

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC, CELLCO PARTNERSHIP D/B/A VERIZON WIRELESS,
VERIZON CORPORATE SERVICES GROUP INC.,
T-MOBILE USA, INC., SPRINT LLC F/K/A SPRINT CORP.,
and AT&T SERVICES, INC.,
Petitioner,

v.

HEADWATER RESEARCH LLC,
Patent Owner.

IPR2024-00944
Patent 8,589,541 B2

Before HYUN J. JUNG, SCOTT B. HOWARD,
and STEPHEN E. BELISLE, *Administrative Patent Judges*.

HOWARD, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. Background and Summary

Google LLC, Cellco Partnership d/b/a Verizon Wireless, Verizon Corporate Services Group Inc., T-Mobile USA, Inc., Sprint LLC f/k/a Sprint Corp., and AT&T Services, Inc. (collectively “Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting *inter partes* review of claims 1, 24, 25, 27–40, 61, 62, 65–90, 153, 154, and 172–174 of U.S. Patent No. 8,589,541 B2 (Ex. 1001, “the ’541 patent”). Pet. 1. Headwater Research LLC (“Patent Owner”) filed a Corrected Preliminary Response (Paper 13, “Prelim. Resp.”).¹ Additionally, Patent Owner filed a statutory disclaimer disclaiming claims 1, 24, 25, 27–40, 61, 62, 65–78, 80–82, 84–90, 153, 154, and 172–174.² Ex. 3002. With our authorization (Paper 13), Petitioner filed a Pre-Institution Reply to the Preliminary Response directed to *Fintiv* and responding to Patent Owner’s arguments regarding claims 79 and 83 (Paper 14, “Pet. Prelim. Reply”) and Patent Owner filed a Pre-Institution Sur-reply (Paper 16, “PO Prelim. Sur-reply”).

We have authority, acting on the designation of the Director, to determine whether to institute an *inter partes* review under 35 U.S.C. § 314 and 37 C.F.R. § 42.4.(a). *Inter partes* review may not be instituted unless “the information presented in the petition filed under section 311 and any response filed under section 313 shows that there is a reasonable likelihood

¹ The originally filed Preliminary Response (Paper 10) had pagination errors. Ex. 3001.

² Because those claims have been disclaimed, we may not institute *inter partes* review on those claims. 37 C.F.R. 42.107(c) (2023). Accordingly, we treat the Petition as only challenging claims 79 and 83 (“the challenged claims”), the two claims which have not been disclaimed.

that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a) (2024). “When instituting *inter partes* review, the Board will authorize the review to proceed on all of the challenged claims and on all grounds of unpatentability asserted for each claim.” 37 C.F.R. § 42.108(a).

For the reasons set forth below, upon considering the briefing and the evidence of record, we determine that the information presented in the Petition does not establish a reasonable likelihood that Petitioner will prevail with respect to at least one of the challenged claims. Accordingly, we do not institute *inter partes* review.

B. Real Parties in Interest

Petitioner identifies Google LLC, Cellco Partnership d/b/a Verizon Wireless, Verizon Corporate Services Group Inc., T-Mobile USA, Inc., Sprint LLC f/k/a Sprint Corp., AT&T Services, Inc., AT&T Mobility LLC, and AT&T Enterprises LLC as the real parties in interest. Pet. 73.

Patent Owner identifies Headwater Research LLC as the real party in interest. Paper 8, 1 (Patent Owner’s Mandatory Notices).

C. Related Matters

Petitioner indicates that “[t]he ’541 patent is, or has been, involved” in the following proceedings:

1. *Headwater Research LLC v. Verizon Communications Inc.*, 2:23-cv-00352 (E.D. Tex. Jul. 28, 2023)
2. *Headwater Research LLC v. AT&T Inc.*, 2:23-cv-00397 (E.D. Tex. Sept. 1, 2023)
3. *Headwater Research LLC v. AT&T Inc.*, 2:23-cv-00398 (E.D. Tex. Sept. 1, 2023)
4. *Headwater Research LLC v. T-Mobile US, Inc.*, 2:23-cv-00377 (E.D. Tex. Aug. 21, 2023)

5. *Headwater Research LLC v. T-Mobile US, Inc.*, 2:23-cv-00379
(E.D. Tex. Aug. 21, 2023).

Pet. 74. Petitioner further indicates that above proceedings 2 and 3 have been consolidated and above proceedings 4 and 5 have been consolidated. *Id.*, nn.4–5.

Patent Owner identifies the above proceedings (but omitting proceedings 3 and 5) and additionally identifies the following PTAB proceedings:

1. *Google LLC v. Headwater Research LLC*, IPR2024-00942 (PTAB)
2. *Google LLC v. Headwater Research LLC*, IPR2024-00943 (PTAB).

Paper 8, 1.

D. The '541 patent (Ex. 1001)

The '541 patent is titled “Device-Assisted Services for Protecting Network Capacity” and relates to software “of a wireless end-user device” aimed at addressing the “growing digital networking demand” for “user capacity” without “degrad[ing] overall network service experience” (e.g., without overly “consum[ing] the available [network] capacity”). Ex. 1001, codes (54), (57), 7:35–55.

Figure 14 is reproduced below.

