

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

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

v.

HEADWATER RESEARCH LLC,
Patent Owner.

IPR2024-01181
Patent 10,749,700 B2

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

HOWARD, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. *Background and Summary*

Lenovo (United States) Inc. and Motorola Mobility LLC filed a Petition (Paper 1, “Pet.”) requesting *inter partes* review of claims 1–20 (“the challenged claims”) of U.S. Patent No. 10,749,700 B2 (Ex. 1001, “the ’700 patent”). Pet. 1, 70. Headwater Research LLC (“Patent Owner”) did not file a Preliminary Response.

We have authority, acting on the designation of the Director, to determine whether to institute an *inter partes* review. 35 U.S.C. § 314 (2024); 37 C.F.R. § 42.4(a) (2024). *Inter partes* review may not be instituted unless “the information presented in the petition filed under [35 U.S.C.] section 311 and any response filed under [35 U.S.C.] section 313 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). “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 establishes a reasonable likelihood that Petitioner will prevail with respect to at least one of the challenged claims, and we institute *inter partes* review on all of the challenged claims based on all of the grounds identified in the Petition.

B. Real Parties in Interest

Petitioner identifies itself as the real party in interest. Pet. 70. Patent Owner identifies itself as the real party in interest. Paper 4, 1 (Patent Owner’s Mandatory Notices).

C. Related Matters

The parties identify only the following district court proceeding as a related matter: *Headwater Research LLC v. Motorola Mobility LLC*, No. 4:23-cv-04496-JST (N.D. Cal.). Pet. 70; Paper 4, 1.

Petitioner also identifies an *inter partes* review petition (IPR2024-01180) filed for U.S. Patent No. 9,189,076 B2. Pet. 70.

D. The ’700 Patent

The ’700 patent is titled “Device-Assisted Services For Protecting Network Capacity.” Ex. 1001, code (54). The invention is directed to services for 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”). *Id.* at 1:1–29.

Figure 14 is reproduced below.

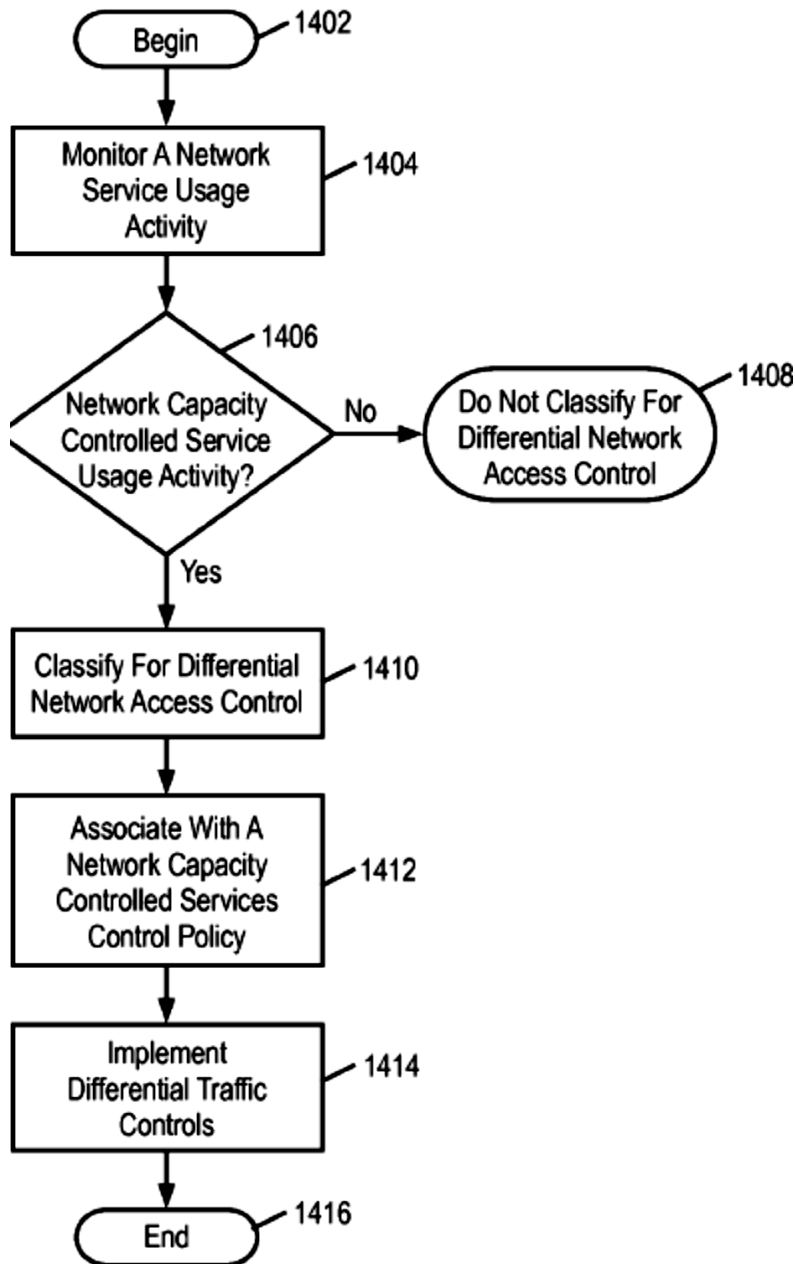


Figure 14 “illustrates a flow diagram for device assisted services (DAS) for protecting network capacity.” *Id.* at 2:19–20. Step 1402 begins the process. *Id.* at 63:66. Step 1404 monitors the network service usage activity of a wireless network device. *Id.* at 63:64–64:62. Step 1406 determines whether the monitored network service usage activity is a network capacity

