

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD.,
Petitioner,

v.

HEADWATER RESEARCH LLC,
Patent Owner.

IPR2023-01336
Patent 9,137,701

PATENT OWNER'S PRELIMINARY RESPONSE

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PATENT OWNER'S EXHIBIT LIST

No.	Description
Ex. 2001	International Publication No. WO 2006/012610 to Rao et al. ("Rao-2")
Ex. 2002	Redline of the text of Rao (Ex. 1007) and Rao-2 (Ex. 2003)
Ex. 2003	U.S. Patent No. 8,825,109 to Montemurro et al. ("Montemurro Patent")
Ex. 2004	Redline of the text of Montemurro (Ex. 1009) and the Montemurro Patent (Ex. 2005)
Ex. 2005	U.S. Patent Application Publication No. 2007/0073899 to Judge et al. ("Judge")
Ex. 2006	U.S. Patent Application Publication No. 2004/0133668 to Nicholas ("Nicholas")
Ex. 2007	Your Cell Phone Company's Dirty Little Secret (Feb. 10, 2010) (<i>available at</i> https://money.cnn.com/2010/02/10/technology/cell_phone_bill/index.htm)

I. INTRODUCTION

The Board should deny institution of *inter partes* review (“IPR”) of U.S. Patent No. 9,137,701 (“the ’701 Patent”) for two independent reasons.

First, the Petition should be denied on the merits. The sole reference that the Petition alleges to include a “differential traffic control policy” (Rao) does not block access by any application to the modem while data is being communicated through the modem based on determining that the application is operating in the background, as all challenged claims require. Instead, the Petition relies on Rao’s discarding of individual network packets as being the “differential traffic control policy,” but any discarding is based on aspects *other than* application background status. Furthermore, even assuming counterfactually that certain individual packets are discarded based on an application’s background status, Rao does not disclose or render obvious that the application’s access to the modem would be blocked based on the application’s background status as required by all challenged claims. To the contrary, Rao teaches that the applications will *maintain* access to the modem even in instances where packets are discarded. Thus, the Petition does not establish obviousness of any challenged claim.

Second, the Board should exercise its discretion and deny institution under 35 U.S.C. § 325(d) because the USPTO has already considered the same or

substantially the same prior art as that presented in the Petition, and the Petition has failed to show that the Examiner materially erred during prosecution.

Ground 1A, the only ground challenging the sole independent claim of the '701 Patent, relies on only the Rao and Oestvall references. As the Petition admits, a family member with nearly identical disclosures as Rao was before the Examiner during original prosecution. And the disclosures from Oestvall on which the Petition relies are substantially the same as disclosures from Rao or as disclosures from references that the Examiner considered to be "closest prior art" during prosecution.

And the Petition's reliance on two secondary references for certain aspects of the dependent claims does not justify institution of review. The only two other grounds in the Petition (Grounds 1B and 1C) both rely on the Rao-Oestvall combination to meet the elements of the sole independent claim, and thus are cumulative for the same reasons. And in any event, the disclosure of one of the secondary references (Montemurro) was also before the Examiner during prosecution.

The Board should deny institution of the Petition.

II. OVERVIEW OF THE '701 PATENT

At a high level, the '701 Patent is generally directed to using a differential traffic control policy to selectively block access by an application to a WWAN modem while data is being communicated via the modem, based on a determination

that that application is running in a background state, and using the differential traffic control policy to selectively allow access by the application to the modem based on a determination that the application is running in a foreground state.

More specifically, the only independent claim (Claim 1) recites:

[1pre] A wireless end-user device, comprising:

[1a] a wireless wide area network (WWAN) modem to communicate data for Internet service activities between the device and at least one WWAN, when configured for and connected to the WWAN;

[1b] a wireless local area network (WLAN) modem to communicate data for Internet service activities between the device and at least one WLAN, when configured for and connected to the WLAN;

[1c] one or more processors configured to

[1d] determine, for a first end-user application capable of running in a background state and capable of running as a foreground application, whether the application is running in a background state or as a foreground application, and

[1e] control, via an application program interface (API), application access for Internet service activities provided through the WWAN modem and the WLAN modem, to, **based on a first differential traffic control policy, selectively block and allow access by the first end user application to the WWAN modem at a time when data for Internet**

service activities is communicated through a WWAN modem connection to the at least one WWAN,

[1f], [1g] *wherein the access is selectively blocked based on a determination that the first end-user application is running in a background state, and wherein the access is selectively allowed based on a determination that the first end-user application is running as a foreground application.*

Ex. 1001 (“’701 Patent”), Claim 1.¹

As explained by the ’701 Patent, this solution allows the system to prevent particular applications from accessing the modem (and thus prevent them from consuming any network resources) while running in the background:

Advantageously, 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.

...

In an illustrative example, the device 2700 blocks chatter for an application running in the background that is attempting to report device or user behavior. The application traffic prioritization engine 2710 determines that the chatter has **zero priority, such that the network service consuming application 2702 is prevented from**

¹ All emphases added unless otherwise specified.

consuming any resources. The user can be sent a notification by the application traffic override engine 2718 that **their control policy prohibits the application from consuming network resources**, but that the user can opt to deviate from the control policy if they are willing to pay for the consumed resources. If the user is willing to pay for the resources, traffic can be sent at a certain rate from the application traffic cache 2716 through the network interface 2720, or perhaps sent without using the application traffic cache 2716.

'701 Patent at 102:12-37. Accordingly, the invention of the '701 Patent allows the system to not merely decrease the priority of network traffic sent by an application running in the background, but to prevent all access of that application to the modem. Preventing applications running in the background from consuming *any* network resources is especially important in the context of WWAN modems, because as the '701 Patent recognizes, "network resources" over WWAN connections typically incur a cost that the user may be charged for. *See generally* Ex. 2007 at 1 (February 10, 2010 article describing "two data plans" offered near the priority date of the '701 Patent: "\$10 for up to 25 megabytes or \$20 for up to 75 megabytes"). As such, the '701 Patent allows a network traffic control policy to prevent particular applications that are running in a background state from consuming *any* of these valuable network resources unless, for example, "the user is willing to pay for the resources." '701 Patent at 102:23-37.

III. LEVEL OF ORDINARY SKILL IN THE ART

The Petition proposes that a POSITA in the field of the '701 Patent “would have had (1) at least a bachelor’s degree in computer science, computer engineering, electrical engineering, or a related field, and (2) three to five years of experience with networking, power consumption of networked computing devices, and/or wireless digital communications systems. Additional graduate education could substitute for professional experience, and *vice versa*.” Ex. 1003 ¶18; *see* Pet. at 12 n.2 (citing Ex. 1003 ¶¶17-18). For purposes of this preliminary response, Patent Owner does not challenge that definition.

IV. CLAIM CONSTRUCTION

The Petition states that “no formal claim constructions are necessary.” Pet. at 2. For purposes of this preliminary response only, Patent Owner agrees that no formal claim construction is necessary.

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

Claim 1 (from which all challenged claims depend) recites, in part, “one or more processors configured to... control... application access for Internet service activities provided through the WWAN modem and the WLAN modem, to, based on a first differential traffic control policy, selectively block and allow access by the first end user application to the WWAN modem ..., wherein the access is selectively blocked based on a determination that the first end-user application is running in a

background state.” These limitations are recited in claim limitations [1c], [1e], and [1f] of the ’701 patent, and relate to applying a first differential traffic control policy to selectively block and allow access by a first application based on determining that the application is running in the background.

As described below, the Petition fails to show that its proposed combination of references discloses or renders obvious these claim requirements.

