-Routing Functionality Located on DMA Systems, Connected by Peer-to-Peer Connections

As discussed in the POR, “distributed mobile architecture (DMA)” should be construed as: “a network architecture where DMA systems have distributed call-routing functionality and are connected with other DMA systems through peer-to-

peer connections (i.e., without connecting through a hierarchical network hub architecture).” POR, 20-34.

Petitioners’ reliance on case law about “clear and unmistakable disclaimer” is misplaced. Reply, 1-2 (citing *Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1372-73 (Fed. Cir. 2014)). While *Hill-Rom* states that one should “depart from the plain and ordinary meaning of claim terms based on the specification in only two instances: lexicography and disavowal,” that canon does not apply when the term at issue does not have a plain and ordinary meaning in the art, as is undisputedly the case here. 755 F.3d at 1371. In such circumstances, the Board may not construe the term “broader than the disclosure in the specification.” *Indacon, Inc. v. Facebook, Inc.*, 824 F.3d 1352, 1357 (Fed. Cir. 2016). Applying that principle to this case, DMA should be construed consistently with its description in the specification as having distributed call-routing functionality, being connected through peer-to-peer connections, and being different from hierarchical legacy networks. POR, 20-34.

Lemko is not importing limitations from “mere exemplary embodiments.” Reply, 2. As discussed in Lemko’s Response, the Federal Circuit found in *Medicines Co. v. Mylan Inc.* that, when construing a term that did not have an accepted meaning in the art (“efficient mixing”), the “non-limiting” examples in the specification limited the term because they contained “the only description [of the term] that casts

light on [it] is and that enables one of ordinary skill in the art to achieve the objects of the claimed invention.” 853 F.3d 1296, 1309 (Fed. Cir. 2017).

Petitioners ignore *Medicines*, citing to non-precedential, inapposite Federal Circuit opinions, which were both concerned with the construction of terms that had recognized meanings in the art, which is not the case here. *See Skedco Inc. v. Strategic Operations, Inc.*, 685 F. App’x 956, 960 (Fed. Cir. 2017)); *TalexMedical, LLC v. Becon Med. Ltd.*, No. 2021-2069, 2022 WL 2898934, at *6 (Fed. Cir. July 22, 2022).

The Board should reject Petitioners’ argument that DMA should be “accorded to [sic] its plain and ordinary meaning of each of its individual terms.” Reply, 1. Petitioners argued “distributed” means “that parts of the system are placed in different locations throughout a network.” *Id.* (citing Ex. 2026, 71:22-72:4). But, in the context of the ‘414 Patent, “distributed” refers to a network architecture where routing-functionality is distributed to peer nodes, not to geographically dispersed nodes. POR, 20-24. And Dr. Cooklev’s testimony regarding the meaning of “distributed” in the network-architecture context is supported by extrinsic evidence (including a computer networking textbook, Ex. 2030). Petitioners’ do not address any of this evidence or argument. Indeed, Petitioners’ expert, Mr. Proctor, conceded that “distributed” requires that “**functionality**” must be distributed, supporting Lemko’s proposed construction. POR, 24 (citing Proctor Tr., 74:3-22). Petitioners’

geographical-dispersion theory also should be rejected as a significant departure from their interpretation in the Petition, which suggested that “distributed” means “separate” or “distinct.” Pet., 17-22; Ex. 1003, ¶¶82-91.

Claim differentiation does not preclude the “peer-to-peer” portion of Lemko’s proposed construction. Reply, 3. Petitioners ignore Lemko’s rebuttal (POR 32-34) which demonstrated that the Dependent Claim 3 remains narrower than Claim 1, as properly construed, because it specifies that the peer-to-peer network must be implemented **on an IP network**, which is not a requirement of Lemko’s construction. Given this narrowing, claim differentiation does not apply.

2. Petitioners’ Proposed Combinations of Mauer and Waylett Do Not Result in a DMA Network of DMA Systems

Lemko demonstrated that the proposed combinations of Mauer’s WLAN and WWAN in view of Waylett’s NIB failed to produce any peer-to-peer connections between Mauer’s WLAN and WWAN. POR, 36-38.

Mauer describes how it uses conventional hierarchical or hub-style networks to connect voice calls to a UE served by either a WLAN or a WWAN. POR, 36-40; Ex. 1005, 10:65-13:67. Petitioners’ argument about Mauer’s softswitch and about attacking references individually are unfounded and mischaracterize Lemko’s argument. Reply, 10. No such individual attack of references was made. Lemko showed that Mauer uses conventional, hierarchical networks; and then the record evidence demonstrated why Waylett does not cure the deficiencies of Mauer,

including its use of the softswitch 62. POR, 36-37. Thus, Lemko addressed Petitioners' references in combination.

