

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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SAMSUNG ELECTRONICS CO., LTD.,  
Petitioner,

v.

HEADWATER RESEARCH LLC,  
Patent Owner.

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IPR2023-01361  
Patent 9,271,184 B2

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Before ROBERT J. WEINSCHENK, GARTH D. BAER, and  
RUSSELL E. CASS, *Administrative Patent Judges*.

WEINSCHENK, *Administrative Patent Judge*.

DECISION  
Denying Institution of *Inter Partes* Review  
35 U.S.C. § 314

## I. INTRODUCTION

### A. *Background and Summary*

Samsung Electronics Co., Ltd. (“Petitioner”) filed a Petition (Paper 3, “Pet.”) requesting an *inter partes* review of claims 1–6 and 10–20 (“the challenged claims”) of U.S. Patent No. 9,271,184 B2 (Ex. 1001, “the ’184 patent”). Headwater Research LLC (“Patent Owner”) filed a Preliminary Response (Paper 7, “Prelim. Resp.”) to the Petition.

An *inter partes* review may not be instituted unless “the information presented in the petition . . . and any response . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a). Here, Petitioner does not demonstrate a reasonable likelihood of prevailing in showing that at least one of the challenged claims is unpatentable. Thus, the Petition is denied, and no trial is instituted.

### B. *Real Parties in Interest*

Petitioner identifies itself and Samsung Electronics America, Inc. as the real parties in interest. Pet. 82. Patent Owner identifies itself as the only real party in interest. Paper 5, 1.

### C. *Related Matters*

The parties indicate that the ’184 patent is the subject of the following district court case: *Headwater Research LLC v. Samsung Electronics Co., Ltd.*, No. 2:22-cv-00422 (E.D. Tex.). Pet. 82; Paper 5, 1–2. Patent Owner indicates that Petitioner filed another petition for *inter partes* review of the ’184 patent in IPR2023-01362. Paper 5, 2.

*D. The '184 Patent*

The '184 patent relates to “a differential traffic control policy.” Ex. 1001, code (57). Specifically, the '184 patent states that “[a] wireless end-user device has a wireless wide-area network (WWAN) modem,” and “[o]ne or more processors classify whether an application is interacting with a user in a user interface foreground of the device.” *Id.* The processor(s) also “determine whether or not to apply a differential traffic control policy to an application requesting Internet service access.” *Id.* According to the '184 patent, “[w]hen the policy is applicable, and the application is not classified as interacting with a user in the device user interface foreground, the Internet service access request is blocked.” *Id.* Further, “[e]ven when an application access is allowed, a separate control provide[s] a wireless data usage limit for that application.” *Id.*

*E. Illustrative Claim*

Of the challenged claims, claim 1 is independent and is reproduced below.

1. A wireless end-user device, comprising:
  - 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 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,
    - classify whether a particular application associated with an Internet service 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,

apply a differential traffic control policy to the Internet service access request, based on

(i) whether the application is classified as interacting with the user, and

(ii) a differential traffic control policy list distinguishing between a first one or more applications resident on the device and a second one or more applications resident on the device, such that,

the one or more processors are operable to, in a first state wherein the particular application is one of the first one or more applications, and the particular application is not classified as interacting with a user in the device user interface foreground, block the Internet service access request, and

the one or more processors are operable to allow the Internet service access request in at least one other state, and

for at least one of the first or second one or more applications, disallow Internet data communication for that application based on an application-specific amount of Internet data usage reaching a limit.

Ex. 1001, 105:51–106:22.

*F. Evidence*

Petitioner submits the following evidence:

| <b>Evidence</b>                                                    | <b>Exhibit No.</b> |
|--------------------------------------------------------------------|--------------------|
| Declaration of Dr. Kevin R. B. Butler (“Butler Declaration”)       | 1003               |
| Rao, US 2006/0039354 A1, published Feb. 23, 2006 (“Rao”)           | 1005               |
| Oestvall, US 2007/0038763 A1, published Feb. 15, 2007 (“Oestvall”) | 1006               |
| Freund, US 5,987,611, issued Nov. 16, 1999 (“Freund”)              | 1007               |
| Araujo, US 2009/0217065 A1, published Aug. 27, 2009 (“Araujo”)     | 1008               |