A. The Petition relies solely on Rao for controlling application access for Internet service activities “based on a first differential traffic control policy,” as required by claim limitation [1e].

The Petition relies solely on Rao for the limitation [1e]’s requirement of “control[ling]... application access for Internet service activities provided through the WWAN modem and the WLAN modem” “based on a first differential traffic control policy.” Pet. 21-22, 25-26. Importantly, the Petition does not allege that Oestvall’s prevention of untrusted background applications from running is the result of a “first differential traffic control policy.” *See* Pet. 25-26 (discussing only Rao in attempting to satisfy the requirement that access is controlled “based on a first differential traffic control policy”).

Nor would Oestvall’s prevention of applications from running meet the Petition’s implicit construction of “differential traffic control policy” because Oestvall does not “offer different controls for different network traffic (network packets).” *See* Pet. 26. Indeed, Oestvall does not apply controls to network packets

at all; rather, it prevents untrusted background applications from running in their entirety, such that the applications are shut off from *any* system services or resources. *See* Ex. 1006 (“Oestvall”) at Abstract (discussing “a control signal... that in effect prevents the untrusted application from running, e.g., being given any services or consuming any resources”); *id.* at ¶[0021] (“With the present invention, when an untrusted application is running on the battery operated device and another application should be in the foreground, the untrusted application is placed into the background *and is also actively prevented from running.*”); *id.* at ¶[0014] (explaining that untrusted background applications “*need to be actively prevented from running*”).

Thus, for the Petition to establish that its proposed combination of references satisfies the requirement of selectively blocking access by an application to the modem based on a differential traffic control policy and based on a determination that the application is running in a background state, the Petition must show that Rao’s alleged “differential traffic control policy” of “prioritiz[ing], queue[ing], and discard[ing] network packets” performs that task. Pet. 26.

Rao fails to teach or suggest the claim requirements, because as explained below, Rao does not disclose discarding packets based on an application’s background status while data is communicated over the modem. And in any event, discarding individual packets does not constitute blocking “access by the first end

user application to the WWAN modem” because Rao makes clear that applications retain access to the modem (and thus continue to consume network resources) even if some portion of their packets is discarded.

B. Rao’s discarding of packets is not “selectively block[ing]... access by the first end user application to the WWAN modem... wherein the access is selectively blocked based on a determination that the first end-user application is running in a background state.”

The Petition acknowledges that “block[ing]... access by the first end user application to the WWAN modem” requires blocking an application’s access to the WWAN modem. *See* Pet. 29 (alleging: “A POSITA would have understood and found obvious that, in Rao, the network packets generated by an application can be dropped or discarded before reaching Rao’s network interface 118 (‘WWAN modem’), *which means that the application’s access to the network interface 118* (‘access by the first end-user application to the WWAN modem’) *is blocked.*”). This understanding, in which the first end user application must be blocked from accessing the WWAN modem, is consistent with the specification of the ’701 Patent, which teaches “block[ing]” access as distinct from less drastic remedies that apply to individual network packets, such as delaying traffic by putting that traffic into lower-priority queues. ’701 Patent, 13:20-25, 55:58-62, 92:9-19. For example, the ’701 Patent describes “allow/block” as a separate operation from “queue[ing]” or “defer[ring]” (*id.* 92:9-19) and clarifies that “blocking” access applies to an entire network connection rather than individual network packets, for example, *after* a

connection is opened. *Id.* (“[B]efore a connection is allowed to be opened (e.g., before a socket is opened), transmission, or a flow/stream is initiated, it is blocked.”); *see also id.*, 102:23-46 (teaching that an advantage of “***block[ing]***” the application is that “the network service consuming application is ***prevented from consuming any [network] resources***” so that costly network resources are not used when the user does not want them to be).

The Petition’s theory as to how an “application’s access to the network interface 118... is blocked” is based on “network packets generated by an application [being] dropped or discarded before reaching Rao’s network interface 118.” Pet. 29. Rao limits its discussion to discarding individual network packets in scenarios where (1) a network disruption or congestion occurs; or (2) network disruption/congestion is ***not*** occurring, and a packet is classified as “unwanted.” As explained in further detail below, none of these scenarios satisfies the claim requirements, and the Petition does not provide any motivation to implement a combination based on Rao in a manner that would meet the claim requirements.

1. Rao’s discarding of certain packets during network disruption or congestion does not meet the claim requirements—as the Petition acknowledges.

Turning to the first of these scenarios, Rao teaches that certain packets can be discarded during a network disruption. *See* Ex. 1005 (“Rao”) ¶[0207]. But discarding packets during a network disruption does not constitute controlling application

access “at a time when data for Internet service activities is communicated through a WWAN modem” as required by claim limitation [1e], because Rao teaches that in cases of network disruption, the lower network layers responsible for communicating data across the network connection are disestablished such that no data is communicated via the modem. *See* Rao at ¶[0053] (teaching that the “first portion of the network stack comprises one or more layers of the network stack below the layer of the first protocol,” and that “a disruption in the network connection caus[es] the first portion of the network stack to be disestablished”); *id.* at FIG. 6B (teaching that “discarding communications” at step 670 only occurs between (1) a detected disruption at step 660, and (2) re-establishing the first portion of the network stack at step 675 and communicating network packets at step 680). Indeed, the Petition acknowledges that this instance of discarding packets would not meet the claim requirements, as the Petition concedes these teachings are “set forth in the context of ‘a network disruption shielding technique,’” and alleges only that “a POSITA would have found it obvious to **also** use policies 520 to discard low priority packets where the network is **not** disrupted.” Pet. 28.²

² As explained below in Section V.C, the Petition fails to motivate this proposed modification to Rao.

Another instance where Rao teaches discarding packets is where certain network packets may not be communicated due to “network[] factors, such as congestion, even though the network packets may have a higher priority than other network packets in a queue.” Rao ¶[0195]. The Petition does not rely on this teaching of Rao in its discussion of the “selectively block[ing] access” limitation (*see* Pet. 26-30), and for good reason. Specifically, the Petition alleges that an application running in the background results in *low* queue priority in Rao, yet this portion of Rao teaches discarding “*higher priority*” packets, such that those packets would *not* be discarded based on recognizing that the issuing application was running in the background as would be required for this discarding of packets to (even arguably) satisfy the claim language.

2. Rao’s discarding of certain “unwanted” patents is not based on whether the application is running in the background.

Turning to the scenario where the network is *not* disrupted or congested, Rao provides only the following disclosure:

The filter 322 may use a filter table for filtering packets. The filtering table is used to determine what action to take against packets, such as packets intercepted by the packet capture mechanism 365. *The filter 322 can inspect the contents of the packets, such as routing information, to determine the action to take based on the filtering table.* In some embodiments, the *filter 322 may drop or accept the network packets depending on their content.* In other embodiments,

the filter 322 may route the network packets to the agent 326 based on the packets content and/or the filtering table. *The filter table may also be used to ensure that unwanted packets are discarded.* The filter 322 may be used to *deny access to particular protocols or to prevent unauthorized access from remote computers by discarding packets to specified destination addresses.*

Rao, ¶[0102]. Thus, Rao’s disclosure of discarding “unwanted” packets teaches three categories of information on which a decision is made that a packet should be discarded—the “content” of the packet, the packet’s “protocols,” and the packet’s “destination address[.]” *Id.* None of these are based in any part on whether an application is running in the background (as Claim 1 requires).