Mauer's SIP connections are not peer-to-peer connections ***between DMA systems***. Pet., 43-45; Reply, 9-10. The "peers" in these connections are the UEs that communicate over the WLAN, and Petitioners' expert repeatedly confirmed in his cross-examination that the mobile phones ***are excluded from and not part of a DMA system***. Cooklev Decl., ¶81; Ex. 1005, 7:34-35 ("various endpoints, e.g., multi-mode mobile station 16"); Proctor Tr., 67:9-21; 68:8-18. In its Reply, Petitioner attempts to argue "SIP messages sent by the softswitch ***would involve*** the WWAN and the WLAN," but the claims do not recite DMA systems "involved in" a peer-to-peer connection (Reply, 9), they require peer-to-peer connections between DMA systems themselves. And the record evidence shows that Mauer's WWAN and WLAN are not connected via peer-to-peer connections even if they were to be implemented using Waylett's NIBs. POR, 15-17 (citing Ex. 2013, Ex. 2014; Cooklev Decl., ¶72), 36-40. Thus, Mauer in combination with Waylett does not disclose DMA systems.

3. Petitioners' Unsupported New Theory is Untimely

Because Petitioners' original argument did not establish a *prima facie* case of obviousness, they concoct an entirely new theory, based on new evidence, and

supported only by attorney argument in their Reply. Reply, 6 (citing Ex. 1020). The Board should disregard and reject this argument for several reasons.

First, Petitioners’ argument that Ex. 1020 discloses a NIB using a “distributed architecture” is an untimely, new *prima facie* obviousness theory and, therefore, waived. *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369 (Fed. Cir. 2016) (rejecting as untimely a “new theory of invalidity by reference to new evidence, citing... non-patent literature references which were not relied upon to support unpatentability in the Petition.” (internal quotations omitted)). Petitioners’ new theory departs from their original theory that peer-to-peer connections between **UEs** satisfy this limitation. Pet., 43-45.

Second, Petitioners’ new argument should also be rejected because Petitioners have not “explain[ed] ... how [this] specific combination would operate or read on the asserted claims.” *ActiveVideo Networks, Inc. v. Verizon Commc’ns, Inc.*, 694 F.3d 1312, 1327 (Fed. Cir. 2012). Indeed, Petitioners’ new argument is inconsistent with the rest of their obviousness analysis because in network where an NIB implementing Mauer’s WWAN is (somehow) connected with a peer-to-peer connection to an NIB implementing Mauer’s WLAN, the entire infrastructure between the WLAN and WWAN would not exist because that infrastructure would be replaced by a peer-to-peer connection. Petitioners do not acknowledge this

problem, which Mr. Proctor admitted he had not considered when he prepared his declaration. Proctor Tr. 54:19-56:17.

Third, Petitioners’ new evidence (Ex. 1020) does not refute the extrinsic evidence showing Waylett’s deficiencies. See POR, 16-17, 38-40; Ex. 2013, 1. Exhibit 1020, which concerns InterWAVE’s entire GSM product line—not just the NIB—does not say anything about the NIB’s hardware configuration or capabilities that rebuts the specific information found in Exhibit 2013 and confirmed in Waylett. Nor does this exhibit contradict Exhibit 2013, which shows that Interwave’s NIB is limited to “Star and Daisy Chain” type of connections. Ex. 2013, 1. Exhibit 1020 also does not define or explain its passing reference to a “distributed architecture,” referring to other combinations of InterWAVE GSM/GPRS Products. *Id.* This is consistent with existing record evidence, including another InterWave product description with similar descriptions of infrastructure “expenditure,” stating that “[i]t is easy to scale from a single NIB to **a network requiring multiple MSC, BSC, and BTS.**” Ex. 2012, 1. This is also consistent with Petitioners’ expert’s testimony that, to the extent NIBs communicate with each other, they use the same standardized interface connecting NIBs to the GPRS network. Proctor Tr., 45:15-47:20. Any standardized connections between MSCs are not peer-to-peer connections. POR, 6-7. Indeed, the ’414 Patent explicitly distinguishes its peer-to-peer interfaces (for

communications between DMA systems) from its MSC interface that routes calls to a centralized MSC to reach UEs outside of the DMA network:

