

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

LENOVO (UNITED STATES) INC.
and MOTOROLA MOBILITY LLC,
Petitioners,

v.

HEADWATER RESEARCH LLC,
Patent Owner.

IPR2024-01180
Patent 9,198,076

PATENT OWNER'S PRELIMINARY RESPONSE

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	THE '076 PATENT	3
	A. Overview of the '076 Patent	3
	B. Challenged Claims	5
	C. Prosecution History	6
	D. Priority Date	8
III.	LEVEL OF ORDINARY SKILL IN THE ART	8
IV.	CLAIM CONSTRUCTION	9
V.	THE PETITION FAILS TO SHOW A REASONABLE LIKELIHOOD OF UNPATENTABILITY FOR ANY CHALLENGED CLAIM.....	10
	A. Rao's discarding of network packets does not disclose blocking Internet access requests as claimed.	12
	B. The Petition's assumption about Rao is also contradicted by the Board's findings in related IPRs.	16
	C. The Petition fails to articulate any theory other than Rao's discarding packets constituting "disallow[ing] [an] Internet access request."	20
	D. The Petition's deficiencies for claim 1 apply to all grounds and all challenged claims.	23
VI.	CONCLUSION	24

PATENT OWNER'S EXHIBIT LIST

Ex.	Description
2001	Decision Denying Institution in <i>Samsung Elec. Co., Ltd. v. Headwater Research LLC</i> , IPR2023-01361, Paper 8 (PTAB Mar. 29, 2024)
2002	Decision Denying Petitioner's Request on Rehearing in <i>Samsung Elec. Co., Ltd. v. Headwater Research LLC</i> , IPR2023-01361, Paper 10 (PTAB June 26, 2024)
2003	Decision Denying Institution in <i>Samsung Elec. Co., Ltd. v. Headwater Research LLC</i> , IPR2023-01362, Paper 8 (PTAB, Mar. 29, 2024)
2004	Decision Denying Petitioner's Request on Rehearing in <i>Samsung Elec. Co., Ltd. v. Headwater Research LLC</i> , IPR2023-01362, Paper 10 (PTAB June 26, 2024)

I. INTRODUCTION

All challenged claims of the '076 patent (Ex. 1001) require, *inter alia*, “one or more processors configured to . . . allow or disallow [an] Internet access request based on [a] classification as to whether [a] first end-user application is interacting with the user.” The Petition relies on an obviousness combination of Rao (Ex. 1005) and Araujo (Ex. 1006) as allegedly meeting this requirement. But the Petition fails to show a reasonable likelihood of unpatentability for this requirement.

A fundamental premise of the Petition’s theory is that Rao teaches blocking Internet access requests based on a classification of user interaction. It argues that Rao’s data prioritization policies already “specify that network packets from certain application should be allowed or blocked based . . . on whether the application is currently in the foreground or background.” Pet. 14 (arguing that Rao’s only shortcoming is that it “does not expressly disclose using a device’s power state in its policies to prioritize application network packets”); *see also id.* 36 (alleging that Rao teaches that its policies “specify whether an application is to be allowed or blocked based . . . on whether the application is currently in the device’s foreground”).

This premise—upon which the entire Petition relies—is wrong. There is no evidence or showing that Rao’s packet prioritization technique constitutes *blocking* an Internet access request, as the challenged claims require. Indeed, the Petition’s assumption about Rao is directly at odds with the Board’s decision denying

institution of related U.S. Patent No. 9,271,184. *See Samsung Electronics Co, Ltd. v. Headwater Research LLC*, IPR2023-01361, Decision Denying Institution, Paper No. 8 (PTAB Mar. 29, 2024) (“IPR2024-01361 Decision Denying Institution,” Ex. 2001). Specifically, the Board previously held that Rao does not disclose “blocking [i.e., disallowing] an Internet service access request,” because there is no evidence that “Rao’s network packets embody or otherwise include an Internet service access request.” IPR2024-01361 Decision Denying Institution at 7-9.