First, Rao teaches that packets may be discarded “depending on their content” (e.g., “routing information”). *Id.* But there is no teaching in Rao or allegation by the Petition that the “content” of a packet would indicate whether the packet was issued by an application running in the background. Indeed, an application may transmit a packet having a given content (e.g., routing information) while running in the foreground; but the application would transmit a packet having *identical* content (e.g., routing information) while running in the background. Because the foreground or background status of an application in Rao does not affect the content of packets issued by that application, discarding packets in this scenario could not constitute

selectively blocking application access to the modem “based on a determination that [the] application is running in a background state.”

Rao also teaches that packets may be deemed “unwanted” and thus be discarded if they are using “particular protocols” and packets directed to “specified destination addresses.” *Id.* But again, neither what protocol is used for communication nor the destination address of a given packet depends on (or is even alleged to depend on) whether the application that issued the packet was running in the background or foreground. For instance, applications can use the same protocols and destination addresses when running in either the foreground or the background. Accordingly, discarding packets based on a specified protocol or destination address does not constitute selectively blocking application access to the modem “based on a determination that [the] application is running in a background state.”

More generally, there is no allegation or disclosure that packets would be considered “unwanted packets” based on a determination that the issuing application was running in the background. While Rao *is* alleged to teach that packets generated by background applications may be given lower priority than packets generated by foreground applications (*see* Rao ¶¶[0046], [0189]), this is in the context of assigning foreground packets a higher queuing priority than background packets. Rao never suggests **discarding** packets of an application based on a determination that the application is running in the background. Indeed, Rao is explicit that “one

ordinarily skilled in the art will recognize and appreciate that the remote access client of the present invention *will communicate the network packets from the queues* in a manner according to or consistent with the determined priorities” (Rao ¶[0194]), and Rao never suggests that its system is configured to *discard* low-priority packets when there is no network disruption.

3. The Petition’s assertion that Rao’s filter “can be used to” discard low-priority packets is contrary to Rao’s queueing system.

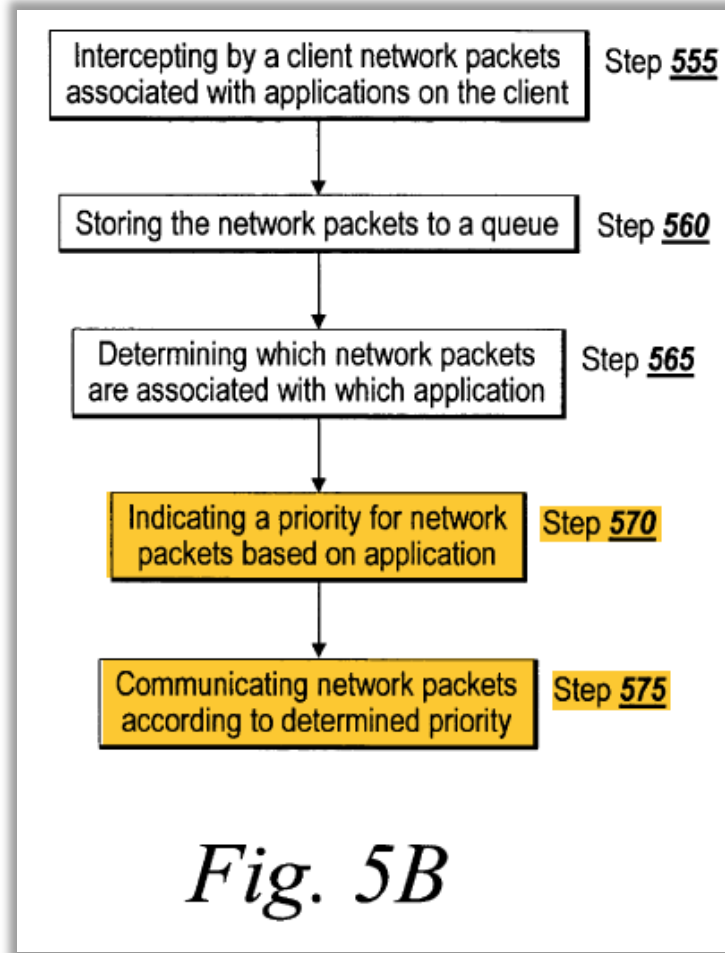
The Petition appears to recognize that Rao does not teach or suggest discarding packets on the basis of an application’s background status, and thus alleges that Rao’s filter “can be used to ‘*discard[] packets’ having the lowest priority* (e.g., ‘unwanted packets’) such that the packets are not transmitted to the network.” Pet. 29 (citing Ex. 1003, which contains the same verbatim assertion).

But notably, although Rao is alleged to teach that an application’s background status may reduce its priority (such that packets from background applications may be sent, for example, after packets from foreground applications), Rao does *not* teach that an application’s background status would result in what the Petition calls “deprioritizing those... packets *entirely*” “such that the packets are [*never*] transmitted to the network.” Pet. 28-29.

Indeed, Rao discusses filtering out “unwanted packets,” which are discarded entirely, as a mechanism wholly distinct from assigning packets a priority for

eventual communication. *Compare* Rao ¶[0102] (discussing packets being “unwanted” by virtue of the “protocols” they use or their “destination addresses”) *with* Rao ¶[0184] (“[T]he **outbound network packets** generated by an application 338a-338n on the client 105 **are prioritized** by the client 105 **prior to transmission** based on the type and/or priority of the application 338a-338n.”) *and* Rao ¶[0194] (“[T]he network packets are organized into priority queues 540a-540[n] so that the network packets of the highest priority queue 540a-540n are communicated first, and then the next highest priority queue 540a-540n second, and so on.... Regardless of the queue 540a-540n organization and management, one ordinarily skilled in the art will recognize and appreciate that the remote access client of the present invention **will communicate the network packets** from the queues....”).

For instance, as shown in Rao’s FIG. 5B (reproduced below), after packets are assigned a priority “based on application” in step 570, those network packets are then communicated over the network in step 575:



Rao, FIG. 5B (annotated). Rao’s claims also make clear that even when a packet may have lower priority than other packets, that lower-priority packet is nevertheless eventually communicated via the modem. *See* Rao at Claim 4 (only preventing a lower-priority packet from being communicated “*ahead of*” higher priority packets); *id.* Claim 5 (discussing “holding” a deprioritized network packet, and then “releasing” that hold “upon communication” of certain higher priority packets). This is further confirmed because Rao teaches assignment of priority involves at least *some* (non-zero) level of priority, contrary to the teachings of the ’701 Patent which

disclose that a “priority level 0” can be assigned to “block[]” modem access as opposed to non-zero priority levels which “provide” modem access. *See* Rao, ¶[0180] (referring to “levels of priority, such as high, medium, low, or numerically such as priority 1 . . . 10”) (ellipses in original); ’701 Patent at 75:66-76:7 (disclosing that “a priority level 0 can provide a blocked network access, while priority levels between 1 through 9 can provide relatively increasing prioritized network access”).

In sum, although the Petition purports to rely on Rao’s discussion of analyzing packets and discarding them as “unwanted packets” based on their destination addresses or the protocol used to create the packet (*see* Rao ¶[0102]), this does not teach or suggest determining that a packet is an “unwanted packet” based on whether the application that sent the packet is running in the foreground or the background.