controlled service. *Id.* at 64:2–4. If the answer is no, then at step 1408, “the network service usage activity is not classified for differential network access control.” *Id.* at 64:5–8. But, if the answer is yes, then at step 1410, “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 64:8–13. 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 64:13–21. 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 64:21–25. 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 64:25–29. Step 1416 completes the process. *Id.* at 64:30.

Figure 18 is reproduced below.

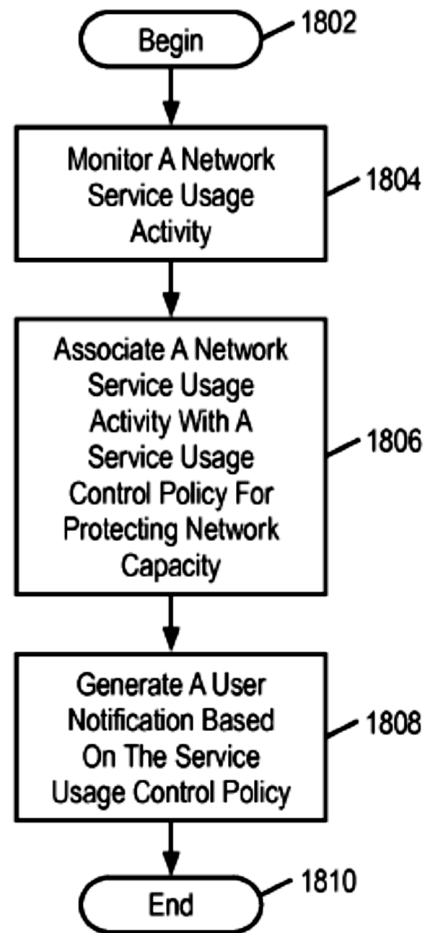


Figure 18 “illustrates another flow diagram for device assisted services (DAS) for protecting network capacity.” *Id.* at 2:31–32. Step 1802 begins the process. *Id.* at 65:53–54. Step 1804 monitors the network service usage activities of a wireless network device. *Id.* at 65:54–55. Step 1806 associates 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 65:55–62. Step 1808 generates a user notification

based on the service usage control policy. *Id.* at 65:62–64. Step 1810 completes the process. *Id.* at 65:64.

E. Illustrative Claim

Claim 1 of the '700 patent, the only independent claim, is reproduced below.

1. [1.pre] A wireless end-user device comprising:
 - [1.a] at least one wireless modem to provide network access for the wireless end-user device;
 - [1.b] an activity classifier to, for each of a plurality of executable applications stored on the wireless end-user device, dynamically associate one or more corresponding network access policy controls with each of the plurality of executable applications;
 - [1.c] an Application Programming Interface (API) accessible to each of the plurality of executable applications, the API callable by each of the executable applications to request an execution time according to the corresponding network access policy controls for that application; and
 - [1.d] a launch manager to schedule corresponding execution times for applications requesting an execution time through the API, the launch manager selecting corresponding execution times, for the applications requesting execution time, according to the respective network access policy controls for each such application.

Ex. 1001, 107:33–52; Pet. 18–32 (identification of claim limitations).

F. Prior Art and Asserted Grounds

Petitioner argues that claims 1–20 would have been unpatentable on the following grounds:

Claim(s) Challenged	35 U.S.C. §¹	Reference(s)/Basis
1, 2, 4, 5, 7–11, 13, 15–17	103(a)	Rao, ² Scahill ³
3	103(a)	Rao, Scahill, Oestvall ⁴
6, 14, 18, 19	103(a)	Rao, Scahill, Montemurro ⁵
12, 20	103(a)	Rao, Scahill, Araujo ⁶

Petitioner also relies on the testimony of Harry Bims, Ph.D.
(Ex. 1003).

II. ANALYSIS

A. Legal Standards

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.”

¹ The Leahy-Smith America Invents Act (“AIA”) included revisions to 35 U.S.C. § 103 that became effective on March 16, 2013. Because the ’700 patent was filed before March 16, 2013, we apply the pre-AIA version of the statutory basis for unpatentability. *See* Ex. 1001, code (22).

² US 2006/0039354 A1, published Feb. 23, 2006 (Ex. 1005).