This finding is fatal to the Petition because it articulates no other theory. The Petition fails to argue or show that the combination of Rao and Araujo would somehow involve blocking “Internet access *requests*” based on user interaction status (rather than discarding *packets* as Rao is alleged to disclose). Tellingly, the Petition never sets forth any motivation to modify Rao that would meet blocking Internet access requests. *See generally* Pet. at 13-18 (Petition’s “Rationale to Combine” section, failing to identify any motivation to modify Rao to block/allow Internet access requests based on whether the application is classified as interacting with the user). The Petition’s failure to allege, much less explain, any such motivation is unsurprising. The Petition’s theory assumes that Rao *already discloses* this limitation, such that Petitioners felt no need to propose (or establish the obviousness of) any such modification or motivation.

Because the Petition fails to show that the prior art discloses disallowing Internet access requests based on user interaction status, and because it provides no motivation to modify the prior art to do so, institution should be denied.

II. THE '076 PATENT

A. Overview of the '076 Patent

The '076 patent (Ex. 1001) is entitled “Wireless end-user device with power-control-state-based wireless network access policy for background applications.” The '076 patent addresses technical problems relating to the network capacity crunch, wasteful signaling, and power consumption of wireless devices. *See, e.g.*, '076 patent at 3:28-4:21, 7:42-45, 8:15-40, 8:57-9:10. The patent describes technical solutions, such as using the mobile device to detect and block access for background activities for which limiting network access would have a negligible impact on the end user but a large benefit in reducing power consumption and network congestion.

In the '076 claims, for example, the mobile device uses *the power control state of the device* and *whether the application is interacting with the user in the user interface foreground* to block Internet access requests made by an application. *E.g., id.* at cl. 1. The '076 patent recognized the efficiencies of controlling access based on whether an application is interacting with the user in the “foreground” could be enhanced by managing access requests according to various power states of the device to reduce unnecessary consumption. *E.g., id.* at cl. 1; *id.* at 10:43-48

(“intelligent network monitoring” can include “managing network access connection requests resulting from repeated power down modes in the modem, which can cause resource intensive re-connection and/or re-authentication process”).

The '076 patent thus addresses problems associated with wireless devices and the networks to which they communicate by configuring each mobile device to determine whether an application is “interacting with the user in the device user interface foreground” (something impossible for the core network to determine) and to trigger the claimed functionality accordingly.

In some embodiments, “the network service usage control policy is dynamic based on one or more of the following . . . *a power state of device* . . . monitoring the power consumption behavior of the service activity, modem power cycling or *power control state changes*.” *Id.* at 84:35-53. And “[a]dvantageously, the differential network access control engine can restrict network access of a particular service usage activity when a condition is satisfied, such as when the service usage activity is a background activity.” *Id.* at 102:12-15. Moreover, “before a connection is allowed to be opened (e.g., before a socket is opened), transmission, or a flow/stream is initiated, *it is blocked*”—not delayed or queued. *Id.* at 91:41-49.¹

¹ All emphasis in quoted material added unless otherwise noted.

As explained by the '076 patent, the claimed invention allows the system to prevent particular applications from accessing network connections (and thus prevent them from consuming any network resources) when those applications are not interacting with the user in the foreground. The patent provides an example of blocking a network access request (e.g., a request to connect to the network such as by opening a socket), such that the application needs to submit its network access request later: “As yet another example, *before a connection is allowed to be opened* (e.g., before a socket is opened), transmission, or a flow/stream is initiated, *it is blocked* and a message is sent back to the application . . . *to try again later for the requested network access.*” *Id.* at 91:41-49

B. Challenged Claims

The Petition challenge all claims of the '076 patent, claims 1–16. Claim 1 is the only independent claim, and dependent claims 2–16 all depend directly from claim 1. Independent claim 1 recites:

Identifier ²	Claim Language
1[pre]	A wireless end-user device, comprising:
1[a]	a wireless wide area network (WWAN) modem to communicate data for Internet service activities between the device and at least

² For consistency and purposes of this POPR, Patent Owner adopts the identifiers and divisions of claim 1 set forth in the Petition. This is not an agreement that the Petition’s identifiers and divisions are correct. Nor does it imply that any claim limitation should be considered in isolation from other limitations.