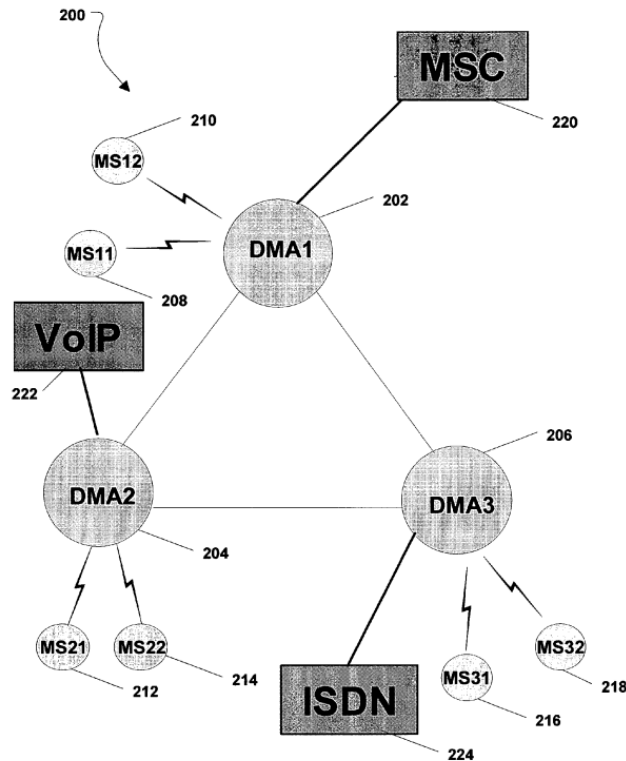


FIG. 2

'414 Patent, FIG. 2. Therefore, Petitioners' attorney argument concerning Ex. 2010 is not responsive to the arguments made in the POR.

Moreover, Petitioners' new reply evidence should be given little weight because it is unsupported by any expert testimony to assist the Board in interpreting the disclosure of the exhibit. *Baker Hughes Oilfield Operations, Inc. v. Smith Int'l, Inc.*, No. IPR2016-01440, Paper 31 at 22 (P.T.A.B. Feb. 1, 2018) (Reply attorney arguments were unpersuasive because they were "unsupported by any additional

declaration testimony” from experts); *id.* at 23, n.7. Petitioners’ failure to provide supporting expert analysis deprived Lemko of the opportunity to cross-examine on the new evidence, further supporting that it be disregarded.

For these reasons, Mauer and Waylett, alone or in combination, do not disclose DMA networks formed by DMAs interconnected with peer-to-peer connections.

4. Petitioners’ Proposed Combination of Mauer and Waylett Lacks Any Rational Motivation to Combine

A POSITA would not have been motivated to combine “Waylett’s Network-in-a-Box 224 in each of Mauer’s WWAN 14 and WLAN 12, resulting in at least two DMA systems.” Pet., 68; POR, 41-46. Petitioners argue that Waylett teaches “an embodiment using multiple NIBs.” Reply, 11. But Petitioners do not dispute that Waylett’s NIB already provides a WLAN and the same type of cellular-network technology provided by Mauer’s WWAN, and that a single NIB would be used to provide Mauer’s two communication modes (cellular via network 222 and WLAN via network 228). Ex. 1006, 8:7-10, Fig. 5, 2:38-48, 9:13-46. Thus, Waylett’s multiple NIBs embodiment would not have motivated a POSITA to have implemented Mauer’s WWAN and WLAN with separate NIBs, as Petitioners contend.

Instead, a POSITA would understand that using an NIB “in each of” Mauer’s WWAN 14 and WLAN 12 would result in at least one extraneous NIB, because a

single instance of Waylett's NIB already provides access to both cellular and WLAN networks. Cooklev Decl., ¶¶90-91; POR, 43. Adding unnecessary NIBs would run contrary to Waylett's express teachings of reducing costs. Ex. 1006, 2:3-13; Pet., 15; Ex. 1003, ¶78; Cooklev Decl., ¶91. Therefore, a POSITA would not have been motivated to combine Mauer and Waylett as Petitioners propose.

Further, a POSITA would not have implemented Mauer's WWAN with a NIB, as Petitioners suggest, because a single NIB is not a replacement for an existing WWAN. Pet., 13-15; POR, 44-45 (citing Ex. 2030, Cooklev Decl., ¶92, Ex. 1006, 8:7-10, Ex. 2012, 1, Ex. 2013). Petitioners do not grapple with this evidence in their Reply, address their expert's cross-examination testimony admitting it would not be cost-effective to replace an existing WWAN with a new WAN implemented with Waylett's NIBs, or acknowledge the undisputed evidence that Waylett's cost savings are realized by an NIB as an adjunct to existing infrastructure, not as a replacement. Proctor Tr., 66:2-67:8; Ex. 1006, 9:57-63, Fig. 5 (illustrating NIB connected to public 2G and 3G networks); Cooklev Decl., ¶93.