³ WO 2008/113986 A2, published Sept. 29, 2008 (Ex. 1008).

⁴ US 2007/0038763 A1, published Feb. 15, 2007 (Ex. 1009).

⁵ US 2009/0207817 A1, filed Feb. 15, 2008, published Aug. 20, 2009 (Ex. 1007).

⁶ US 2009/0217065 A1, filed Feb. 26, 2008, published Aug. 27, 2009 (Ex. 1006).

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, 696–697 (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 (1) held at least a bachelor’s degree in computer science, electrical

engineering, or a related field, and (2) had three to five years of experience with networking, power consumption of networked computing devices, and/or wireless digital communications systems.” Pet. 3 (citing Ex. 1003 ¶¶ 24–26). Petitioner further argues that “[m]ore related education would compensate for fewer years of work experience (and vice versa).” *Id.* (citing Ex. 1003 ¶¶ 24–26).

For purposes of this Decision, we adopt Petitioner’s formulation of a person having ordinary skill in the art, which is not disputed and consistent with the invention claimed in the ’700 patent.⁷

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*. 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.

⁷ If Patent Owner disagrees with this formulation of the level of skill in the art, it must raise that disagreement in its Response. If a different level of skill would affect the outcome in this case, the parties must brief that issue as well. The failure of Patent Owner to describe how a different level of skill in the art is determinative will be a forfeiture of that argument. If there is a dispute regarding the level of ordinary skill in the art, then the parties are also encouraged to submit evidence, other than conclusory expert testimony, that supports their position.

Petitioner asserts “no terms need to be expressly construed.” Pet. 4.

For the purposes of this Decision, we need not expressly construe any claim terms.⁸ *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. Claim 1: Obviousness over Rao and Scahill

Petitioner argues that claims 1, 2, 4, 5, 7–11, 13, and 15–17 would have been obvious over the combination of Rao and Scahill. Pet. 6–43. Based on the current record, we are sufficiently persuaded that Petitioner has established a reasonable likelihood of prevailing on this asserted obviousness ground with respect to at least claim 1.

1. Overview of Rao

Rao is titled “Systems and Methods for Client-Side Application-Aware Prioritization of Network Communications.” Ex. 1005, code (54). Rao’s invention “generally relates to optimizing peer-to-peer network communications, and in particular, to techniques for

⁸ If either party intends to further argue claim construction at trial, including what is the plain and ordinary meaning of a term, they should do so in a clearly designated section of their briefing so as to expressly identify such arguments. *See, e.g.*, 37 C.F.R. § 42.104(b)(3) (content of petition); *see also* Patent Trial and Appeal Board Consolidated Trial Practice Guide (CTPG), 84 Fed. Reg. 64,280, at 46, 48–45 (Nov. 2019) (available at <https://www.uspto.gov/TrialPracticeGuideConsolidated>). Claim construction arguments should not be relegated to patentability arguments on the facts.

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. *Id.* ¶ 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.