Identifier ²	Claim Language
	one WWAN, when configured for and connected to the at least one WWAN; and
1[b]	one or more processors
1[c]	configured to, for a time when data communication for Internet service activities is provided by the WWAN modem and the at least one WWAN, classify whether a first end-user application associated with an Internet access request, and capable of both interacting with a user in a user interface foreground of the device, and at least some Internet service activities when not interacting with a user in the device user interface foreground, is interacting with the user in the device user interface foreground, and
1[d(1)]	allow or disallow the Internet access request based on the classification as to whether the first end-user application is interacting with the user and based on a power control state,
1[d(2)]	such that, when the power control state is a first power control state and the first end-user application is classified as not interacting with the user, the Internet access request is disallowed, and
1[d(3)]	when the power control state is at least one other power control state, the Internet access request is allowed.

C. Prosecution History

The claims of the '076 patent were allowed without a single Office Action rejection. *See generally* Ex. 1002 ('076 FH); Pet. at 3. The Examiner's reasons for allowance stated that for "None of the prior art" disclose the claimed combination in claim 1 as issued. Ex. 1002 at 786. The Examiner emphasized certain aspects of

claim 1 as missing from the prior art (whether alone or in combination with other prior art), including at least: “classify[ing] whether a first end-user application . . . is interacting with the user in the device user interface foreground, and allow or disallow the Internet access request based on the classification as to whether the first end-user application is interacting with the user”:

None of the prior art disclose a wireless end-user device, comprising: a WWAN modem to communicate data for Internet service activities between the device and at least one WWAN, when configured for and connected to the at least one WWAN; and one or more processors configured to, for a time when data communication for Internet service activities is provided by the WWAN modem and the at least one WWAN, *classify whether a first end-user application* associated with an Internet access request, and capable of both interacting with a user in a user interface foreground of the device, and at least some Internet service activities when not interacting with a user in the device user interface foreground, *is interacting with the user in the device user interface foreground*, and allow or disallow the Internet access request *based on the classification as to whether the first end-user application is interacting with the user* and based on a power control state, such that when the power control state is a first power control state *and the first end-user application is classified as not interacting with the user*, the Internet access request is disallowed, and when the power control state is at least one other power control state, the Internet access request is allowed.

Id. (highlighting added).

D. Priority Date

The '076 patent was filed on April 16, 2015, and claims priority to an earliest provisional application filed on January 28, 2009. '076 patent at (60). The Petition does not challenge this priority date for purposes of this IPR. Pet. at 5. Thus, the Board should treat this as the priority date for the institution decision.

III. LEVEL OF ORDINARY SKILL IN THE ART

The Petition proposes the following definition for a person or ordinary skill in the art ("POSITA") for the '076 patent:

"A POSITA would have (1) held at least a bachelor's degree in computer science, electrical engineering, or a related field, and (2) had three to five years of experience with networking, power consumption of networked computing devices, and/or wireless digital communications systems. More related education would compensate for fewer years of work experience (and vice versa)."

Pet. at 4 (citing Ex. 1003 at ¶¶ 24-26).

For purposes of this preliminary response, Patent Owner does not challenge the Petition's proposed definition. Patent Owner reserves the right to challenge the definition or propose an alternative definition if the Petition is instituted.

IV. CLAIM CONSTRUCTION

The Petition states that “Petitioners believe no terms need to be expressly construed, so at this time Petitioners identify no terms for construction.” Pet. at 4. Patent Owner notes that in the parallel district court litigation, the parties stipulated that the term “disallow[]” in claim 1 of the ’076 patent means “block”:

I. LIST OF PROPOSED CLAIM TERMS TO WHICH THE PARTIES ARE AGREED ON A CONSTRUCTION (PATENT L.R. 4-3(a))	
The parties have narrowed the list of terms with disputed constructions to those reflected below. The parties have agreed on the constructions provided in the chart below:	
U.S. Patent No. 9,198,076	
Claim Term	Parties’ Agreed Construction
“disallow[]” Claim 1, 5	“block”

Ex. 1023 (Joint Claim Construction and Prehearing Statement) at 5.

Patent Owner believes that this construction is correct and supported by the intrinsic evidence. Further, the same parties (Petitioners Lenovo/Motorola and Patent Owner Headwater) agreed to this construction under the same *Phillips* claim construction standard that applies for this IPR. Accordingly, it is appropriate for the Board to adopt this construction for purposes of the institution decision.