C. The Petition’s assertions about how Rao could be modified are insufficient and fail to support obviousness.

Furthermore, the Petition provides no plausible motivation to discard packets merely because they were assigned a lower priority than other packets (as opposed to being deemed “unwanted packets”).³ First, the Petition alleges that a POSITA

³ As noted previously, Rao treats assignment of a lower priority to a packet as distinct from determining that the packet is an “unwanted packet[.]” *See* Rao, ¶[0102] (making clear that “unwanted packets” are discarded); *id.* at ¶¶[0184], [0194], FIG.

would recognize that Rao’s “filter 322 *can be* used to ‘discard[] packets’ having the lowest priority... such that the packets are not transmitted to the network.” Pet. 28-29. But an allegation that a POSITA *could have* pursued a particular configuration is irrelevant to whether that configuration *would have been obvious*. *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1073 (Fed. Cir. 2015) (“[O]bviousness concerns whether a skilled artisan not only *could have made* but *would have been motivated to make* the combinations or modifications of prior art to arrive at the claimed invention.”) (emphases in original). Indeed, where Rao does not disclose discarding packets having lowest priority, the Petition’s conclusory allegation that a POSITA would recognize that this *could* be done is not based on facts in the prior art and is instead based on impermissible hindsight. *KSR Intern. Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007) (stating that a “factfinder... must be cautious of arguments reliant upon ex post reasoning”); MPEP § 2142 (“[I]mpermissible hindsight must be

5B, & Claim 5 (showing that lower priority packets are eventually communicated and thus not discarded). While packets may be assigned higher or lower priority for a variety of reasons, Rao only teaches that packets would be discarded absent network disruption if those packets had certain content (e.g., a specified destination address) or used specified protocols, none of which is dependent on the requesting application’s background status. *See* Rao ¶[0102].

avoided and *the legal conclusion must be reached on the basis of the facts gleaned from the prior art.*”).

The Petition also alleges that “a POSITA would have found it obvious to... use [Rao’s] policies 520 to discard low priority packets where the network is not disrupted but there exists a similar desire to, nevertheless, reduce communications over the network (e.g., due to reductions in bandwidth of the network, or a surge in higher priority packets to be sent over the network),” which according to the Petition “would have achieved the benefit of ensuring that communication resources are selectively freed up for higher priority packets/communications.” *Id.* at 28. But Rao’s system of prioritizing higher-priority communications over lower-priority communications (without *discarding* the lower-priority packets) *is specifically taught as the way to ensure* that communication resources are used first (“freed up”) for higher priority packets, because, as the Petition acknowledges, Rao teaches placing packets into various queues and communicating packets “according to their determined priority.” Pet. 22 (quoting Rao ¶¶[0184]-[0190]). For example, Rao makes clear that the function and goal of its system is to ensure that higher-priority packets will be transmitted before lower-level packets are eventually communicated. *See, e.g.,* Rao, Claims 4, 5; Pet. at 12 (“Rao describes applying policies to prioritize transmission of higher-priority network packets over lower-priority network packets.”). The Petition does not explain why a POSITA would have viewed

discarding of low-priority packets as beneficial in ensuring that high-priority communications receive adequate resources, particularly relative to Rao's disclosed process of *queuing* and *prioritizing* packets (which ensures adequate resources for high-priority packets while allowing the lower-priority packets to not be discarded but to rather be transmitted at a later time). *See generally* Pet. 28-29 (providing no explanation as to why discarding packets in the proposed manner would accomplished any benefit over what is disclosed in Rao). Accordingly, the Petition provides no motivation to modify Rao's system to ***discard*** lower-priority packets based on determining that those packets correspond to a background application.

Moreover, while the Petition cites the expert declaration in support of its conclusory allegations of obviousness (*see* Pet. 28-29, citing Ex. 1003 ¶101), the declaration merely parrots the Petition's conclusory allegations and should accordingly be given little weight. *See* 37 CFR § 42.65 ("Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight."); *Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper No. 9 at 15 (Aug 24, 2022) (precedential) (denying institution and giving "little weight" to "cited declaration testimony [that] is conclusory and unsupported" and "adds little to the conclusory assertion for which it is offered to support").

The Petition's failure to allege any benefit not already present in Rao to modify Rao's system to discard packets from low-priority traffic is in contrast to the

'701 Patent, which makes clear that particular applications are prevented from communicating over the network while running in the background to avoid unnecessary data costs to the user (*see* '701 Patent at 102:23-37), a concept not discussed in either Rao or Oestvall. This further shows that the Petition's assertion that a POSITA would have modified Rao lacks reasoned analysis and evidence that are necessary to prove obviousness.

D. Regardless, discarding individual packets under certain conditions does not constitute blocking “access by the first end user application to the WWAN modem,” as limitation [1e] requires.

Even *assuming* that a POSITA would have been motivated to discard certain low-priority packets under certain conditions where network disruption did not exist (e.g., “a surge in higher priority packets to be sent over the network”), the Petition would still fail. This is because the Petition does not explain how discarding individual low-priority packets would constitute blocking “access by the first end user application to the WWAN modem” as Claim 1 requires. Even if particular packets may be discarded, nothing in Rao suggests that an *application* will be blocked from accessing the WWAN modem (rather than just having a certain portion of its packets being discarded on a case-by-case basis, while still maintaining access to the modem).

On this point, the Petition merely asserts, without explanation, that if “network packets generated by an application [are] dropped or discarded before

reaching Rao’s network interface 118,” then “the application’s access to the network interface 118... is blocked.” Pet. 29. But that is not true; to the contrary, Rao teaches that individual packets are discarded while the application ***maintains*** access to the modem, and without taking the drastic step of ***blocking*** access by the application to the WWAN modem.

For instance, Rao teaches that its system allows “lossy protocol network packets [to] get to the recipient on time rather than getting to the recipient reliably” (Rao, ¶[0077]; *see also id.* ¶[0153]), which indicates that even if lossy protocol packets are discarded in certain instances (i.e., the packets do not arrive “reliably”), ***the application issuing those packets still is able to maintain access to the modem*** (such that the lossy packets are able to arrive “on time”). In other words, Rao teaches that for lossy protocol packets (such as packets for certain real-time voice protocols), certain of those packets may ultimately be discarded resulting in some degradation of sound quality. The fact that these packets are not transmitted “reliably” (i.e., some of those packets are discarded) is acceptable, but would ***not*** be acceptable is for the application’s access to the modem to be blocked, such that none of the packets would arrive “on time.” In sum, the application’s access to the modem is not “selectively block[ed]” (’701 Patent, Claim 1) merely by virtue of packets being discarded, because Rao teaches that even if certain packets are discarded, the application

maintains access to the modem such that it will continue to transmit packets so that they can arrive “on time.”

Accordingly, the premise underlying the Petition’s theory—that if “network packets generated by an application [are] dropped or discarded before reaching Rao’s network interface 118,” then “the application’s access to the network interface 118... is blocked” (Pet. 29)—is incorrect, because applications in Rao can *maintain* access to the modem despite packets being discarded.

Thus, even if the Petition *could* establish the obviousness of discarding individual low-priority packets on the basis of the issuing application’s background status in the proposed combination (which it cannot), that would still not render obvious “selectively *block[ing]... access by the first end user application to the WWAN modem*” wherein the access is blocked “based on a determination that the first end-user application is running in a background state” as required by all challenged claims.

Indeed, discarding traffic on a packet-by-packet basis (without actually blocking the corresponding application’s access to the modem, as the ’701 Patent claims and teaches) would not have had the benefits disclosed by the ’701 Patent where a policy “prohibits the application from consuming network resources” that would incur a cost to the user, such that a particular background application would

only be able to access the modem “if [a user is] willing to pay for the consumed [network] resources.” *See* ’701 Patent at 102:23-37.

Accordingly, the Petition fails to show that a POSITA would have found it obvious to use Rao’s alleged differential traffic control policy to selectively block an application’s access to a modem during a period of time when data is communicated via the modem based on determining that the application is running in the background, as required by all challenged claims.