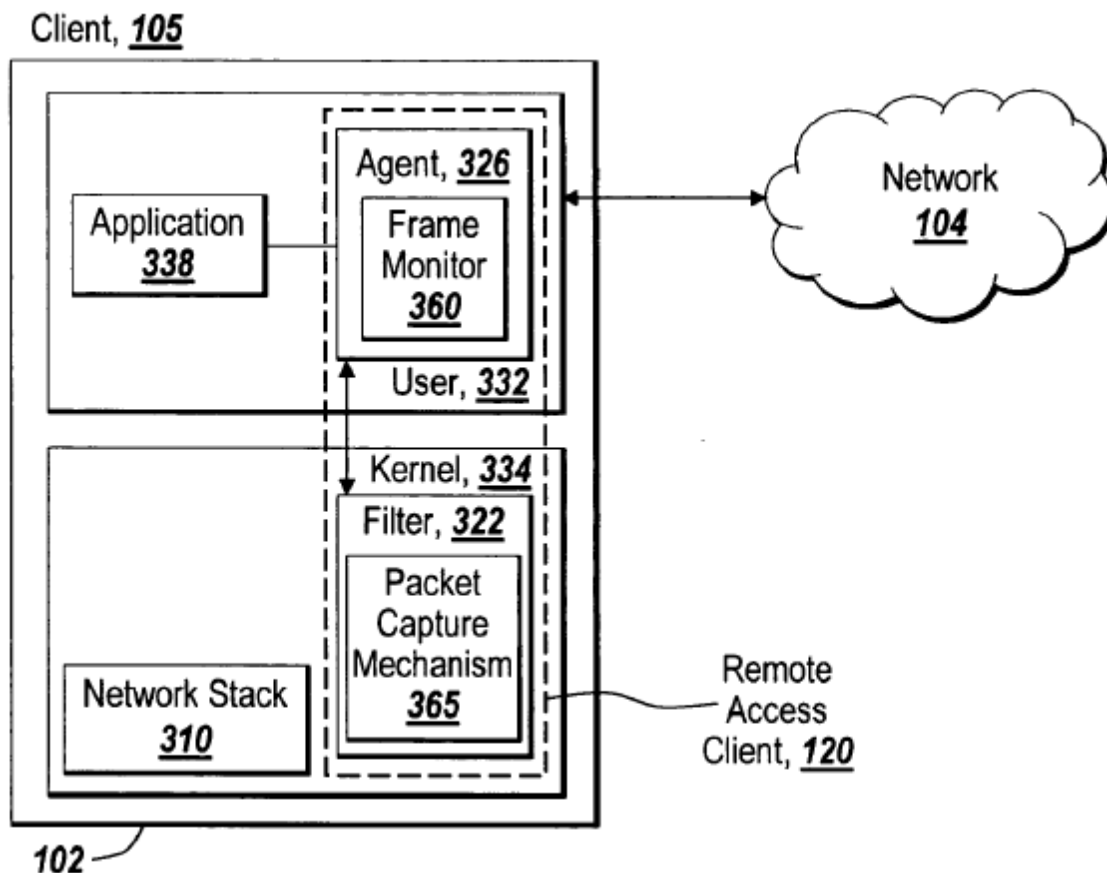


Figure 1C illustrates “a block diagram . . . of a remote access client . . . for network communications.” Ex. 1002 ¶ 62. Figure 1C also illustrates a

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. *Id.* ¶ 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.

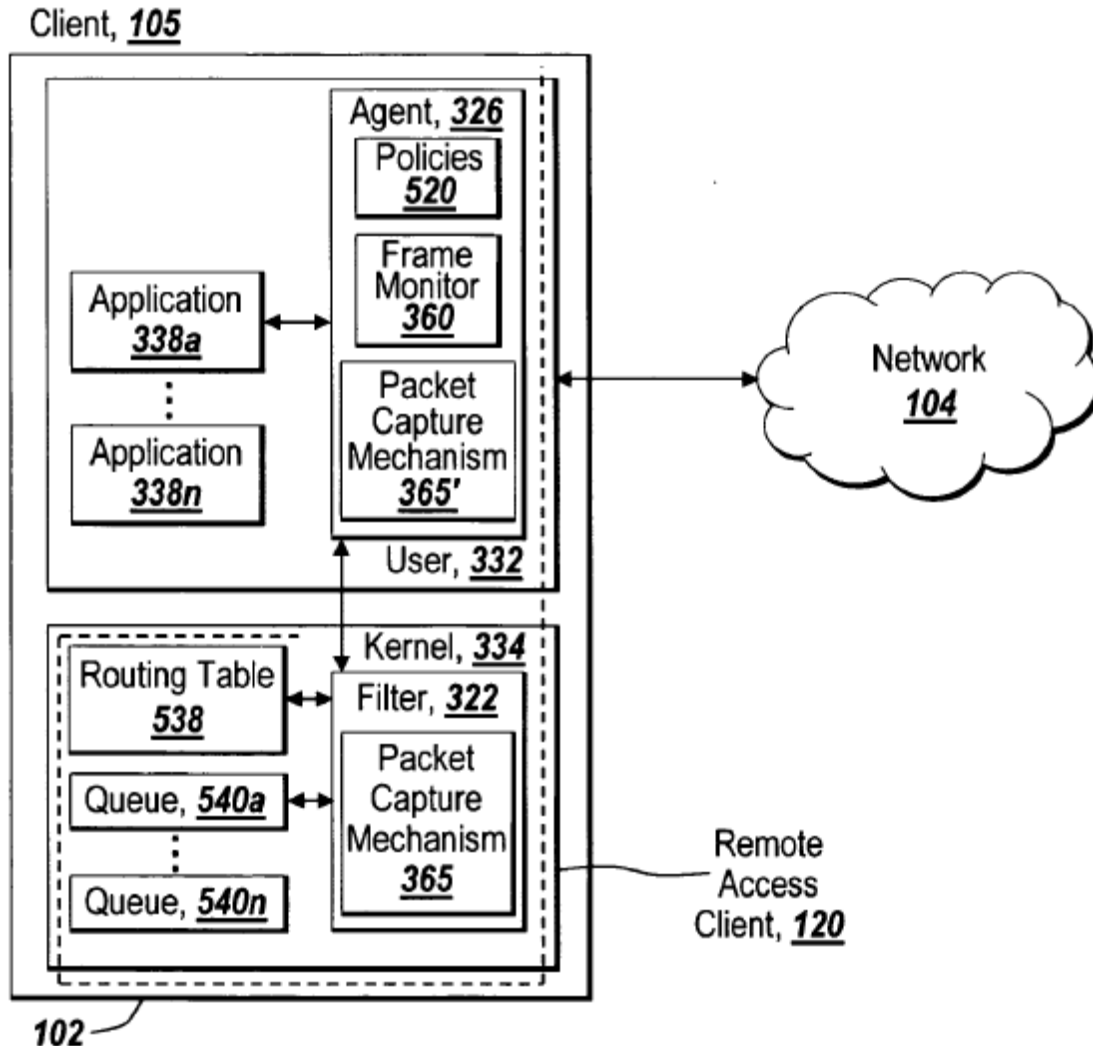


Figure 5A illustrates “block diagram depicting an environment of a client for providing client-side application-aware prioritization techniques.”