Patent Owner believes that “disallow[]” and “block” are synonymous in the context in the ’076 patent. The Petition likewise treats them as synonymous—it

never suggests that “disallow[]” has a different meaning from “block.” Thus, even if the Board declines to adopt an express construction, it will not affect the arguments in this POPR. Patent Owner’s arguments regarding the Petition’s theories and why they fail to show unpatentability would apply in the same way.

V. THE PETITION FAILS TO SHOW A REASONABLE LIKELIHOOD OF UNPATENTABILITY FOR ANY CHALLENGED CLAIM

All challenged claims of the ’076 patent require, *inter alia*, “one or more processors configured to . . . allow or disallow [an] Internet access request based on [a] classification as to whether [a] first end-user application is interacting with the user,” which claim element is part of the Petition’s claim limitation numbering of 1[d(1)]. *See* Pet. 25. For convenience, Patent Owner refers to this claim requirement as “*blocking Internet access requests based on user interaction status*” or simply “*blocking Internet access requests*.” The Petition relies on a combination of Rao with Araujo as allegedly rendering obvious this requirement. *Id.* at 25-30.

Despite asserting obviousness for the overall ground, the Petition’s theory is that Rao alone discloses blocking Internet access requests. Both the Petition’s “Rationale to Combine” section and its analysis for limitation 1[d(1)] assume that Rao *already* discloses blocking Internet access requests based on a classification as to user interaction. *See* Pet. at 14 (arguing that “Rao discloses prioritizing network packets from applications based on . . . ‘whether an application is running in the

foreground or the background.”) (quoting Ex. 1005, ¶ 182); *id.* at 26 (arguing that “allow[ing] or [disallow[ing] an application’s request for network access based [on] whether the application in the device’s foreground” is “taught by Rao”).

But this assumption is incorrect, because Rao (at most) discloses discarding *packets* based on interaction status. The Board previously considered this exact issue in IPR2024-01361 and held that Rao does **not** disclose blocking Internet access requests. IPR2024-01361 Decision Denying Institution (Ex. 2001) at 7-9. As discussed below, the Board made the same finding in three other decisions. *See* Exs. 2002-2003. These decisions and their detailed findings and reasoning are fatal to the Petition’s argument about Rao in this IPR.

No other theory about how Rao allegedly blocks Internet access requests (or how/why a POSITA would modify Rao to do) is presented in the Petition. For example, the Petition never specifies how the combined Rao-Araujo system would meet this requirement (other than allegedly through Rao’s functionality in discarding packets). Indeed, the Petition expressly states that any additions from Araujo would operate with Rao’s filter 22. *See* Pet. at 15 (proposing that “*Araujo’s* request deflector functionality would be implemented ***in connection with or as part of the filter 322*** of Rao’s remote access client”). Thus, any modification would likewise operate on Rao’s network packets and to filter such packets.

A. Rao’s discarding of network packets does not disclose blocking Internet access requests as claimed.

As noted above, claim 1 of the ’076 patent requires blocking Internet access requests. *See* claim limitation 1[d(1)] (reciting “one or more processors configured to . . . allow or disallow [an] Internet access request based on [a] classification as to whether [a] first end-user application is interacting with the user”).

The Petition’s only theory for how this requirement is satisfied is that Rao’s discarding of network packets recites the requirement of “disallow [an] Internet access request.” Specifically, the Petition asserts that, “*a POSITA would have been motivated to augment Rao’s policies to specify that **network packets from certain applications should be allowed or blocked based** not only on whether the application is currently in the foreground or background but also on the device’s power state.*” Pet. 14. But as shown below, the Petition’s theory in this regard fails to address Internet access requests at all, but instead only discusses transmission of network packets after an access request *has already been granted*.

The plain meaning of blocking an application’s Internet access request, requires blocking an application’s “request” to access the Internet, such as a request by the application to open a network connection or obtain an IP address. This is separate from discarding network packets associated with the application *after* the Internet access request has already been granted (and a corresponding network

connection has been opened). In addition, the Petition’s implied argument that a “network packet” is an “access request” is insufficient, because sending a network packet is not itself a “request” for Internet access. Although the Petition fails to address this fundamental distinction, it is readily apparent from the evidence accompanying the Petition, including the ’076 patent and Rao itself.