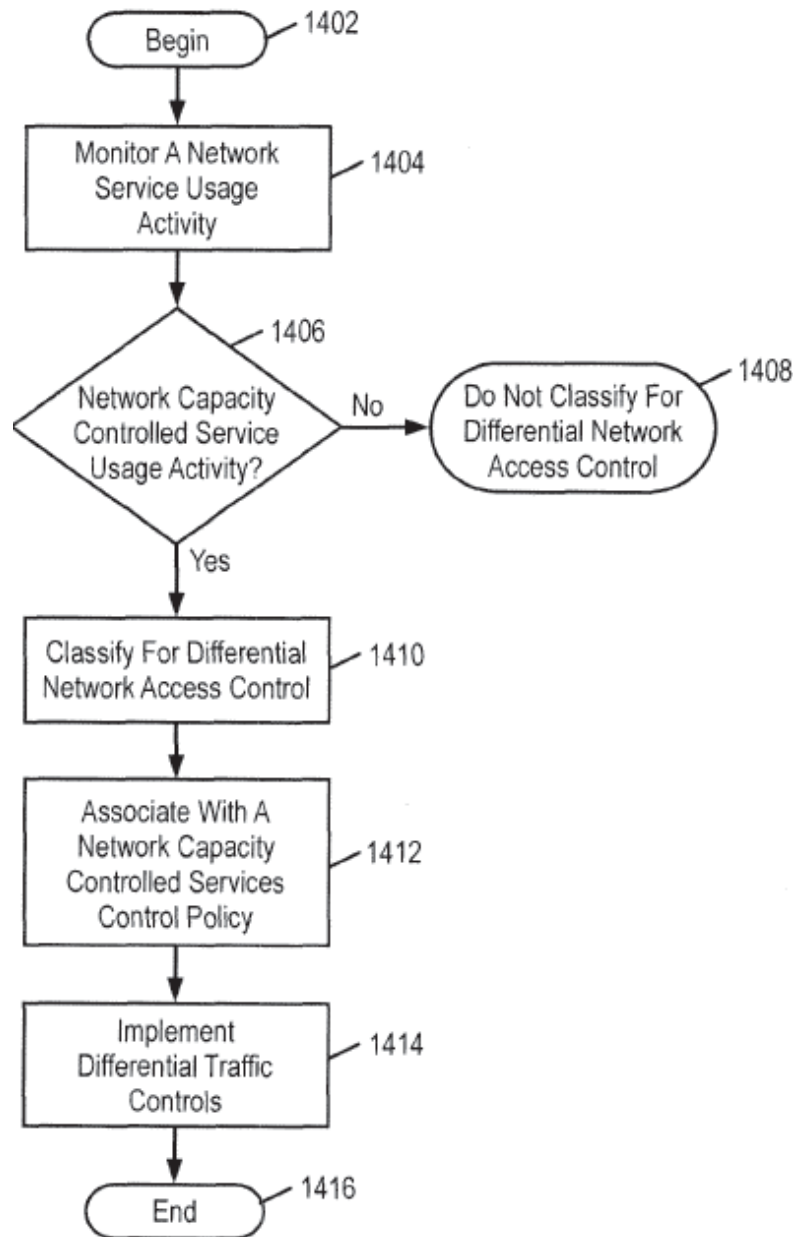


Figure 14 “illustrates a flow diagram for device assisted services (DAS) for protecting network capacity.” Ex. 1001, 8:47–49; *see also id.* at 69:5–38 (describing Figure 14 in detail). Step 1402 begins the process. *Id.* at 69:7.

Step 1404 monitors the network service usage activity of a wireless network device. Ex. 1001, 69:7–10. Step 1406 determines whether the

monitored network service usage activity is a network capacity controlled service. *Id.* at 69:10–12. If the answer is no, then at step 1408, “the network service usage activity is not classified for differential network access control.” *Id.* at 69:12–15. But, if the answer is yes, then “the network service usage activity is classified (e.g., into one or more network capacity controlled services) for differential network access control for protecting network capacity.” *Id.* at 69:15–20. The “classifying the network service usage activity includes classifying the network service usage activity into one or more of a plurality of classification categories for differential network access control for protecting network capacity,” such as “a background services classification and/or a background priority state classification.” *Id.* at 69:20–28. Based on the particular classification of the network service usage activity for differential network access control (e.g., “background services classification”), step 1412 associates the network service usage activity with a network capacity controlled services control policy to facilitate differential network access control for protecting network capacity. *Id.* at 69:28–32. Step 1414 implements differential network access control for protecting network capacity by implementing different traffic controls for all or some of the network service usage activities (e.g., based on a network busy state or another criteria/measure). *Id.* at 69:33–37. Step 1416 completes the process. *Id.* at 69:37–38.

Figure 18 is reproduced below.