In sum, a POSITA would not be motivated to combine Mauer and Waylett in any manner that would yield the Challenged Claims.

C. Mauer and Waylett Do Not Render Obvious the Community Location Register Limitation (All Grounds and Claims)

The combination of Mauer and Waylett does not disclose "a community location register (CLR) that stores information associated with a second HLR of a

second DMA system,” as claimed, because Waylett’s configuration table is not a “location register ... that stores information associated with a second HLR of a second DMA system.” Cooklev Decl., ¶¶121-128. Instead, Waylett’s configuration table stores a correspondence between ranges of IMSI identifiers and HLRs. Ex. 1006, 15:6-8, 21:25-28. This much is undisputed. Reply, 19-21.

In Reply, Petitioners attack a strawman—namely contending that “Lemko incorrectly argues that the claimed ‘requisite determination’ must be based solely on the information stored in Waylett’s configuration table.” Reply, 20. What Lemko actually argued was that no data from Waylett’s configuration tables were used to make the claimed “determination.” POR, 59-60. Whether or not the configuration table helps identify the correct HLR, the determination of whether or not a device is in a particular coverage area is based solely on the HLR data, as Petitioners’ expert conceded. Ex. 1006, 14:61-66; Proctor Tr., 91:3-93:19 (“a location register includes information about how to reach ... a particular subscriber”). Waylett’s configuration table **is not consulted** when making the determination because it is not a “location register” that stores any of the information relevant to the determination. Cooklev Decl., ¶125.

Therefore, Waylett’s configuration table fails to disclose the required CLR.

D. Waylett and Mauer Fail to Teach the Claimed Computer Readable Storage Medium Within the Housing (Ground 2, Claim 21)

Waylett's NIB does not include a computer readable storage medium with embedded MSC, BSC, and CDR functionality, as recited in Claim 21. POR, 61-67. The record evidence demonstrates that Waylett's NIB operates based on the classic, hardware-based network-appliance approach, with the various network functions being implemented using network cards hardware, not software. *Id.* (citing Ex. 1006, 8:7-32, 9:32-46, Fig. 2; Ex. 2013, 1; Cooklev Decl., ¶¶134-135; Ex. 2012.

Petitioners again cite the InterWave webpage for its mention of "software configuration." Reply, 21-22 (citing Ex. 1020, 2). But on its face, this is consistent with the evidence already of record, by disclosing the "common hardware platform" allows for interchangeable use of network cards ("MSC, BSC and BTS are interchangeable"). Ex. 2012, 2. The term "software configuration" only refers to which of these cards are activated and does not support Petitioners' claim suggestion that the functionality of these hardware cards is **implemented** in software.² Ex.

² Petitioners failed to give Dr. Cooklev an opportunity to review this document even though Petitioner clearly had it in hand during his cross-examination. See Ex. 1022, Cooklev Tr., 49:3-18 (repeatedly asking if Dr. Cooklev considered any documents describing "software configuration" without showing him Ex. 1020).

1022, Cooklev Tr., 48:7-49:18. In any case, this exhibit should be given little weight because it lacks expert analysis or discussion from Petitioners' own expert.

Therefore, Waylett does not inherently (or otherwise) disclose software-based MSC, BSC, or CDR functionality embedded in a computer readable medium and cannot render obvious Claim 21.

III. SECONDARY CONSIDERATIONS DEMONSTRATE THE CLAIMS ARE NOT OBVIOUS

A. Lemko's Commercial Node1 Product Practices the Challenged Claims

Lemko's commercial Node1 product embodies and has a nexus to the Challenged Claims. POR, 68-72.

Dr. Pan explained that the Node1 had "functionality for specifying a preferred hierarchy of available interfaces to make calls external to the DMA network," corresponding to the DPR limitation. Ex. 2023 ("Pan Decl."), ¶20. Dr. Pan further explained that Ex. 2038, is "an example of the DPR from commercially deployed Lemko's Node1" and that "[i]t shows specified routes for different types of calls." *Id.* For example, Ex. 2038 includes a "dialed pattern" column containing number prefixes (e.g., "907") and a "route" column indicating a hierarchy of call paths (e.g., "VOIP:NONE:ISDN1:ISDN2:PSTN"). Ex. 2038. These data correspond with the example DPR in Fig. 5, which depicts column 532 for Mobile Directory Number prefixes (corresponding to Ex. 2038's "dialed pattern" column), and depicts a list of

preferred destinations in columns 534, 536, 538 (corresponding to Ex. 2038's "route" column). '414 Patent, Fig. 5, 9:15-37.