For example, the ’076 patent separately discusses “*network access requests (e.g., IP address requests)*” and “network capacity/resources usage (e.g., bandwidth usage)” such as transmitting packets. Ex. 1001 at 11:26-31. The ’076 patent provides a further example of blocking a network access request (i.e., a request to connect to the network such as by opening a socket), such that the application needs to submit its network access request later: “As yet another example, *before a connection is allowed to be opened* (e.g., before a socket is opened), transmission, or a flow/stream is initiated, *it is blocked* and a message is sent back to the application . . . *to try again later for the requested network access.*” *Id.* at 91:41-49.

Rao itself also makes clear that “network packets” are separate and distinct from Internet access “requests.” For instance, Rao clearly distinguishes between a *request* to open a connection and the network packets that are communicated as payloads over that connection (after the connection has opened as a result of the access request being granted):

The filter process intercepts the first and second packets from the application and forwards the intercepted packets to the tunnel process. *The tunnel process requests the opening of a TCP connection between the first device and a second device. The request to open the TCP connection indicates to the first and second device that the TCP connection will transport packets* intended to be transmitted with an unreliable transport protocol. *The tunnel process forwards the first and second packets as payloads in a first and second TCP packet* to the second device.

Ex. 1005 (Rao) ¶ [0030]; *see also id.* ¶ [0156] (describing FIG. 3B, in which step 365 will first “*establish a lossless protocol based connection, such as a TCP connection, by which lossless protocol packets are communicated*” before communicating the packets in step 390).

Moreover, Rao discloses intercepting network packets which include destination IP addresses and port numbers obtained over the Internet, meaning that Internet access was previously granted, and a connection opened, for the associated application. *Id.* ¶[0192] (“For example, intercepted network packets for an application communicating to a first destination IP address and a first destination port may be placed in a first queue 540a.”), *id.* ¶[0187] (disclosing the comparison of “destination IP addresses and ports numbers with the IP addresses and ports numbers of the network packet” to identify that a “network packet is associated with an application 338-338n”).

Indeed, discarding of network packets in Rao requires that the application's access request was already granted. This is confirmed by Rao, which teaches that transmission of (or conversely, discarding) a network packet necessarily occurs *after* the Internet service access request (e.g., opening a connection) has already been granted. See Ex. 1005 ¶[0030] (“*The tunnel process requests the opening of a TCP connection between the first device and a second device. The request to open the TCP connection indicates to the first and second device that the TCP connection will transport packets . . .*.”); see also *id.* ¶[0050] (describing “establishing the session” separately from “communicating . . . real-time data via the session”); *id.* ¶[0156] (describing FIG. 3B, in which step 365 will first “*establish a lossless protocol based connection, such as a TCP connection, by which lossless protocol packets are communicated*” before communicating the packets in step 390); *id.* ¶[00159] (describing “a traditional TLS session where *the session is first negotiated and the same socket is used for data communication*”). Accordingly, Rao's discarding of network packets does not constitute blocking any Internet service access request, and the fact that network packets were even generated in the first place shows that any access request was previously *granted*.

Accordingly, both the '076 patent and Rao make clear that *transmitting* individual network packets is distinct from *granting an Internet access request*. Thus, selectively *discarding* (and thus *not* transmitting) a network packet is likewise

distinct from “*disallow[ing] [an] Internet access request*” so that the requested Internet access is denied to the requesting application.

B. The Petition’s assumption about Rao is also contradicted by the Board’s findings in related IPRs.

The Board, considering the common specification of the related U.S. Patent No. 9,271,184, has already considered this issue and agreed that Rao’s discarding of network packets does not satisfy the claimed disallowance of Internet access requests. *See* IPR2023-01361 Decision Denying Institution at 7-8. Indeed, the claim limitation in the ’184 patent the Board addressed is equivalent to the limitation in the ’076 at issue in this IPR:

’184 Patent Claim 1	’076 Patent Claim 1
“one or more processors operable to . . . [when an] application is not classified as interacting with a user in the device user interface foreground, <i>block the Internet service access request</i> ”	“one or more processors configured to . . . <i>allow or disallow [an] Internet access request</i> based on [a] classification as to whether [a] first end-user application is interacting with the user”

See id. at 4, 6. As discussed in the claim construction section above, the parties stipulated in the related district court litigation that the term “disallow” in claim 1 of the ’076 patent means “block.”