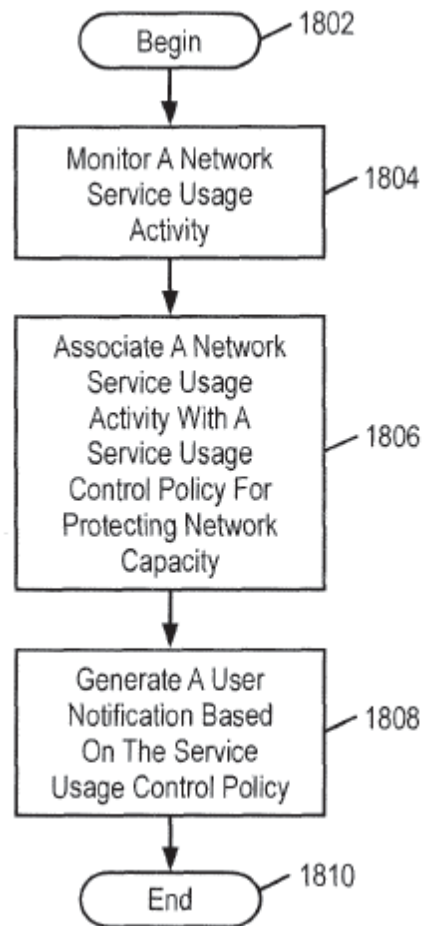


Figure 18 “illustrates another flow diagram for device assisted services (DAS) for protecting network capacity.” Ex. 1001, 8:59–61; *see also id.* at 70:57–71:3 (describing Figure 18). Step 1802 begins the process. *Id.* at 70:59. Step 1804 monitors the network service usage activities of a wireless network device. *Id.* at 70:59–61. Step 1806 associates a network service usage activity (e.g., a network capacity controlled service) with a service usage control policy (e.g., a network capacity controlled services policy) based on a classification of the network service usage activity for differential network access control for protecting network capacity. *Id.* at 70:61–71:1.

Step 1808 generates a user notification based on the service usage control policy. *Id.* at 71:1–2. Step 1810 completes the process. *Id.* at 71:2–3.

E. Illustrative Claim

Claim 1 (now statutorily disclaimed) was the only independent claim. Claims 79 and 83 each depend from independent claim 1. Claims 1, 79, and 83 are reproduced below.

1. [1a] A non-transitory computer-readable storage medium storing machine-executable instructions that, when executed by one or more processors of a wireless end-user device, cause the one or more processors to:

[1b] identify a service usage activity of the wireless end-user device, the service usage activity being associated with a first software component of a plurality of software components on the wireless end user device,

[1c] the service usage activity comprising one or more prospective or successful communications over a wireless network;

[1d] determine whether the service usage activity comprises a background activity;

[1e] determine at least an aspect of a policy based on a user input obtained through a user interface of the wireless end-user device or based on information from a network element,

[1f] the policy to be applied if the service usage activity is the background activity, the policy at least for controlling the service usage activity; and

[1g] if it is determined that the service usage activity is the background activity, apply the policy.

79. The non-transitory computer-readable storage medium recited in claim 1, wherein apply the policy comprises at least assist in intercepting a stack application programming interface (API) level or application messaging layer request.

83. The non-transitory computer-readable storage medium recited in claim 1, wherein apply the policy comprises at least assist in intercepting, modifying, blocking, removing, injecting, swapping, or replacing an application interface message.

Ex. 1001, 110:14–31 (bracketed material reflects limitations as argued by Petitioner (Pet. viii)), 117:16–19, 117:32–35.

F. Prior Art and Asserted Ground

Petitioner asserts that the challenged claims would have been unpatentable on the following ground:

Claim(s) Challenged	35 U.S.C. § ³	Reference(s)/Basis
79, 83	102	Rao ⁴
79, 83	103(a))	Rao

Petitioner also relies on the testimony of Dr. Andrew Wolfe (Ex. 1015). Patent Owner relies on the testimony of Mr. Erik de la Iglesia (Ex. 2001).

II. ANALYSIS

A. Legal Standards

1. Anticipation

A patent claim is unpatentable under 35 U.S.C. § 102 if “the four corners of a single, prior art document describe every element of the claimed invention, either expressly or inherently, such that a person of ordinary skill

³ The Leahy-Smith America Invents Act (“AIA”) included revisions to 35 U.S.C. §§ 102 and 103 that became effective on March 16, 2013. Because the ’541 patent has an application filing date of May 11, 2011, we apply the pre-AIA version of the statutory basis for unpatentability. *See* Ex. 1001, code (22).

⁴ US 2006/0039354 A1, published Feb. 23, 2006 (Ex. 1002).

in the art could practice the invention without undue experimentation.” *Advanced Display Sys., Inc. v. Kent State Univ.*, 212 F.3d 1272, 1282 (Fed. Cir. 2000). “A single prior art reference may anticipate without disclosing a feature of the claimed invention if such feature is necessarily present, or inherent, in that reference.” *Allergan, Inc. v. Apotex Inc.*, 754 F.3d 952, 958 (Fed. Cir. 2014). Moreover, the reference must also “disclose[] within the four corners of the document not only all of the limitations claimed but also all of the limitations arranged or combined in the same way as recited in the claim.” *Net MoneyIN, Inc. v. Verisign, Inc.*, 545 F.3d 1359, 1371 (Fed. Cir. 2008). However, “the reference need not satisfy an *ipsissimis verbis* test.” *In re Gleave*, 560 F.3d 1331, 1334 (Fed. Cir. 2009).

2. Obviousness

In *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1 (1966), the Supreme Court set out a framework for assessing obviousness under 35 U.S.C. § 103 that requires consideration of four factors: (1) the “level of ordinary skill in the pertinent art,” (2) the “scope and content of the prior art,” (3) the “differences between the prior art and the claims at issue,” and (4) if in evidence, “secondary considerations” of non-obviousness such as “commercial success, long-felt but unsolved needs, failure of others, etc.” *Id.* at 17–18. “While the sequence of these questions might be reordered in any particular case,” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 407 (2007), the U.S. Court of Appeals for the Federal Circuit has repeatedly emphasized that “it is error to reach a conclusion of obviousness until all those factors are considered,” *WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1328 (Fed. Cir. 2016). Because Patent Owner does not address objective

evidence of non-obviousness, we focus solely on the first three *Graham* factors.