Thus, Dr. Pan's testimony establishes that the Node1 includes a DPR. Notably, Petitioners' withdrew their request to depose Dr. Pan (one day before his deposition) and, therefore, cannot now complain that they need more information about Ex. 2038.

Petitioners' argument that the description for the Node1 product "refers only to 2G/3G products" is incorrect. Reply, 25. The Node1 product shown in the documentation uses **4G** technology. Ex. 2037, 14, 22, 27-28, 35 (referring to 4G "LTE" users and technology); Ex. 2011, 1 (showing a "LTE/RAN" module). Petitioners ignore these disclosures and mistakenly refer to an earlier version ("Release 6.0") of the user guide found later in the omnibus document. Ex. 2037, 490. But even this older documentation shows that the Node1 product, in continuous versions 6.0 and 7.0 of the product, had CLR controlling logic that embodied the '414 Patent. *Compare* Ex. 2037, 52-53 (Section "3.7 CLR Overview") *with* 509 (Section "2.5.3 Community Location Register, CLR").

Therefore, Lemko's commercial Node1 product embodies and has a nexus to the inventions of the Challenged Claims.

B. Lemko's Claimed DMA Solution Resolved a Long-Felt Need For Low Cost Distributed Architecture

Lemko's Node1, embodying the Challenged Claims, solved the long-felt problem of providing a low-cost distributed architecture, capable of operating mobile networks in environments where the cost of conventional networks and backhaul was prohibitive. POR, 72-77.

Petitioners offer no evidence to support their claim that Waylett "mirrors" Lemko's invention. Reply, 26-27. Petitioners rely on the InterWave Products Overview page which references a "distributed architecture" and use of "software configuration." Reply, 26 (citing Ex. 1020, 1, 2). But, as discussed above, this overview does not show that the NIB had these characteristics (as opposed to the totality of InterWave's products, which include the conventional, hierarchical MSC (WAVExchange or WXC) and BSC (WAVEexpress BSC) products). See Ex. 1020, 1; Ex. 2012 (another InterWave webpage); Ex. 2014 (WXC datasheet).

Waylett's failure to provide a solution to the industry's need was demonstrated by the 2012 NFV Paper, discussed in detail in the POR. POR, 74-76; Ex. 2008, 3, 5 (listing cost, network service deployment, and integration and operation difficulty); Pan Decl., ¶¶23-24. In Reply, Petitioners do not dispute the significance of this whitepaper as showing the industry's long-felt need or the nexus of this whitepaper to the '414 Patent. Thus, the record establishes that Lemko's

patent-practicing Node1 products resolved the industry need for a low-cost distributed architecture, supporting non-obviousness.

**C. The Industry Praised Lemko’s Commercial Node1 Products,
Which Achieved Commercial Success**

The industry and Lemko’s customers, including AT&T, TelAlaska, K-Net, and others praised Lemko’s claimed DMA solution and commercial Node1 products, as discussed in the POR, further confirming the non-obviousness of Lemko’s Challenged Claims. POR, 77-80.

Petitioners’ arguments about “unclaimed products” and “unclaimed ‘unique differentiators’” are wrong on the law. Reply, 27. Petitioners appear to be invoking the holding in *Fox Factory, Inc. v. SRAM, LLC* about presumption of nexus between claims and secondary considerations when a commercial product contains “unclaimed features.” 944 F.3d 1366, 1374 (Fed. Cir. 2019). But Lemko did not rely on a presumption of nexus. POR, 68-72. Rather, Lemko demonstrated the requisite nexus “by showing that the evidence of secondary considerations is the ‘direct result of the unique characteristics of the claimed invention.’” *Fox Factory*, 944 F.3d at 1373-74; POR, 68. Thus, the commercial success and praise for the Node1 further demonstrates the non-obviousness of the Challenged Claims.

IV. CONCLUSION

For all of these reasons, the patentability of Claims 1-8, 11-16, and 21 should be confirmed.

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 5,599 words
in compliance with the 5,600-word limit set forth in 37 C.F.R. § 42.24(c)(4). This
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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.

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