As the Board correctly held in IPR2023-01361:

The ’[076] patent states that its system can “classify[] and/or control *network access requests* (e.g., IP address requests.” Ex. 1001, [11:26-

31] (emphasis added). In particular, the '[076] patent describes an example where “before a connection is allowed to be opened . . . it is blocked and a message is sent back to the application . . . that the *network access attempt* was not allowed/blocked.” *Id.* at 91:41–49 (emphasis added). In contrast, the '[076] patent explains that its system also can “classify[] and/or control[] . . . network capacity/resources usage (e.g., bandwidth usage).” *Id.* at [11:26–31]. For example, a “socket can be allowed to open but after some point in time (e.g., based on network service usage . . .), the stream is blocked or the socket is terminated.” *Id.* at 91:49–54. In other words, the '[076] patent distinguishes between 1) blocking an Internet service access request before a connection is open; and 2) blocking a network stream after a connection is open. *Id.* at [11:26–31], 91:41–54.

...

Petitioner identifies portions of Rao that teach discarding network packets. As discussed above, though, the '[076] patent distinguishes between an Internet service access request and a network stream. Petitioner asserts that Rao's network packets “embod[y]” an Internet service access request, and thus discarding the network packets also discards the “corresponding” Internet service access request. But Petitioner does not identify sufficient evidence to support that assertion. The portions of Rao cited by Petitioner do not state that Rao's network packets embody or otherwise include an Internet service access request. [Footnote 1] *See* . . . Ex. 1005 ¶¶ 104, 191, 194, 207. And Petitioner does not explain specifically why a person of ordinary skill in the art

would have known or found it obvious that Rao's network packets embody or otherwise include an Internet service access request.

[Footnote 1: In fact, as Patent Owner points out, Rao states that its network packets include a destination IP address, which indicates that the corresponding IP address request already was allowed . . . Ex. 1005, ¶192.]

IPR2023-01361, Decision Denying Institution at 7-9 (internal citations to the -01361 Petition omitted, citations updated to update citation of '184 patent at 11:27-32 to the identical language at '076 patent, 11:26-31).

The Board should similarly find that Rao's discarding of network packets does not constitute blocking or disallowing an Internet access request. As shown in the excerpt above, the Board in IPR2023-01361 addressed arguments raised by the petitioner there as to *why* a packet supposedly "embod[y]" an Internet service access request. IPR2023-01361, Decision Denying Institution at 8-9. The Board issued the same findings and reasoning in denying institution of a second IPR on the '184 patent. *See* IPR2023-01362, Decision Denying Institution (Ex. 2003) at 7–9.

Moreover, in both IPRs (IPR2023-01361 and -1362), the Petitioner sought rehearing of the Board's decisions denying institution. And in both, the Board issued detailed 10-page decisions denying the requests for rehearing. *See* IPR2023-01361, Paper 10 (Ex. 2002); IPR2023-01362, Paper 10 (Ex. 2003). Those decisions

reaffirmed the findings and reasoning in the -1361 Decision Denying Institution above. Thus, at this point, the Board has issued *four* decisions finding (and explaining why) Rao's discarding of network packets do not constitute blocking or disallowing an Internet access request.

In this IPR on the '076 patent, the Petition presents no evidence or argument that would suggest a different result should be reached from IPR2023-01361 or the prior decisions. Indeed, the instant Petition is even *more* sparse than the petitions in IPR2023-01361 or -1362, providing no reason whatsoever for its assumption that Rao's alleged discarding of network packets based on an application's foreground/background status constitutes "allow[ing] or disallow[ing] [an] Internet access request based on [a] classification as to whether [a] first end-user application is interacting with the user" as recited by limitation 1[d(1)].

Therefore, on the record of this IPR, there is simply no basis to find that Rao discloses blocking Internet access requests. Such a finding would be contrary to: (a) Rao itself, (b) the arguments and evidence discussed above, and (c) the Board's findings and reasoning in four prior decisions.