B. Level of Ordinary Skill in the Art

The level of ordinary skill in the pertinent art at the time of the invention is a factor in how we construe patent claims. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc). It is also one of the factors we consider when determining whether a patent claim is obvious over the prior art. *See Graham*, 383 U.S. at 17–18.

Factors pertinent to a determination of the level of ordinary skill in the art include “(1) the educational level of the inventor; (2) type of problems encountered in the art; (3) prior art solutions to those problems; (4) rapidity with which innovations are made; (5) sophistication of the technology; and (6) educational level of active workers in the field.” *Envtl. Designs, Ltd. v. Union Oil Co. of Cal.*, 713 F.2d 693, 696–97 (Fed. Cir. 1983) (citing *Orthopedic Equip. Co. v. All Orthopedic Appliances, Inc.*, 707 F.2d 1376, 1381–82 (Fed. Cir. 1983)). “Not all such factors may be present in every case, and one or more of these or other factors may predominate in a particular case.” *Id.*

Petitioner argues that a person having ordinary skill in the art “would have at least a bachelor’s degree in computer science, computer engineering, or a similar field, and approximately two years of industry or academic experience in a field related to computer software development and/or computer networking.” Pet. 2 (citing Ex. 1015 ¶¶ 50–52). Petitioner further argues that “[w]ork experience can substitute for education, and additional education can substitute for work experience.” *Id.* at 2–3 (citing Ex. 1015 ¶¶ 50–52).

“Patent Owner does not challenge that definition.” Prelim. Resp. 3.

Because Petitioner’s proposed level of ordinary skill in the art is consistent with the field of the invention of the ’541 patent and not disputed by Patent Owner, we adopt Petitioner’s formulation of the person having ordinary skill in the art.

C. Claim Construction

We apply the same claim construction standard used in the federal courts, in other words, the claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. § 282(b), which is articulated in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). See 37 C.F.R. § 42.100(b). Under the *Phillips* standard, the “words of a claim ‘are generally given their ordinary and customary meaning,’” which is “the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.” *Phillips*, 415 F.3d at 1312–13.

Petitioner states “[n]o terms require construction to resolve this Petition.” Pet. 3.

“Patent Owner agrees” with Petitioner that no claim terms require construction. Prelim. Resp. 1.

For the purposes of this Decision, we need not expressly construe any claim terms. See *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (noting that “we need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy’” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

D. Anticipation or Obviousness over Rao

Petitioner argues that claims 79 and 83 are unpatentable as anticipated by, or obvious in view of, Rao. Pet. 6–18, 22–23, 25. Based on the current record, we are not sufficiently persuaded that Petitioner has established a reasonable likelihood of prevailing with regard to either challenged claim.

1. Overview of Rao

Rao is titled “Systems and Methods for Client-Side Application-Aware Prioritization of Network Communications.” Ex. 1002, code (54). Rao’s invention “generally relates to optimizing peer-to-peer network communications, and in particular, to techniques for application-aware prioritizations of network communications on a client.” *Id.* ¶ 2.

Rao identifies a problem of processing network communications in the order the communications are generated by client applications of a user’s device. Ex. 1002 ¶ 3. “For example, . . . , although an application is running in the foreground and currently in active use by the user, a network packet [earlier] generated or received for an application running in the background may be processed ahead of a network packet generated or received for the application running in the foreground.” *Id.*

Figure 1C is reproduced below.