Id. ¶ 70. Figure 5A shows client computing device 102, 105 similar, but not identical to, the one shown in Figure 1C. *Compare* Fig. 5A with Fig. 1C.

Unlike in the Figure 1C embodiment, RAC 120 of the kernel space 334 includes queues 540a–540n that queue and prioritize network packets intercepted by PCM 365. *Id.* ¶ 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 1C embodiment, RAC 120 of user space 332 includes policies 520 specifying client-side prioritizations of network packets generated by the applications 338a–338n. *Id.* ¶ 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.

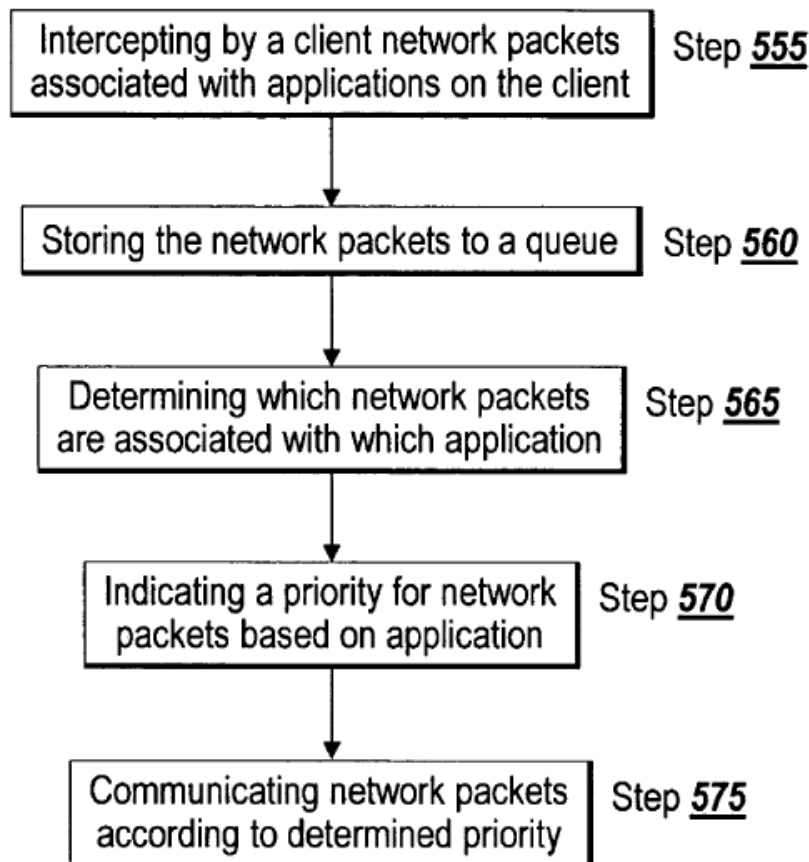


Figure 5B illustrates “a flow diagram depicting . . . [the] client-side application-aware prioritization” (*id.* ¶ 71) of the Figure 1A and Figure 5A

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. *Overview of Scahill*

Scahill is titled “Data Transmission Scheduler.” Ex. 1008, code (54). Scahill’s invention “relates to a method of scheduling a data transmission over a wireless network connection in a communications network.” *Id.* at 1:3–4.

Scahill identifies a problem of “mobile communications devices . . . using the mobile operating system [to] exchange data with remote servers over communications links.” Ex. 1008, 1:6–8. Namely, if “[a]n application on [such] a mobile communication device . . . require[s] intermittent synchroni[z]ation of cached data with a remote server” and “requires a user to manually configure the schedule . . . [of] intermittent synchronization,” “the network conditions may be totally inappropriate . . . [and] the self-adjusting transmission module [may] repeatedly self-adjust the transmission times until the network condition improve[s].” *Id.* at 1:15–16 (first quotation), 1:32–36 (second quotation), 2:6–9 (third quotation).

Scahill’s “invention seeks to mitigate and/or obviate [such] limitations known in the art with the timing of data transmissions from mobile communications devices.” Ex. 1008, 5:8–9. “In some embodiments, [a] scheduler comprises an application co-ordinating scheduler [that] schedules

the execution of applications to perform . . . connection requirements.” *Id.* at 13:5–7. The execution of an application’s tasks for connection “can vary from time-to-time depending on,” e.g., “the specific task performed, the network connection characteristics required, the repetition rate of performing a task and/or the trigger criteria for performing the task[,] . . . [and] the amount of data generated by an application which needs to be backed up.” *Id.* at 13:7–11. “[T]he invention thus . . . seek[s] to automatically control a plurality of applications so that each application is activated in a co-ordinated manner[; e.g.], applications may be executed in a predetermined sequence[,] repeated at time(s) associated with the probability of an available network . . . exceeding one or more predetermined limits.” *Id.* at 13:20–25. As part thereof, the invention “may measure one or more network characteristics to determine which are associated with the successful execution of a predetermined task by an application and/or store these so that other applications can refer to these measurements when seeking to perform tasks which require similar network connection characteristic(s).” *Id.* at 13:25–29.