Accordingly, the Petition's theory based on Rao's discarding of packets should be rejected, and institution should be denied for this reason alone. This would ensure consistency with the Board's prior decisions. At minimum, the decisions (and

their detailed findings and reasoning) are highly relevant and compelling authority about Rao's disclosures and what they fail to teach.

C. The Petition fails to articulate any theory *other than Rao* discarding packets constituting “disallow[ing] [an] Internet access request.”

As discussed, the Petition's obviousness theory incorrectly assumes that Rao's disclosure of discarding packets, allegedly based on user interaction status, constitutes “disallow[ing] [an] Internet access request based on [a] classification as to whether the first end-user application is interacting with the user.” The Petition's mapping in limitation 1[d(1)] states this requirement is satisfied because it is “taught by Rao” (Pet. 26), confirming that it is Rao's alleged disclosure of discarding packets that the Petition contends satisfies the blocking Internet access requests requirement. *See* Pet 14 (alleging that “a POSITA would have been motivated to augment Rao's policies to specify that *network packets from certain applications should be allowed or blocked based not only on whether the application is currently in the foreground or background* but also on the device's power state”).

Indeed, although the Petition asserts that the combination of Rao and Araujo renders obvious limitation 1[d(1)], it relies on Araujo only to meet the last portion of the limitation that recites “. . . based on a power control state.” The Petition's theory is that Rao's filter functionality would be modified to additionally filter packets based on considerations of a power control state (which is undisputably

missing from Rao). This is apparent from the Petition’s “Rationale to Combine” section. It expressly states that any additions from Araujo would operate with Rao’s filter 22. *See* Pet. at 15 (proposing that “*Araujo’s* request deflector functionality would be implemented *in connection with or as part of the filter 322* of Rao’s remote access client”). Thus, any modification would likewise operate on Rao’s network packets and to filter such packets. Even in the purported combination, no functionality for selectively blocking access requests other than through Rao’s filtering functionality is discussed.

Assuming counterfactually that some other theory was presented (and it was *not*), it would immediately fail. This is because the Petition has not set forth any motivation to modify Rao in any such hypothetical manner. *See generally* Pet. 13-18 (Petition’s “Rationale to Combine” section, failing to identify any motivation to modify Rao to block/allow Internet access requests based on whether the application is classified as interacting with the user). And in the Petition’s analysis of limitation 1[d(1)] itself, the Petition sets forth no motivation to deviate from Rao’s teachings that *network packets* (not Internet access requests) would be disallowed on the basis of an application’s interaction with a user. *See* Pet. 25-30.

As to the alleged motivations the Petition does mention, none touch on that point. For example, the Petition asserts that: “It was known in the art that permitting network access by applications in the foreground—and thus, ‘currently in active use

by the user’ (Rao, [0003])—was desirable as doing so would reduce perceived latency.” Pet. 29 (citing Ex. 1003, ¶85). But this relates only to “permitting network access by applications in the foreground,” and does not provide any motivation for network access by applications in the background to be disallowed (or even explain how that unspecified modification would be accomplished).

Furthermore, the expert testimony on which the Petition relies in support of this assertion is supported only by citations from Oestvall (Ex. 1009), Wyld (Ex. 1011), and Senior (Ex. 1018). But none of the cited portions of those references disclose (or are even alleged to disclose) disallowing Internet access requests on the basis of user interaction status. *See* Ex. 1003 ¶85; Ex. 1009, [0021] (discussing allowing applications to run at certain times, but not discussing disallowing any submitted network access requests) Ex. 1011 at 1:66-2:2 (discussing giving foreground applications higher execution priority than background applications); Ex. 1018 at 8:33-34, 14:64-65 (ambiguously stating that foreground application requirements may be given higher priority, or be “preferenc[ed]” relative to, requirements of background applications).

The Petition and corresponding expert declaration do not even attempt to explain how any of these references disclose the claim requirements. And even if these references *did* somehow disclose disallowing Internet access requests based on user interaction, the Petition provides no motivation to modify *Rao* to do so (as

opposed to what Rao already teaches, which is discarding individual network packets after an Internet access request has already been granted).