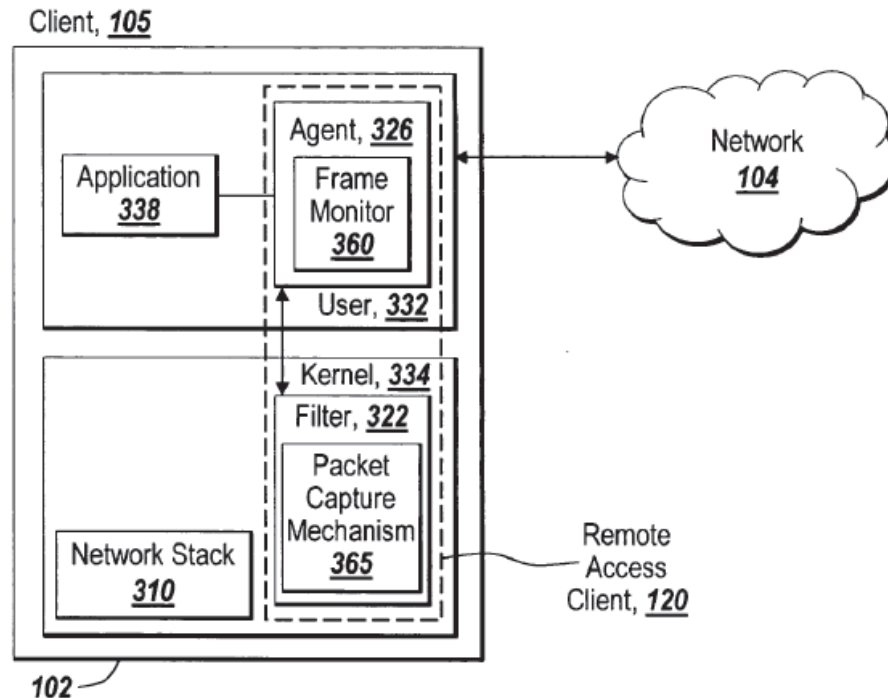


Figure 1C illustrates “a block diagram . . . of a remote access client . . . for network communications.” Ex. 1002 ¶ 62. Figure 1C also illustrates a computing device 102 operating as client 105 via network 104 and including user space 332 and kernel space 334. *Id.* ¶ 99. User space 332 includes application 338, agent 326, and frame monitor 360 (of the agent 326) having logic that applies policies to received network packets. *Id.* ¶¶ 99, 108. Kernel space 334 includes network stack 310, filter 322 that determines action taken upon packets, and packet capture mechanism (PCM) 365 (of filter 322) that intercepts network packets. *Id.* ¶¶ 99–104, 180.

Agent 326 and filter 322 form the remote access client (RAC) 120. Ex. 1002 ¶ 99. Agent 326 provides RAC 120 a filtering table that PCM 365 of RAC 120 uses to selectively intercept/forward outbound network packets to frame monitor 360 of agent 326. *Id.* ¶ 104.

Figure 5A is reproduced below.

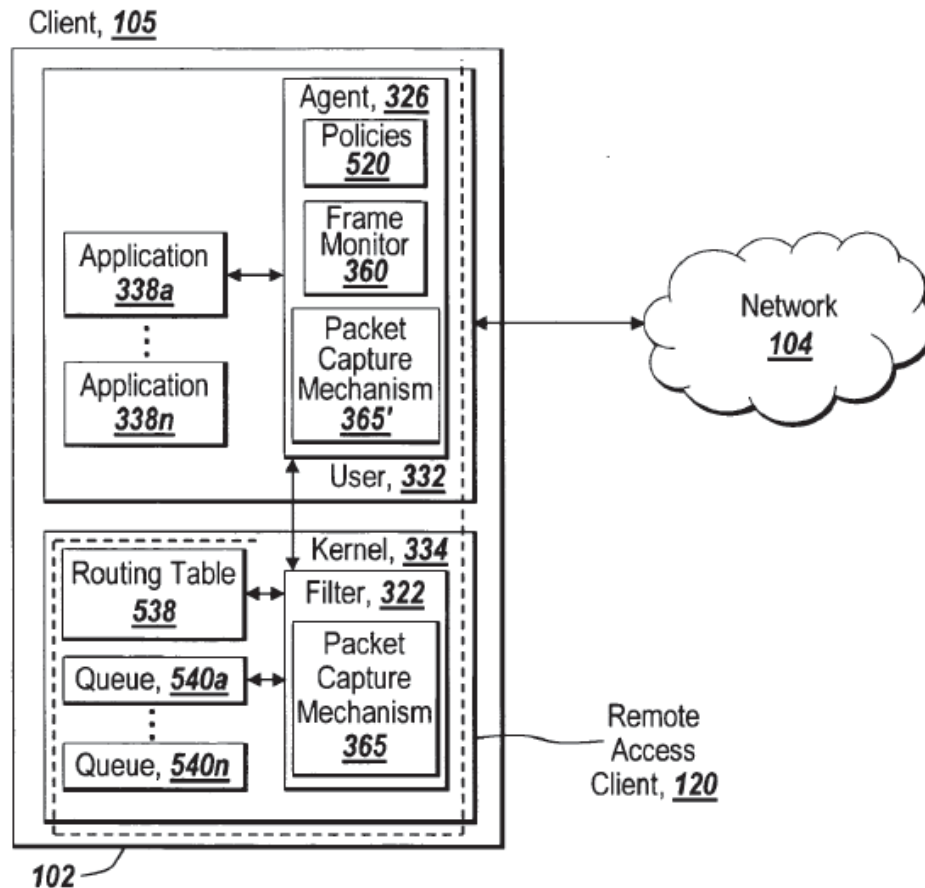


Figure 5A illustrates “block diagram depicting an environment of a client for providing client-side application-aware prioritization techniques.” Ex. 1002 ¶ 70. Figure 5A shows client computing device 102, 105 similar, but not identical to, the one shown in Figure 1A. *Compare* Fig. 5A, with Fig. 1A.

Unlike in the Figure 1A embodiment, RAC 120 of the kernel space 334 includes queues 540a–540n that queue and prioritize network packets intercepted by PCM 365. Ex. 1002 ¶ 180. Queues 540a–540n are associated with respective applications 338a–338n of the client 105 and organized by levels of priority, e.g., high, medium, low. *Id.* Routing table 538 dictates how agent 326 routes the network packets. *Id.* ¶ 181.

Further, unlike in the Figure 1A embodiment, RAC 120 of user space 332 includes policies 520 specifying client-side prioritizations of network packets generated by the applications 338a–338n. Ex. 1002 ¶ 182. For example, the policies may prioritize, based on the respective communication protocols of applications 338a–338n, the payload sizes of the network packets, and/or whether a given application is running in the foreground or background of client 105. *Id.*

Figure 5B is reproduced below.