E. Oestvall does not cure the deficiencies of Rao discussed above.

As noted above, the Petition does not allege that Oestvall’s prevention of untrusted background applications from running is the result of a “first differential traffic control policy.” *See* Pet. 25-26 (discussing only Rao in discussing the requirement that access is controlled “based on a first differential traffic control policy). Nor would Oestvall’s prevention of untrusted background applications from running meet the Petition’s implicit construction of “differential traffic control policy” because Oestvall does not “offer different controls for different network traffic (network packets).” *See* Pet. 26. Oestvall stops untrusted background applications from running, which prevents them from doing *anything*, including attempting to transmit network packets. Oestvall at Abstract (discussing “a control signal... that in effect prevents the untrusted application from running, e.g., being given any services or consuming any resources”); *id.* at ¶[0021] (“With the present

invention, when an untrusted application is running on the battery operated device and another application should be in the foreground, the untrusted application is placed into the background ***and is also actively prevented from running.***”); *id.* at ¶[0014] (explaining that untrusted background applications “***need to be actively prevented from running***”).

Thus, in Oestvall, untrusted applications would have no access to the CPU or memory, and no processing or storage capability. Any loss in network connectivity is simply the result of shutting off all system resources, and *not* the result of applying any sort of differential traffic control policy. And Oestvall’s technique of shutting off untrusted applications would certainly *not* constitute selectively blocking an application’s access to the modem “based on” any alleged “***differential traffic control policy,***” as claim limitations [1e] and [1f] require.

Accordingly, the Petition’s discussions of Oestvall at, for example, pages 29-30 (addressing claim language “selectively block and allow access...”) and pages 34-35 (addressing claim language “the access is selectively blocked...”) is not relevant to whether the claims as a whole are met, because those discussions do not allege (much less show) that prevention of background untrusted applications from running would constitute selectively blocking application access to the modem “based on a first differential traffic control policy.”

Furthermore, one theory that the Petition does not argue, but that Patent Owner considered, is whether packets from Oestvall’s “untrusted background applications” would be deemed “unwanted” (and thus discarded) in the Petition’s combination because Oestvall teaches denying system resources to such applications. In this scenario, the Petition might have argued that network access by such applications would be blocked according to a “differential traffic control policy.” This hypothetical argument likewise fails.

Oestvall teaches that untrusted background applications should be *prevented from running* altogether, such that untrusted background applications would never be able to establish a network connection or to generate any communications resulting in network packets. Oestvall at Abstract, ¶¶[0014], [0021], [0023]. The Petition is explicit that its combination of Rao with Oestvall maintains this teaching of Oestvall, and the Petition does not provide any motivation to deviate from that teaching. *See* Pet. 14 (“The [combination] would have also enabled the improved agent to prevent an untrusted application in the background from running...”); Pet. at 29 (for claim limitation 1[e], asserting that “when an untrusted application runs in the background, Oestvall’s device prevents the application from ‘being given any services or consuming any resources’”). Thus, the combined system would not be configured to discard network packets from an untrusted background application,

because untrusted background applications would be completely *incapable* of generating network packets.

In sum, Oestvall's prevention of background untrusted applications from running does not disclose (and is not alleged to disclose) a "differential traffic control policy," and accordingly such prevention of those applications from running is not blocking access of an application to the modem *based on* the alleged differential traffic control policy. And the Petition does not allege that Rao's packet management policies would discard packets from background untrusted applications (and there would be no reason to do so, because under the Petition's proposed combination, background untrusted applications would be prevented from running and thus prevented from generating packets in the first place).

VI. THE BOARD SHOULD EXERCISE ITS DISCRETION UNDER 35 U.S.C. § 325(d) TO DENY INSTITUTION.

The Board "may take into account whether, and reject the Petition or request because, the same or substantially the same prior art or arguments previously were presented to the Office." 35 U.S.C. § 325(d). As the Board explained in *Advanced Bionics, LLC v. Med-El Elektromedizinische Gerate GmbH* ("*Advanced Bionics*"):

[U]nder § 325(d), the Board uses the following two-part framework: (1) whether the same or substantially similar art previously was presented to the Office or whether the same or substantially the same arguments previously were presented to the Office; and (2) if either condition of the first part of the framework is satisfied, whether the

Petition has demonstrated that the Office erred in a manner material to the patentability of the challenged claims. If a condition in the first part of the framework is satisfied and the Petition fails to make a showing of material error, the Director generally will exercise discretion not to institute inter partes review.

IPR2019-01469, Paper No. 6 at 8-9 (PTAB Feb. 13, 2020) (precedential) (footnote omitted). “If reasonable minds can disagree regarding the purported treatment of the art or arguments, it cannot be said that the Office erred in a manner material to patentability. At bottom, this framework reflects a commitment to defer to previous Office evaluations of the evidence of record unless material error is shown.” *Id.* at 9.

“In evaluating whether to exercise our discretion when the same or substantially the same prior art or arguments previously were presented to the Office under section 325(d), we have weighed some common *non-exclusive* factors:

- (a) the similarities and material differences between the asserted art and the prior art involved during examination;
- (b) the cumulative nature of the asserted art and the prior art evaluated during examination;
- (c) the extent to which the asserted art was evaluated during examination, including whether the prior art was the basis for rejection;

- (d) the extent of the overlap between the arguments made during examination and the manner in which Petitioner relied on the prior art or Patent Owner distinguishes the prior art;
- (e) whether Petitioner has pointed out sufficiently how the Examiner erred in its evaluation of the asserted prior art; and
- (f) the extent to which additional evidence and facts presented in the petition warrant reconsideration of the prior art or arguments.”

Becton, Dickinson & Co. v. B. Braun Melsungen AG, IPR2017-01586, Paper No. 8 at 17-18 (§ III.C.5) (PTAB Dec. 15, 2017) (“*Becton, Dickinson*”) (informative, precedential as to § III.C.5) (italics in original). “If, after review of factors (a), (b), and (d), it is determined that the same or substantially the same art of arguments previously were presented to the Office, then factors (c), (e), and (f) relate to whether the petitioner has demonstrated a material error by the Office.” *Advanced Bionics* at 10.

A. *Advanced Bionics* Step 1 (*Becton, Dickinson* Factors (a), (b), and (d)): The same or substantially the same prior art was previously presented to the USPTO.

The Petition contains three alleged grounds of invalidity: (1) an obviousness ground based on Rao and Oestvall (Ground 1A, for claims 1-4, 9, 10, 13, 14, 16, 19, 20, and 25); (2) an obviousness ground based on Rao and Oestvall in further combination with Montemurro (Ground 1B, for dependent claims 5-8, 11, 17, 18, 23, and 24); and (3) an obviousness ground based on Rao and Oestvall in further

combination with Araujo (Ground 1C, for dependent claims 12, 15, 21, and 22). *See* Pet. at 1. As claim 1 is the sole independent claim of the '701 Patent (*see* Ex. 1001 at 105:50-108:32), only Ground 1A challenges any independent claims. And the other two grounds (Grounds 1B and 1C) simply rely on the same art as Ground 1A (Rao and Oestvall), with additional secondary references only relied upon for certain elements of dependent claims. *See* Pet. at 47-77. As explained below, both Rao and Oestvall (the only references the Petition relies upon for the sole independent claim of the '701 Patent) are substantially the same as art considered during prosecution.

1. Rao is cumulative of and substantially the same as a nearly identical family member considered by the Examiner during prosecution.

Rao is the Petition's lead reference. The Petition admits that a "relative of Rao (PCT application WO 2006/012610A2 ('Rao-2')) was cited on the face of the '701 Patent." *Id.* at 77; *see also* Ex. 1001 at 9 (listing Rao-2 in the "References Cited" section). A comparison of Rao (Ex. 1005) and Rao-2 (Ex. 2001) reveals that aside from formatting differences and some additional introductory material in Rao-2, there is no difference between these two family members—Rao-2 contains all of the same disclosures as Rao plus a small amount of additional content. *See* Ex. 2002. Rao and Rao-2 also share the same set of patent figures. *Compare* Ex. 1005 at Figs. 1-6 *with* Ex. 2001 at Figs. 1-6.