Figure 1B is reproduced below.

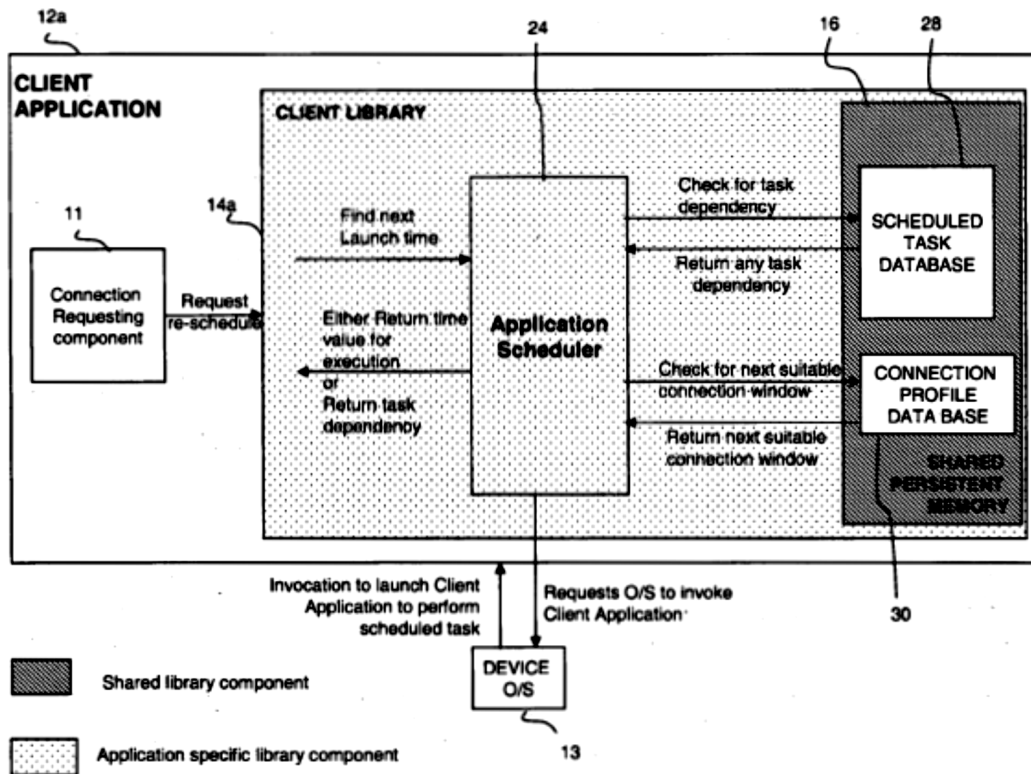


Figure 1B illustrates “a client application comprising a client library according to one embodiment of the invention.” Ex. 1008, 14:23–24.

Generally, the “client application 12a comprises a network aware scheduling software client library 14a . . . [and] a connection requesting component 11 . . . interfac[ing] with an application scheduler 24 library component of the client library 14a.” *Id.* at 18:15–18. “[A] scheduled task database 28 and connection profile database 30 . . . are shared [by all] client applications . . . incorporating an equivalent network aware scheduling client library 14b and . . . hosted on the same communications device.” *Id.* at 18:18–22. “[A] connection quality measurement software component (CQMC) 26 of the client library 14a may also be provided as an application specific component (not shown in Figure 1A . . .) . . . [and] enables the communications device

... to measure one or more network connection conditions ... during an on-going connection.” *Id.* at 18:24–28.

“The connection requests[,] generated by the connection requesting component 11 of the client 10 application 12a[,] may require network connections which vary in time[,] ... the amount of data[,] and/or type of task to be performed.” *Id.* at 19:9–11. “Each time the client application 12a completes a task or fails ... , the connection requesting component 11 generates a re-schedule request ... passed to 20 the client library 14a.” *Id.* at 19:18–20. “The client library 14a then finds the next launch time using the application scheduler component 24[,] ... which checks for the next suitable connection window by querying the connection characteristics ... with the connection profile database 30 [to determine] when a connection window having the required characteristics is next likely to be available.” *Id.* at 19:20–25.