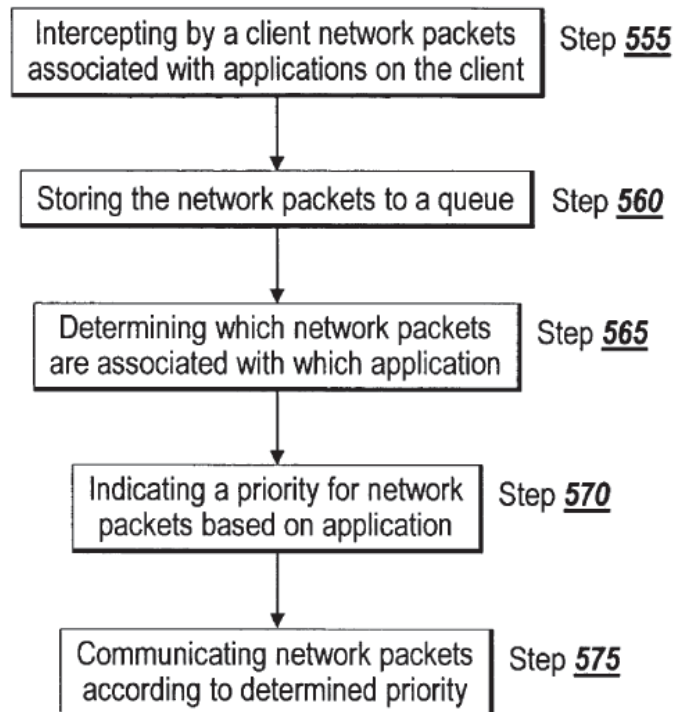


Figure 5B illustrates “a flow diagram depicting . . . [the] client-side application-aware prioritization” (Ex. 1002 ¶ 71) of the Figure 1A and Figure 5A embodiments (*id.* ¶ 184). Step 555 intercepts a network packet generated by one of applications 338a–338n. *Id.* Step 560 stores the intercepted network packet to one of queues 540a–540n. *Id.* Step 565 determines a priority of the intercepted, queued network packet based on the priority for the respective one of applications 338a–338n. *Id.* Steps 570 and

575 respectively indicate the determined priority for the network packet and accordingly communicate the network packet. *Id.*

2. *Analysis of Claims 79 and 83*

a) *Petitioner's Arguments*

Claim 79 depends from claim 1 and recites “wherein apply the policy comprises at least assist in intercepting a stack application programming interface (API) level or application messaging layer request.” Ex. 1001, 117:16–19. Claim 83 also depends from claim 1 and recites “wherein apply the policy comprises at least assist in *intercepting*, modifying, blocking, removing, injecting, swapping, or replacing *an application interface message*.” *Id.* at 117:32–35 (emphasis added). Petitioner, relying on the same evidence and arguments, argues that Rao either anticipates claims 79 and 83 or renders those claims obvious. Pet. 22–23 (arguments regarding claim 79), 25 (adopting the arguments of claim 79 with regard to claim 83). For the reasons set forth below, we are not sufficiently persuaded by Petitioner’s arguments.⁵

Specifically, Petitioner argues that “Rao’s filter 322 ‘appl[ies] the . . . priorities’ to the network packets (i.e., applies the policy).” Pet. 22 (citing Pet. 15–18; Ex. 1002 ¶¶ 189–193; Ex. 1015 ¶¶ 252–257). Petitioner further argues that “Rao’s agent 326 communicates the priorities to the filter via an API” and that “[t]his communication requires the filter to send a call (i.e.,

⁵ The parties dispute whether Petitioner’s anticipation arguments are based on an explicit or inherent disclosure. *Compare* Pet. 22–23; Pet. Prelim. Reply 1, *with* Prelim. Reply 5. We need not resolve that dispute as the Petition fails to sufficiently show anticipation under either standard.

request) to the agent 326 through the API to transmit the priorities.” *Id.* (quoting Ex. 1002 ¶ 190 and citing *id.* ¶ 106; Ex. 1015 ¶¶ 252–257).

Petitioner further argues that “[b]ecause the filter is a ‘network driver’ operating on a ‘layer . . . of a network stack 310,’ Rao ¶101, the filter’s request to the agent would constitute a ‘stack application programming interface (API) level’ request, as described in the ’541 patent.” Pet. 23 (citing Ex. 1015 ¶¶ 252–257; Ex. 1001, 16:38–45). Petitioner further argues that “[t]he agent must intercept (or assist in intercepting) the filter’s stack API level request so that the agent can return the priorities to the filter.” *Id.* (citing Ex. 1015 ¶¶ 252–257; Ex. 1002 ¶¶ 88, 116; Ex. 1005,⁶ 7:36–40); *see also* Pet. Prelim Reply 1 (“Rao’s disclosure of communicating the priorities via an API would inform a [person having ordinary skill in the art] that Rao’s filter would request the priorities from the agent and the agent would assist in intercepting as claimed, because that is how APIs work.”), 2 (“The point remains that Rao expressly discloses using an API, Pet. 22–23 (citing Rao ¶¶ 190, 106), which a [person having ordinary skill in the art] would have understood teaches a request and response, thus anticipating or rendering obvious claims 79 and 83.”). Stated differently, Petitioner argues that agent 326 receiving the filter’s requests is “intercepting a stack application programming interface (API) level . . . request” (claim 79) and “intercepting . . . an application interface message” (claim 83).

b) Analysis of the Anticipation Argument

We are not sufficiently persuaded by Petitioner’s argument. With regard to anticipation, we have reviewed all of the sections of Rao cited in

⁶ US 8,028,060 B1, filed Jan. 5, 2007, issued Sept. 27, 2011.

the Petition (Ex. 1002 ¶¶ 189–193 (cited by Pet. 22)) and see no discussion as to what causes policies 520 to be sent to filter 322. *See* Ex. 2001 ¶¶ 42–43 (Mr. de la Iglesia testifying to same). Although Rao describes how agent 326 sends policies to filter 322, Rao is silent as to what causes that transmission:

In some embodiments, the agent 326 indicates the priority to the filter 322 for management of network packet queues 540a–540n to apply the indicated priorities. The agent 326 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), such an IOCTL interface, or any other type and/or form of interface known to those ordinarily skilled in the art.