The Petition does not even mention, let alone explain, why any alleged differences between Rao and Rao-2 are relevant here. Rather, the Petition alleges that “there is no evidence that the Office substantively considered Rao-2.” Pet. at 77. But the prosecution history makes clear that the Examiner considered Rao-2 because the Examiner placed a copy of the IDS containing this reference in the file history, with an electronic signature next to the statement “All references considered except where lined through,” with a line through other references but no line through Rao-2. *See* Ex. 1002 at 18. A copy of Rao-2 is also included in the file history. *See id.* at 168-285.

To the extent Petitioner intends to argue that citation of art on an IDS is insufficient to support denial under Section 325(d), the Petition cites no authority for this argument (*see* Pet. at 77-78), and indeed, this argument is contrary to the precedential *Advanced Bionics* decision and its progeny: “***Previously presented art includes art*** made of record by the examiner, and art provided to the Office by the applicant, such as ***on an Information Disclosure Statement (IDS)***, in the prosecution history of the challenged patent.” *Advanced Bionics* at 8; *see also, e.g., Biocon Pharma Ltd. v. Novartis Pharms. Corp.*, IPR2020-01263, Paper No. 12 at 9 (PTAB Feb. 16, 2021) (“[W]e accept that the Examiner considered [the prior art reference] because it is listed on the IDS and the Examiner signed the IDS with the statement ‘all references considered except where lined through.’”); *Vital Connect*,

Inc. v. Bardy Diagnostics, Inc., IPR2023-00381, Paper No. 7 at 14 (PTAB July 11, 2023) (Because “Oster was listed in an information disclosure statement (IDS),” “appears on the face of the [challenged patent],” and “[t]he examiner also certified that he considered all references listed in the IDS ‘except where lined through,’ and Oster is not lined through,” “[t]here can be no dispute that Oster was before the Office.”), *Director review denied*, Paper No. 9 (PTAB Oct. 3, 2023); *see also id.* at 15-16 (holding the same for a family member of a reference asserted in the petition, and finding the reference asserted in the petition cumulative of the family member); *Eyenovia, Inc. v. Sydnexus*, IPR2022-00963, Paper No. 7 at 10-11 (PTAB Nov. 8, 2022) (“*Eyenovia*”) (Because “references appear in the references cited section of the [challenged] patent and were identified in Information Disclosure Statements (‘IDSs’) during prosecution[,] ... these references were ‘previously presented’ for the purposes of assessing the application of discretion under 35 U.S.C. § 325(d).”); *BMW of N. Am., LLC v. Stragent, LLC*, IPR2021-00419, Paper No. 14 at 12-13 (PTAB July 19, 2021) (exercising discretion to deny institution under § 325(d) in part because relied-upon prior art was cited on an IDS), *reh’g denied*, Paper No. 21 at 5 (PTAB Mar. 21, 2022); *Vovomart (HK) Enters. Co. v. Office Kick, Inc.*, PGR2022-00048, Paper No. 14 at 9 (PTAB Jan. 12, 2013) (same), *reh’g denied*, Paper No. 16 (PTAB Mar. 9, 2023); *Microsoft Corp. v. AlmondNet, Inc.*, IPR2022-01319, Paper No. 9 at 8, 10 (PTAB Jan. 30, 2023) (“*AlmondNet*”) (same), *POP*

request denied, Paper No. 13 (Mar. 24, 2023), *reh'g denied*, Paper No. 14 (PTAB Apr. 23, 2023).

And to the extent that Petitioner intends to argue that, in order to support denial under Section 325(d), the same or substantially the same art needs to be part of a prior art rejection in an Office Action during prosecution, the Petition likewise cites no authority for this argument. *See* Pet. at 77-78. And the Board has held to the contrary: “[T]here is no requirement that Examiner needs to rely on a reference in a rejection during prosecution in order for the reference to be ‘considered’ during prosecution.” *Ivantis, Inc. v. Sight Sciences, Inc.*, IPR2022-01530, Paper No. 14 at 17 (PTAB Mar. 27, 2023); *see also, e.g., Palo Alto Networks, Inc. v. Centripetal Networks, Inc.*, IPR2021-01156, Paper No. 10 at 13-14 (PTAB Jan. 24, 2022) (rejecting argument that “the first part of the *Advanced Bionics* framework is not met because [the prior art was] not substantively discussed or applied in a rejection during prosecution” because “[u]nder the Board’s precedent in *Advanced Bionics*, however, ‘[p]reviously presented art includes ... art provided to the Office by an applicant, such as on an [IDS]’”) (quoting *Advanced Bionics* at 7-8) (alterations in original), *POP request denied*, Paper No. 13 (PTAB Mar. 16, 2022), *reh'g denied*, Paper No. 14 (PTAB May 5, 2022).

The Petition’s reliance on Oestvall in Ground 1A for limitations [1d], [1e], and [1f]-[1g] does not change the Section 325(d) calculus.

Oestvall is the only reference other than Rao that the Petition relies upon in Ground 1A, the Petition's only challenge to the sole independent claim of the '701 Patent (claim 1). For claim elements [1pre], [1a], [1b], and [1c], the Petition relies only on disclosures from Rao, with Oestvall only relied upon in the analysis for the three claim elements [1d], [1e], and [1f]-[1g].⁴ Pet. at 16-35. This portion of the preliminary response therefore only addresses the cumulative nature of Oestvall disclosures with respect to the three claim elements [1d], [1e], and [1f]-[1g]. As detailed below, each of the cited disclosures from Oestvall is substantially the same as cited disclosures from Rao, or as disclosures from the Judge or Nicholas references that the Examiner discussed in the Notice of Allowance. *See* Ex. 1002 at 346-47; *see also* *Nokia of Am. Corp. v. Soto*, IPR2023-00680, Paper No. 10 at 21-23, 26-28 (PTAB Nov. 3, 2023) (denying institution of review where the petitioner relied on different art than was cited during prosecution, but applied the art in the "same manner" as other art before the Office).

- a. Each of the Oestvall disclosures on which the Petition relies for claim element [1d] is cumulative of and substantially similar to those it relies on from Rao.**

⁴ The Petition confusingly refers to what it treats as a single claim element as [1f]-[1g]. *See* Pet. at vi, 34-35.

Claim element [1d] recites: “determine, for a first end-user application capable of running in a background state and capable of running as a foreground application, whether the application is running in a background state or as a foreground application.” Ex. 1001 at 105:60-64.

In its analysis of this claim element, the Petition alleges that “Oestvall describes that its device is ‘capable of *determining if an untrusted application is in the background or foreground.*’” Pet. at 21 (citing Ex. 1006 ¶¶[0016]-[0017], [0021]). But the Petition contends that its lead reference Rao similarly discloses that its “remote access client 120 ... ‘*determine[s] whether the application 338a-338n associated with the network packet is running in the foreground or the background.*’” *Id.* at 19 (quoting Ex. 1005 ¶[0188]) (alteration in original).

The Petition further alleges in its analysis of claim element [1d] that Oestvall’s “‘untrusted *application*’ *switches between the background and the foreground.*” *Id.* at 21 (citing Ex. 1006 ¶¶[0016]-[0017], [0021]). But, again, the Petition likewise contends that “Rao’s *applications can ‘run[] in the foreground or the background.*’” *Id.* at 20 (citing Ex. 1005 ¶¶[0182], [0188]-[0189]).