The fact that the Petition does not allege any such motivation is unsurprising, the Petition's theory assumes that Rao *already discloses* the claim requirement, such that Petitioners apparently felt no need to propose (or establish the obviousness of) any modification to Rao in a way that would constitute blocking Internet access requests based on user interaction status.

Accordingly, the Petition does not articulate any theory other than Rao's discarding of packets, which the Board already found is *not* blocking Internet access requests. Even assuming counterfactually that some other (unspecified) theory is preserved, it is entirely undeveloped and insufficient. It cannot meet Petitioners' burden to show a reasonable likelihood of unpatentability.

D. The Petition's deficiencies for claim 1 apply to all grounds and all challenged claims.

As discussed above, the Petition fails to show that Rao, either alone or in combination with Araujo, renders obvious claim 1 of the '076 patent. The same deficiencies apply to all grounds and all challenged claims.

Claim 1 is the only independent claim, and claims 2–16 are dependent claims that depend from claim 1. The Petition's theories for the dependent claims rely only on its theories for independent claim 1 to allege that the elements of claim 1 are met

and contain no additional theories for claim 1. Accordingly, the Petition fails to show that any dependent claim is unpatentable (under any ground) for the same reasons that it fails to show that claim 1 is unpatentable.

VI. CONCLUSION

Because the Petition fails to show a reasonable likelihood of unpatentability for the challenged claims of the '076 patent, institution should be denied.

Date: December 10, 2024

Respectfully submitted,

/ Reza Mirzaie /

Reza Mirzaie, Reg. No. 69,138

Marc A. Fenster, *pro hac vice* forthcoming

Dale Chang, Reg. No. 61,476

Amy E. Hayden, Reg. No. 64,817

Neil A. Rubin, Reg. No. 67,030

Philip X. Wang, Reg. No. 74,621

James A. Milkey, Reg. No. 79,503

RUSS, AUGUST & KABAT

12424 Wilshire Blvd., 12th Floor

Los Angeles, CA 90025

Counsel for Patent Owner

CERTIFICATION REGARDING WORD COUNT

Pursuant to 37 C.F.R. §42.24(d), Patent Owner certifies that there are 5,147 words in the paper excluding the portions exempted under 37 C.F.R. §42.24(a)(1).

Date: December 10, 2024

/ Reza Mirzaie /
Reza Mirzaie, Reg. No. 69,138
RUSS, AUGUST & KABAT
12424 Wilshire Blvd., 12th Floor
Los Angeles, CA 90025

Counsel for Patent Owner

CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. § 42.6(e)(1), I certify that the above document was served on December 10, 2024, by filing this document through the Patent Trial and Appeal Case Tracking System as well as delivering a copy via e-mail upon the following attorneys of record for the Petitioner:

Lead Counsel	Backup Counsel
Joshua L. Goldberg Reg. No. 59,369 joshua.goldberg@finnegan.com Finnegan, Henderson, Farabow, Garrett & Dunner, LLP 901 New York Avenue, NW Washington, DC 20001-4413 Tel: 202-408-6092 Fax: 202-408-4400	Benjamin A. Saidman Reg. No. 69,325 benjamin.saidman@finnegan.com Finnegan, Henderson, Farabow, Garrett & Dunner, LLP 271 17th Street, NW, Suite 1400 Atlanta, GA 30363-6209 Tel: 404-653-6510 Fax: 404-653-6444 Daniel C. Cooley (Reg. No. 59,639) daniel.cooley@finnegan.com Finnegan, Henderson, Farabow, Garrett & Dunner, LLP 1875 Explorer Street Suite 800 Reston, VA 20190-6023 Tel: 571-203-2700 Fax: 202-408-4400 Grace K. Mills (Reg. No. 66,946) gracie.mills@finnegan.com Finnegan, Henderson, Farabow, Garrett & Dunner, LLP 901 New York Avenue, NW Washington, DC 20001-4413 Tel: 202-408-4000 Fax: 202-408-4400

Date: December 10, 2024

/ Reza Mirzaie /

Reza Mirzaie, Reg. No. 69,138
RUSS, AUGUST & KABAT
12424 Wilshire Blvd., 12th Floor
Los Angeles, CA 90025

Counsel for Patent Owner