3. *Analysis of Claim 1*

a) *Limitation 1.pre: The Preamble*

The preamble of claim 1 recites “a wireless end-user device.” Ex. 1001, 107:33. Petitioner argues that Rao teaches the preamble. Pet. 19–20; *see also* Ex. 1003 ¶ 73. After reviewing Petitioner’s arguments and evidence regarding the preamble, including the Bims Declaration, which are not addressed by Patent Owner at this stage, we are persuaded that Petitioner sufficiently demonstrates, for purposes of this Decision, that Rao teaches the preamble.⁹ Our specific preliminary findings are set forth below.

⁹ Because Petitioner has sufficiently shown that the prior art teaches the preamble, we need not determine at this time whether the preamble is limiting. *See Nidec*, 868 F.3d at 1017.

Rao teaches “multiple computing devices 102a-102c” (also referred to as “clients 105a-105c”) which “can be any type and/or form of computing device 102 that can run one or more applications 338.” Ex. 1005 ¶¶ 86, 88. This includes “mobile client[s]” such as a “notebook, personal digital assistant (PDA), a smart phone,” or a “telecommunication device,” that “can connect to one or more networks . . . through a variety of connections including . . . wireless connections.” *Id.* ¶¶ 198 (first, second, and third quotations) 95 (last quotation).

b) Limitation 1.a: Providing Network Access

Limitation 1.a recites “at least one wireless modem to provide network access for the wireless end user device.” Ex. 1001, 107:34–36. Petitioner argues that Rao teaches that limitation. Pet. 20; *see also* Ex. 1003 ¶ 74. After reviewing Petitioner’s arguments and evidence, which are not addressed by Patent Owner at this stage, we are persuaded that Petitioner sufficiently demonstrates, for purposes of this Decision, that Rao teaches that limitation. Our specific preliminary findings are set forth below.

Rao teaches using network interface 118 for connecting to a “Local Area Network (LAN), Wide Area Network (WAN) or the Internet through a variety of connections” including “wireless connections.” Ex. 1005 ¶ 95. Additionally, Rao teaches that network interface 118 can include a modem. *Id.* ¶ 125.

c) Limitation 1.b: Activity Classifier

Limitation 1.b recites “an activity classifier to, for each of a plurality of executable applications stored on the wireless end user device, dynamically associate one or more corresponding network access policy

controls with each of the plurality of executable applications.” Ex. 1001, 107:36–40. Petitioner argues that Rao teaches that limitation. Pet. 20–24; *see also* Ex. 1003 ¶¶ 75–80. After reviewing Petitioner’s arguments and evidence, which are not addressed by Patent Owner at this stage, we are persuaded that Petitioner sufficiently demonstrates, for purposes of this Decision, that Rao teaches that limitation. Our specific preliminary findings are set forth below.

Rao teaches that each client 105 has “one or more applications 338a-338n.” Ex. 1005 ¶ 87. Those applications “provide one or more real-time data communications, such as VoIP,” or “may provide email, collaboration, online meeting, and/or desktop sharing related services or functionality.” *Id.* ¶ 179. Additionally, each client 105 includes remote access client 120 which “may have one or more policies 520 for specifying client-side prioritization of network communications related to applications 338a-338n.” *Id.* ¶¶ 87, 182, Fig. 5A. “These policies 520 may be specified by any suitable means and/or mechanisms.” *Id.* ¶ 182.

Agent 326 of Rao’s remote access client 120 “dynamically associate[s] one or more corresponding network access policy controls with each of the plurality of executable applications.” Ex. 1005 ¶ 77. Remote access client 120 “determines the association of network packets with applications 338a-338n in order to determine priorities and apply any priority[-]based policies 520” and “client 105, such as via agent 326, can associate network traffic with applications 338a-338n by any suitable means and/or mechanisms.” *Id.* ¶ 187. A person having ordinary skill in the art would have understood that Rao’s network packets correspond to “activit[ies]” of the applications. Ex. 1003 ¶ 78.

Additionally, because the policy may depend on whether the application is running in the foreground or background, Rao's remote access client 120 associates the policies dynamically. Ex. 1003 ¶¶79; Ex. 1005 ¶ 188.

d) Limitation 1.c: Application Programming Interface

Limitation 1.c recites “an Application Programming Interface (API) accessible to each of the plurality of executable applications, the API callable by each of the executable applications to request an execution time according to the corresponding network access policy controls for that application.” Ex. 1001, 107:41–45. Petitioner argues that Scahill teaches that limitation and that a person having ordinary skill in the art would have combined the teachings of Rao and Scahill with a reasonable expectation of success. Pet. 13–19, 24–27; *see also* Ex. 1003 ¶¶ 60–72, 81–85. After reviewing Petitioner's arguments and evidence, which are not addressed by Patent Owner at this stage, we are persuaded that Petitioner sufficiently demonstrates, for purposes of this Decision, that Scahill teaches that limitation and that a person having ordinary skill in the art would have combined the Rao and Scahill with a reasonable expectation of success. Our specific preliminary findings are set forth below.