Ex. 1002 ¶ 190. That is, Rao is silent as to whether filter 322 requests the policies (as Petitioner argues) or agent 326 acts on its own to send the policies (*see* Prelim. Resp. 3–6; Ex. 2001 ¶¶ 34–40). And without the message being sent to the filter, there is nothing for the filter to intercept.

We have also considered the testimony of Dr. Wolfe on this subject. Specifically, Dr. Wolfe testifies that filter 322 must request agent 326 to send policies 520:

A [person having ordinary skill in the art] would have recognized that, for determined priorities to be communicated from the agent 326 to the filter 322 so that they can be applied, *see id.* ¶¶ 189–93, the filter 322 would need to send a call (i.e., request) to the agent 326 through the API requesting that the agent 326 send the priorities.

Ex. 1015 ¶ 256. However, we find insufficient support for Dr. Wolfe’s testimony. There is nothing in the cited paragraphs stating that the filter requests the agents to send the policies. *See* Ex. 1002 ¶¶ 189–193. Rather, as discussed above, Rao simply states that “the agent 326 indicates the

priority to the filter 322.” *Id.* ¶ 190. Nor do the portions of Rao cited in the preceding paragraphs (Ex. 1015 ¶¶ 253–255 (citing Ex. 1002 ¶¶ 101, 106, 189–195, Fig. 5) provide support for Dr. Wolfe’s conclusions. Accordingly, we do not credit Dr Wolfe’s unsupported conclusory opinion.

We also disagree with Petitioner’s argument that Mr. de la Iglesia “does not dispute that an API would ordinarily require a request and response, as Dr. Wolfe explained.” Pet. Prelim. Reply 2 (citing Ex. 1015 ¶ 257). To the contrary, Mr. de la Iglesia testifies, consistent with our findings above, that Dr. Wolfe fails to support his opinion that the filter (whether or not using an API) must request the priorities before they are sent. *See* Ex. 2001 ¶¶ 41–47.

Nor do we agree with Petitioner’s characterization of Mr. de la Iglesia’s testimony as showing that Rao’s filter (using an API) sends request for priority information. *See* Pet. Prelim. Reply 2 (citing Ex. 2001 ¶ 38). Contrary to Petitioner’s argument, we understand the testimony as merely stating that a person having ordinary skill in the art would have understood that if Rao’s API was used to send such a request, it would be costly:

I suppose that another hypothetical way to implement a system in which the filter requested priority updates from the agent might involve the filter requesting those updates on an “as-needed” basis, e.g., as individual packets are received by the filter. However, this would be *extraordinarily* costly from a processing power standpoint, because API requests and responses would need to be transmitted at very high frequency with no associated benefit.

Ex. 2001 ¶ 38. At most, that testimony shows that Rao’s API can send requests. But the fact that an API can generally send a request does not mean that Rao’s filter using the API sends the specific requests that

Petitioner argues. There is nothing in that testimony—or any of the evidence to which Petitioner has cited—that requires Rao’s filter to send a request for priority information.

Nor does Petitioner’s reliance on Wyld⁷ require a different result. Petitioner cites Wyld for the proposition that “[t]he agent must intercept (or assist in intercepting) the filter’s stack API level request so that the agent can return the priorities to the filter.” Pet. 23. But Wyld says no such thing. Instead, the cited portion of Wyld just discusses how one can use “an API in an interface to a call stack within an operating system, which allows any client (and in particular, the DS 128 acting as a client) to ask for current usage statistics on a given network connection.” Ex. 1005, 7:36–40. As discussed above, the mere fact that an API can send a call/request does not mean, as Petitioner argues, that Rao’s filter must send a request through the API to the agent to request priorities be transmitted.

Accordingly, Petitioner has not sufficiently shown that Rao anticipates the limitations recited in claims 79 and 83, either explicitly or under the doctrine of inherent anticipation.

c) Obviousness

“[I]n appropriate circumstances, a patent can be obvious in light of a single prior art reference if it would have been obvious to modify that reference to arrive at the patented invention.” *Arendi S.A.R.L. v. Apple Inc.*, 832 F.3d 1355, 1361 (Fed. Cir. 2020) (citing *Takeda Chem. Indus., Ltd. v. Alphapharm Pty, Ltd.*, 492 F.3d 1350, 1357 (Fed. Cir. 2007); *SIBIA Neurosciences, Inc. v. Cadus Pharm. Corp.*, 225 F.3d 1349, 1356 (Fed. Cir.

⁷ US 8,028,060 B1, issued Sept. 27, 2011 (Ex. 1005).