*G. Asserted Grounds*

Petitioner asserts that the challenged claims are unpatentable on the following grounds:

| <b>Claim(s) Challenged</b> | <b>35 U.S.C. §</b> | <b>Reference(s)/Basis</b>     |
|----------------------------|--------------------|-------------------------------|
| 1–6, 13, 18                | 103                | Rao, Oestvall, Freund         |
| 10–12, 14–17, 19, 20       | 103                | Rao, Oestvall, Freund, Araujo |

II. ANALYSIS

*A. Level of Ordinary Skill in the Art*

Petitioner argues that a person of ordinary skill in the art would have had “(1) at least a bachelor’s degree in computer science, 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.” Pet. 3 (citing Ex. 1003 ¶¶ 15–17). Petitioner’s description of the level of ordinary skill in the art is supported by the testimony of Petitioner’s declarant, Dr. Kevin Butler. Ex. 1003 ¶¶ 15–17. Patent Owner does not dispute Petitioner’s description. Prelim. Resp. 4. We adopt Petitioner’s description for purposes of this Decision.

*B. Claim Construction*

In an *inter partes* review proceeding, a patent claim is construed using the same standard used in a civil action under 35 U.S.C. § 282(b), including construing the claim in accordance with the ordinary and customary meaning of the claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent. 37 C.F.R. § 42.100(b). Neither party proposes an express construction for any claim terms. Pet. 2–3; Prelim. Resp. 4. We determine that no claim terms require express construction for purposes of this Decision.

*C. Obviousness of Claims 1–6, 13, and 18 over Rao, Oestvall, and Freund*

Petitioner argues that claims 1–6, 13, and 18 would have been obvious over Rao, Oestvall, and Freund. Pet. 4–58. For the reasons discussed below, Petitioner does not demonstrate a reasonable likelihood of prevailing in showing that claims 1–6, 13, and 18 would have been obvious over Rao, Oestvall, and Freund.

*1. Claim 1*

Claim 1 recites “a particular application associated with an Internet service access request.” Ex. 1001, 105:59–60. Petitioner argues that Rao teaches “an application may attempt to access an Internet service by transmitting packets to that Internet service (*Internet service access request*).” Pet. 30 (citing Ex. 1003 ¶ 107; Ex. 1005 ¶¶ 90, 179, 184). Thus, according to Petitioner, a person of ordinary skill in the art “would have understood or found it obvious that Rao’s applications would be configured to send packetized communications over the Internet to . . . servers requesting access to their corresponding services (*an Internet service access request*) to enable such applications to receive mail, Web, and/or other data content.” *Id.* (citing Ex. 1003 ¶ 108; Ex. 1005 ¶ 90).

Claim 1 also recites “one or more processors are operable to, in a first state wherein the particular application is one of the first one or more applications, and the particular application is not classified as interacting with a user in the device user interface foreground, block the Internet service access request.” Ex. 1001, 106:10–15. Petitioner argues that “Rao’s system controls each of the applications’ Internet service access requests by intercepting packets of network traffic by the applications, determining the priority of the packets based on the application that is associated with each

packet, and selectively communicating the packets to the network based on the determined priority.” Pet. 34 (citing Ex. 1003 ¶ 121; Ex. 1005 ¶¶ 184–190, Fig. 5B). Petitioner also argues that “Rao’s system selectively uses a filter to (i) allow network packets to be transmitted to the network or (ii) block the network packets from being transmitted to the network, either permanently or temporarily, thereby applying the policies to the Internet service access request embodied by those network packets.” *Id.* at 37 (citing Ex. 1003 ¶ 128; Ex. 1005 ¶¶ 104, 191, 194, 207).

Patent Owner contends that Petitioner does not show sufficiently that Rao teaches blocking an Internet service access request. Prelim. Resp. 21–26. Specifically, Patent Owner argues that “blocking an application’s Internet service access request . . . requires blocking an application’s ‘request’ to access Internet service, such as a request . . . to open a network connection or obtain an IP address.” *Id.* at 22. But, according to Patent Owner, Rao’s “discarding of network packets requires that the application’s access request was already granted,” and thus “does not constitute blocking any Internet service access request.” *Id.* at 26.

On this record, we agree with Patent Owner. The ’184 patent states that its system can “classify[] and/or control[] *network access requests* (e.g., IP address requests).” Ex. 1001, 11:27–32 (emphasis added). In particular, the ’184 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 ’184 patent explains that its system also can “classify[] and/or control[] . . . network capacity/resources usage (e.g., bandwidth usage).” *Id.* at 11:27–32. 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 ’184 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 11:27–32, 91:41–54; *see also id.* at 106:39–43 (distinguishing between an “Internet service access request” and “network activity”).