- b. Each of the Oestvall disclosures on which the Petition relies for claim element [1e] is cumulative of and substantially similar to those it relies on from Rao, or as disclosures from Judge or Nicholas.**

The Petition relies on Oestvall for the following sub-limitations of this claim element: (1) “via an application programming interface (API),” (2) “to ... selectively

block access by the first end-user application to the WWAN modem,” (3) “at a time when data for Internet service activities is communicated through a WWAN model connection to the at least one WWAN.” *See* Ex. 1001 at 105:64-106:5; Pet. at 21-34. Each of the disclosures on which the Petition relies for these sub-limitations are cumulative of and substantially the same as cited disclosures from Rao, or as disclosures from the Judge or Nicolas references, which the Examiner determined were the two pieces of “closest prior art.” *See* Ex. 1002 at 322. Below each relied-upon Oestvall disclosure is addressed in turn.

First, for the “via an application programming interface (API)” sub-limitation, the Petition alleges that “Oestvall incorporates by reference Dive-Reclus, which teaches using APIs in accessing a network,” and that “Dive-Reclus teaches permissions *regulating network access by a third-party application that uses an API call.*” Pet. at 24 (citing Ex. 1006 ¶[0020]; Ex. 1026 at 16:23-17:28, 20:1-12) (footnotes omitted). The Petition further alleges, based on these disclosures, that “a POSITA would have found it obvious that a permission decision (grant/deny) is communicated to the third-party application through a corresponding API.” *Id.* at 24-25. Setting aside whether Oestvall effectively incorporates Dive-Reclus by reference, even assuming that it does, the Petition contends that Rao also discloses that its “device *controls application access to the network via API.*” *Id.* at 23; *see also id.* (alleging that “the agent 326 [of Rao] may communicate the priority of

network packets to the filter 322 by any suitable means and/or mechanism such as *via an application programming interface (API)*”) (quoting Ex. 1005 ¶[0190]).

Second, for the “to ... selectively block and allow access by the first end-user application” portion of this limitation, the Petition alleges that “when an untrusted application runs in the background, Oestvall’s device *prevents the application from ‘being given any services or consuming any resources’*” and that “[w]hen the untrusted application runs in the foreground, the *application is permitted to ‘run again—e.g., to be provided with resources and services.’*” Pet. at 29-30 (quoting Ex. 1006 ¶¶[0023], [0025]). Although the Examiner found that Judge (U.S. Patent Application Publication No. 2007/0073899, Ex. 2005) does not disclose claim element [1e], the specific disclosures from Oestvall on which the Petition relies for this specific sub-limitation are cumulative of disclosures in Judge, which the Examiner indicated in his Notice of Allowance was one of two pieces of “closest prior art.” See Ex. 1002 at 322.

Judge discloses a software architecture that has, among other components, “multiple server access modules (SAM) 506-1-*m*” and an “application program module (APM) 504,” the latter of which Judge also refers to as “application client 504.” Ex. 2005 ¶¶[0047]-[0048]; see *id.* at Fig. 5 (depicting SAMs 506-1, 506-2, 506-3, and 506-*m* as well as application program module 504). “SAM 506-1-*m* allows application client 504 to communicate with different types of application

servers 132-1-*n*,” and “a SAM 506-1-*m* can choose to only support a subset of applications to perform [its] synchronization operations.” *Id.* ¶[0049]. A given SAM 506-1-*m* can do so in part because “the SAM 506-1-*m* knows which application is calling it.” *Id.* ¶[0061]. “[A] SCapSupportsAppl() subroutine [is used] to ***query if the SAM supports a particular application.***” *Id.* ¶[0062]. To evaluate whether there is a SAM that supports the identified application, “[a]pplication client 504 can use the iterator API to iterate over all the installed SAM 506-1-*m* that may support the application. The OQueryFirst() and OQueryN-ext() subroutines take the application creator as an argument so only those SAM 506-1-*m* that support the application can be returned.” *Id.* ¶[0083]. “The SActGroupwareFullSync() subroutine causes the ***SAM 506-1-*m* to fully synchronize [only] applications supported*** by the SAM 506-1-*m*” and thus not provide access to any SAM for unsupported applications. *Id.* ¶[0064]. However, Judge also discloses providing “***access to all SAM 506-1-*m* regardless of support***” if certain circumstances are present, such as if an application indicates that it desires to have such access. *Id.* ¶[0083]. In addition, “[a[n unsupported] caller can access a SAM 506-1-*m* by knowing the creator of the SAM 506-1-*m*.” *Id.*

In short, the Oestvall disclosures on which the Petition relies for the “to ... selectively block and allow access by the first end-user application” portion of claim limitation [1e] are cumulative of and substantially similar to those from “closest

prior art” Judge. The Petition alleges that Oestvall’s device selectively blocks and allows access to “resources and services” for “untrusted” applications depending on the circumstances, and Judge similarly discloses blocking and allowing access to its SAMs for “unsupported” applications depending on the circumstances.

Third, the Petition alleges that Oestvall teaches that “data for Internet service activities is *communicated through a WWAN [wireless wide area network] modem connection to the WWAN.*” Pet. at 33. But the Petition contends that Rao contains the same teaching. *Id.* (“when data for Internet service activities is communicated through a WWAN modem connection to the WWAN (as Rao and Oestvall teach)”) (citing Ex. 1005 ¶¶[0102], [0125], [0179]-[0195], [0207]); *see also id.* at 17 (“Rao’s device includes ‘network interface 118 to *interface to ... Wide Area Network (WAN)* through a variety of connections,’ such as ‘LAN or WAN links,’ ‘*wireless connections*,’ or ‘some combination.’”) (quoting Ex. 1005 ¶[0125]).

Finally, the Petition points to the following unremarkable disclosure in Oestvall as allegedly supporting its obviousness arguments: “*battery conservation* in battery operated computing devices is very important, particularly in devices such as smartphones that consume high power levels by virtue of connecting to always-on *GPRS or 3G cellular networks.*” Pet. at 31 (quoting Ex. 1006 ¶[0004]). Although the Examiner found that “closest prior art” Nicholas (U.S. Patent Application Publication No. 2004/0133668, Ex. 2006) does not disclose claim element [1e] (*see*

Ex. 1002 at 322), Nicholas does disclose this same basic concept. Nicholas discloses that “[w]hile in a mobile (i.e., undocked) mode, *power management* for exemplary end user device 100 is provided with ‘*smart power*’ *system* 126 that ensures that at least enough power is provided to device 100 to ensure that all secure network communication links are kept active.” Ex. 2006 ¶[0024]; *see also id.* ¶[0019] (noting that “wireless networks supported by an end user device ... may include ... *cellular networks [and] GPRS*”). In other words, Nicholas, like Oestvall, recognizes that battery conservation and power management are important in connected mobile devices.

c. The Oestvall disclosures on which the Petition relies for claim element [1f]-[1g] are the same as those it relies on for claim element [1e], and are therefore cumulative for the same reasons.

In its discussion of claim element [1f]-[1g], the Petition states as follows:

As discussed in [1e], ... Oestvall’s system determines if an application (e.g., “untrusted” application is in the background or foreground, and controls the application differently based on that determination. Oestvall’s device selectively allows “untrusted application 4” to run if it is in the foreground, and, if it is in the background, “prevent[s] background untrusted applications from ‘polling’ for data over a wireless network.”