2000)). Obviousness arguments—whether based on multiple references or a single reference—must be supported by “some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006), *cited with approval in KSR*, 550 U.S. at 418; *see also In re Stepan Co.*, 868 F.3d 1342, 1346 n.1 (Fed. Cir. 2017) (“Whether a rejection is based on combining disclosures from multiple references, combining multiple embodiments from a single reference, or selecting from large lists of elements in a single reference, there must be a motivation to make the combination and a reasonable expectation that such a combination would be successful, otherwise a skilled artisan would not arrive at the claimed combination.”); *SIBIA*, 225 F.3d at 1356 (For single reference obviousness, “there must be a showing of a suggestion or motivation to modify the teachings of that reference to the claimed invention in order to support the obviousness conclusion.” (citing *B.F. Goodrich Co. v. Aircraft Braking Sys. Corp.*, 72 F.3d 1577, 1582 (Fed. Cir. 1996))).

Petitioner simply relies on its anticipation evidence and argument, which we have determined insufficient, to argue that claims 79 and 83 are obvious. *See* Pet. 22–23, 25. That is, Petitioner argues that Rao discloses the limitation based on the words of Rao and how a person having ordinary skill in the art would have understood them. *See* Pet. 22–23; Ex. 1015 ¶¶ 252–257. As discussed in the previous section, we did not find those arguments or evidence sufficient to support an anticipation position. That evidence is also insufficient to show the claims would have been obvious.

Neither the Petition nor Dr. Wolfe’s testimony provide any discussion as to why a person having ordinary skill in the art would have modified Rao

to teach the additional limitation recited in either claim 79 or 83. *See* Pet. 22–23; Ex. 1015 ¶¶ 252–257. This stands in contrast to other portions of the Petition where Petitioner clearly set forth both anticipation and conditional obviousness arguments, including a reason to modify Rao. *See, e.g.,* Pet. 13–15 (arguing that Rao discloses limitation 1e or that a person having ordinary skill in the art “would . . . have been motivated” to modify Rao). Thus, although the Petition purports to argue that claims 79 and 83 are obvious,⁸ the Petition lacks sufficient argument setting forth the basis for such an obviousness argument. At most, there is a conclusory statement that claims 79 and 83 are obvious. *See* Pet. 6 (“Rao anticipates most of the limitations discussed under this Ground for the reasons provided below. Rao renders these same limitations obvious for the same reasons.”).

That is not sufficient. Where, as here, claims are alleged to be unpatentable as obvious over the prior art, Petitioner cannot make its case solely through mere conclusory statements. *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016). Moreover, it is not our role to examine the prior art advanced by Petitioner and fill the gaps in Petitioner’s reasoning and factual assertions. *Magnum Oil Tools*, 829 F.3d at 1381 (“[W]e find no support for the PTO’s position that the Board is free to adopt arguments on behalf of petitioners that could have been, but were not, raised

⁸ *See* Pet. 1 (“Rao ‘anticipates and/or renders obvious’ claims” 1, 79, and 83), 6 (“Rao anticipates most of the limitations discussed under this Ground for the reasons provided below. Rao renders these same limitations obvious for the same reasons. Rao also renders obvious the remaining limitations discussed under this Ground.”); Pet. Prelim. Reply 1 (“Rao therefore discloses or renders obvious intercepting a stack API level request by its filter requesting priorities from the agent.”).

by the petitioner during an IPR.”); *see also SAS Institute Inc. v. Iancu*, 138 S.Ct. 1348 (U.S. 2008) (“in an *inter partes* review the petitioner is master of its complaint”); 37 C.F.R. § 42.104(b)(4) (“The petition must specify where each element of the claim is found in the prior art patents or printed publications relied upon”). Because Petitioner has not offered any reason why a person having ordinary skill in the art would have made a modification to claims 79 and 83, Petitioner has not sufficiently shown that claims 79 and 83 would have been obvious. *See 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 [the] prior art to arrive at the claimed invention.”).

E. Discretionary Denial – Parallel Proceedings

Patent Owner argues that we should exercise our discretion and deny institution based on the parallel district court proceedings. *See* Prelim. Resp. 12–26; PO Prelim. Sur-reply 3–4. Petitioner disagrees. *See* Pet. 71–72; Pet. Prelim. Reply 3–4.

Because the Petition does not demonstrate a reasonable likelihood that Petitioner would prevail in establishing the unpatentability of any of the challenged claims of the ’541 patent, Patent Owner’s arguments for discretionary denial are moot.

III. CONCLUSION

For the foregoing reasons and on the present record, we determine that the information presented in the Petition does not demonstrate a reasonable likelihood that Petitioner would prevail in establishing the unpatentability of any of the challenged claims of the ’541 patent.

IV. ORDER

In consideration of the foregoing, it is hereby:
ORDERED that the Petition is *denied*.

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FOR PETITIONER:

Erika H. Arner
Daniel C. Tucker
Alexander M. Boyer
Cara E. Regan
FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, LLP
erika.arner@finnegan.com
daniel.tucker@finnegan.com
alexander.boyer@finnegan.com
cara.regan@finnegan.com

Patrick D. McPherson
Kevin P. Anderson
pdmcperson@duanemorris.com
kpanderson@duanemorris.com

FOR PATENT OWNER:

Reza Mirzaie
Dale Chang
Amy Hayden
James Milkey
Neil Rubin
Philip Wang
rmirzaie@raklaw.com
dchang@raklaw.com
ahayden@raklaw.com
jmilkey@raklaw.com
nrubin@raklaw.com
pwang@raklaw.com