On this record, Petitioner does not show sufficiently that the combination of Rao, Oestvall, and Freund teaches blocking an Internet service access request. First, Petitioner asserts that Rao’s applications “communicat[e] over the Internet and receiv[e] service from servers,” and thus a person of ordinary skill in the art “would have understood or found it obvious that Rao’s applications would be configured to send packetized communications over the Internet to such servers requesting access to their corresponding services (*an Internet service access request*).” Pet. 30 (citing Ex. 1003 ¶¶ 107–108; Ex. 1005 ¶¶ 90, 179, 184). Even if Petitioner is correct that a person of ordinary skill in the art would have known that Rao’s applications send an Internet service access request, that alone does not show that Rao also teaches blocking the Internet service access request. *See id.*

Second, Petitioner identifies portions of Rao that teach discarding network packets. *Id.* at 37 (citing Ex. 1005 ¶¶ 104, 191, 194, 207). As discussed above, though, the ’184 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. *Id.* at 37, 40–42 (citing Ex. 1003 ¶¶ 128, 136–137, 142–143). 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.<sup>1</sup> *See id.* at 37; 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. *See* Pet. 37, 40–42; Ex. 1003 ¶¶ 128, 136–137, 142–143.

In addition, Petitioner states that in the proposed combination, “[i]f an application is permitted to access the Internet . . . the network packets generated by that application would be filtered in accordance with the Rao-Oestvall combination.” Pet. 25–26. In other words, in Petitioner’s proposed combination, Rao only discards network packets after an application’s Internet service access request is permitted. *See id.*

Thus, on this record, Petitioner does not show sufficiently that Rao teaches blocking an Internet service access request. Petitioner relies on Oestvall for “specific application classification criteria.”<sup>2</sup> *Id.* at 11, 15–16, 40–43. And, Petitioner relies on Freund for “bandwidth and interactive use

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<sup>1</sup> 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. Prelim. Resp. 24; Ex. 1005 ¶ 192.

<sup>2</sup> Petitioner’s proposed combination does not include Oestvall’s teaching of “completely shutting down” an application. Pet. 16 (“[T]he combined Rao-Oestvall system can . . . control[] the network activities of applications to a much greater degree of granularity than offered by Oestvall’s relatively blunt approach of completely shutting down applications.”).

monitoring.” *Id.* at 23–26, 45–47. As a result, Petitioner’s reliance on Oestvall and Freund does not compensate for the deficiency in Rao discussed above.

For the above reasons, on this record, Petitioner does not demonstrate a reasonable likelihood of prevailing in showing that claim 1 would have been obvious over Rao, Oestvall, and Freund.

*2. Claims 2–6, 13, and 18*

Claims 2–6, 13, and 18 depend from claim 1. Petitioner’s arguments and evidence regarding these dependent claims do not compensate for the deficiencies discussed above for claim 1. *See* Pet. 47–58. Thus, for the same reasons discussed above, Petitioner does not demonstrate a reasonable likelihood of prevailing in showing that claims 2–6, 13, and 18 would have been obvious over Rao, Oestvall, and Freund.

*3. Summary*

For the foregoing reasons, Petitioner does not demonstrate a reasonable likelihood of prevailing in showing that claims 1–6, 13, and 18 would have been obvious over Rao, Oestvall, and Freund.

*D. Obviousness of Claims 10–12, 14–17, 19, and 20 over Rao, Oestvall, Freund, and Araujo*

Petitioner argues that claims 10–12, 14–17, 19 and 20 would have been obvious over Rao, Oestvall, Freund, and Araujo. Pet. 58–79. Claims 10–12, 14–17, 19 and 20 depend, directly or indirectly, from claim 1. Petitioner’s arguments and evidence regarding these dependent claims do not compensate for the deficiencies discussed above for claim 1. *See id.* Thus, for the same reasons discussed above for claim 1, Petitioner does not demonstrate a reasonable likelihood of prevailing in showing that claims 10–

12, 14–17, 19 and 20 would have been obvious over Rao, Oestvall, Freund, and Araujo.

### III. CONCLUSION

Petitioner does not demonstrate a reasonable likelihood of prevailing in showing that at least one of the challenged claims of the '184 patent is unpatentable.

### IV. ORDER

It is hereby

ORDERED that the Petition is denied, and no trial is instituted.

IPR2023-01361  
Patent 9,271,184 B2

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