Pet. at 34 (internal citations omitted, alteration in original) (citing Ex. 1006 ¶¶[0022]-[0025]). Here, the Petition admits that it is relying on the same disclosures

from Oestvall for claim element [1f]-[1g] as it did for claim element [1e], and a comparison of the relevant portions of the Petition confirms this is the case. *Compare id.* at 29-30 (analysis for claim element [1e]) *with id.* at 34-35 (analysis for claim element [1f]-[1g]). The Oestvall disclosures cited in the claim element [1f]-[1g] analysis are therefore cumulative of and substantially the same as disclosures from Judge for the same reasons as discussed above. *See supra* § VI.A.2.b. To the extent that Petitioner may argue that Judge does not contain disclosures akin to Oestvall’s purported “background”/“foreground” disclosures, as explained above, the Petition contends that its lead reference Rao contains disclosures related to determining whether an application is running in the background or foreground. *See supra* § VI.A.2.a.

2. The Petition’s reliance on art for certain limitations of certain dependent claims does not counsel against denial of institution.

The Board has held that “Petitioners’ citation of references not considered by Examiner solely for ‘additional subject matter of certain dependent claims[] is insufficient to persuade us that exercising our discretion under 35 U.S.C. § 325(d) is inappropriate.’” *See, e.g., Miltenyi Biomed. GmbH v. Trs. of Univ. of Pa.*, IPR2022-00853, Paper No. 11 at 45 (PTAB Oct. 11, 2022) (“*Miltenyi*”) (quoting *Kayak Software Corp. v. Int’l Bus. Machs. Corp.*, CBM2016-00075, Paper No. 16 at 10 (PTAB Dec. 15, 2016) (informative)) (alteration in original), *reh’g denied*, Paper

No. 18 (PTAB Feb. 17, 2023). Therefore, it is of no event whether or not the Petition relies on non-cumulative disclosures from alleged prior art for its analysis of dependent claims for the simple reason that if the independent claim is valid then so are the dependent claims. *See AlmondNet* at 8, 11 (denying institution under Section 325(d) even though the Narin reference, which was not before the Examiner, was applied by the Petition for certain dependent claims, and noting that patent owner argued that “whether or not Narin discloses certain limitations of [a] dependent claim ... would have made no difference to the Examiner’s analysis, and it is therefore unnecessary to evaluate the questions of what Narin discloses or whether Narin was of record”). It is therefore unnecessary to evaluate the questions of what the cited prior art discloses in the context of these dependent claims or whether these references were of record. *See, e.g., Miltenyi* at 45; *AlmondNet* at 8, 11.

Nevertheless, despite “ha[ving] the burden of proof to establish that it is entitled to the relief requested,” the Petition does not even mention the additional references it relies on for certain dependent claim limitations in Grounds 1B and 1C (Montemurro or Araujo) in its Step 1 analysis, let alone present any evidence or argument addressing whether these references were before the Examiner, or whether these references are not otherwise substantially the same as prior art considered by the Examiner during prosecution. *See Pet. at 77-78; EcoFasten Solar, LLC v. Unirac, Inc.*, IPR2021-01379, Paper No. 11 at 38-39 (PTAB Feb. 8, 2022). Indeed,

Montemurro's disclosure was in fact considered during prosecution by the Examiner. The patent that issued from the Montemurro application on which the Petition relies is listed on an IDS in the file history, with an electronic signature next to the statement "All references considered except where lined through," with no line through Montemurro. Ex. 1002 at 11 (listing U.S. Patent No. 8,825,109 to Montemurro et al. ("Montemurro Patent")); see Ex. 1001 at 6 (listing the Montemurro Patent in the "References Cited" section); see, e.g., *Advanced Bionics* at 7-8. As would be expected, there are very few differences between the disclosures of the Montemurro Patent (Ex. 2003) and the published application from which that patent issued (Ex. 1007), with differences limited to formatting and an additional parenthetical in the issued patent explaining that "store 200" is "an example of a computer readable storage medium." See Ex. 2004. Montemurro's disclosure was therefore considered by the Examiner during prosecution.

* * *

Because the Petition relies only on references for the sole independent claim that have substantially the same relevant disclosures as references presented to the Office and considered by the Examiner, the first part of the *Advanced Bionics* framework is satisfied. See *Advanced Bionics* at 20 ("As discussed above, we determine that the 'same or substantially the same prior art' was previously presented to the Office. Accordingly, the first condition of the first part of the

framework is satisfied, and we need not reach whether the ‘same or substantially the same arguments’ previously were presented to the Office.”).

B. *Advanced Bionics* Step 2 (*Becton, Dickinson* Factors (c), (e), and (f)): Petitioner has made no showing of material Examiner error.

Although the Petition admits that a family member of Rao was before the Examiner during prosecution, and does not identify any material differences between the family member and the reference on which it relies, the Petition fails to make any non-conclusory allegations concerning Examiner material error. *See* Pet. at 77-78.

The Petition simply alleges in conclusory fashion that “the Examiner did not appreciate Rao and how Rao in combination with other prior art references not previously before the Office (Oestvall, Montemurro, and Araujo) render the Challenged Claims obvious.” *Id.* at 78. As for Rao and Oestvall, the only references the Petition relies upon for the sole independent claim of the ’701 Patent, “[a]lthough there was no rejection issued over the particular references cited in the Petition, these references were either before the Examiner ... or are cumulative of references ... before the Examiner. There is no evidence that suggests the Examiner overlooked the most pertinent teachings in the art presented during prosecution.” *Eyenovia* at 19 (denying institution in part because the petition failed to demonstrate that the Examiner materially erred); *see also Gator Bio, Inc. v. Sartorius Bioanalytical Instruments, Inc.*, IPR2023-00215, Paper No. 19 at 21 (PTAB June 20, 2023). As

for the other two references mentioned here, the Petition only relies upon those references for certain aspects of dependent claims, which does not impact the Section 325(d) analysis. *See supra* § VI.A.3. And as explained above, and contrary to the Petition’s representation here, the disclosure of one of these references (Montemurro) was in fact considered during prosecution. *See supra* § VI.A.3.

Finally, although not necessary for the Board to exercise its discretion and deny institution under Section 325(d), the Examiner did not err. As explained in Section V, the Petition fails to disclose that its proposed combination blocks application access to a WWAN modem based on a differential traffic control policy and based on a determination that the application is running in a background state. The weak merits of the Petition, which relies on the same or substantially the same art as was before the Examiner, is a further indication of lack of Examiner error, let alone material error.

* * *

Because the Petition presents only the same and substantially the same prior art as previously presented during prosecution, and because the Petition fails to meet its burden of showing of material error by the USPTO, Patent Owner respectfully requests that the Board exercise its discretion and deny institution under 35 U.S.C. § 325(d). *See Advanced Bionics* at 9 (“If a condition in the first part of the

framework is satisfied and the petitioner fails to make a showing of material error, the Director generally will exercise discretion not to institute *inter partes* review.”).

VII. CONCLUSION

Patent Owner respectfully requests that the Board deny institution for either or both of two independent reasons. First, each of the Petition’s grounds fails on the merits. Second, the Board should deny institution because the same or substantially the same prior art was presented to the USPTO during prosecution, and the Petition has failed to show any material error by the Examiner.

Date: December 29, 2023

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CERTIFICATION REGARDING WORD COUNT

Pursuant to 37 C.F.R. §42.24(d), Patent Owner certifies that there are 10,640 words in the paper excluding the portions exempted under 37 C.F.R. §42.24(a)(1).

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CERTIFICATE OF SERVICE (37 C.F.R. § 42.6(e)(1))

The undersigned hereby certifies that the above document was served on December 29, 2023, by filing this document through the Patent Trial and Appeal Case Tracking System as well as delivering a copy via electronic mail upon the following attorneys of record for the Petitioner:

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