Scahill teaches that “[w]hen a client application 12a wants to know its next launch time, the client library 14a of the client application 12a calls up, via an application programming interface [(“API”)], the client library application scheduling component 24.” Ex. 1008, 43:3–5. A person having ordinary skill in the art would have understood Scahill's API is “accessible to each of the plurality of executable applications” as recited in claim 1 and

can be used to request an execution time. Ex. 1003 ¶¶ 82–84; *see also* Ex. 1008, 16:29–32.

A person having ordinary skill in the art would have used Scahill’s API with Rao’s remote access client 120 to manage prioritization according to Rao’s policies and Scahill’s scheduling requests. *See* Ex. 1003 ¶¶ 60–72, 85. Using Scahill’s method “reduces or removes the likelihood of any conflict with other applications trying to also establish a connection over the same wireless communications link.” Ex. 1008, 4:11–15. Additionally, Scahill’s method would reduce financial costs. Ex. 1003 ¶ 68 (citing Ex. 1008, 2:20–22). Furthermore, Scahill optimizes a devices’ power use. Ex. 1003 ¶69 (citing Ex. 1008, 4:20–30).

Additionally, a person having ordinary skill in the art would have a reasonable expectation of success when combining the teachings of Rao and Scahill. *See* Ex. 1003 ¶¶ 71–72.

e) Limitation 1.d: Launch Manager

Limitation 1.d recites “a launch manager to schedule corresponding execution times for applications requesting an execution time through the API, the launch manager selecting corresponding execution times, for the applications requesting execution time, according to the respective network access policy controls for each such application.” Ex. 1001, 107:47–52. Petitioner argues that the combination of Rao and Scahill teaches that limitation. Pet. 27–28; *see also* Ex. 1003 ¶¶ 86–88. After reviewing Petitioner’s arguments and evidence, which are not addressed by Patent Owner at this stage, we are persuaded that Petitioner sufficiently demonstrates, for purposes of this Decision, that the combination of Rao and

Scahill teaches that limitation. Our specific preliminary findings are set forth below.

Rao teaches that filter 322—which Petitioner maps to the launch manager—places network communications into various queues based on its policies. Ex. 1003 ¶¶ 86–87 (citing Ex. 1005 ¶ 191). In the combination of Rao and Scahill, filter 322 utilizes both Rao’s priorities and Scahill’s scheduling requests. *Id.* ¶ 88. A person having ordinary skill in the art would have understood that with this combination, “filter 322 selects corresponding execution times for the applications requesting execution time in accordance with respective network access policy controls for each application.” *Id.*

f) Conclusion Regarding Claim 1

Based on the current record, there is a reasonable likelihood that Petitioner will prevail in demonstrating that claim 1 is unpatentable as obvious over the combination of Rao and Scahill.

E. Analysis of Remaining Claims

1. Overview of Oestvall

Oestvall is titled “Method of Enabling a Multitasking Computing Device to Conserve Resources.” Ex. 1009, code (54). Oestvall is directed to “enabling a multitasking computing device to preserve or conserve resources[] such as battery power.” *Id.* ¶ 2.

Oestvall identifies a problem of “conventional multi-tasking computers running several different applications at the same time . . . [and] interrupts from different applications are prioritised and queued.” Ex. 1009 ¶ 5. “[W]ithout an explicit close command, applications will continue to run even when not actually in active use,” e.g., “when residing in the

‘background’ . . . present[ing] no user interface with which a user could interact.” *Id.* ¶ 6. “Hence, the problem of battery conservation is especially acute for multi-tasking devices . . . that can run several applications at the same time.” *Id.* ¶ 7. “[T]hat applications can run in the background . . . is [also] a waste of CPU and scheduler activity.” *Id.* ¶ 9.

Oestvall’s invention “prevents an untrusted application that is in the background from running in order to preserve system resources.” Ex. 1009 ¶ 8. For example, the invention “den[ies] system resources and services to background applications” (*id.* ¶ 10): whereby “protected resources on the device can be accessed” (*id.* ¶ 11); or are “loaded from ROM or RAM[and, thus,] likely to be from third party sources” (*id.* ¶ 12). “The scheduler could . . . operate so as to never allocate any services or resources to the background untrusted application.” *Id.* ¶ 23. “[A]n alternative would be for the interrupt handler to simply place any interrupts from the background untrusted application . . . to the back of its queue and never allow them to be executed.” *Id.* “When in the background, trusted application . . . may continue to run[] or may be actively prevented in the same way as non-trusted application.” *Id.*

2. *Overview of Montemurro*

Montemurro is titled “Policy-Based Data Routing for a Multi-Mode Device.” Ex. 1007, code (54). Montemurro is directed to “operation of a multi-mode wireless communication device and more particularly to policy-based routing of communications among two or more modes of wireless communication.” *Id.* ¶ 1.

Montemurro identifies a problem that, though “the advent of dual or multi-mode devices ([e.g., devices with radio access technologies that

provide access to . . . Wi-Fi . . . [and] cellular technologies like GSM/GPRS[] . . . offer[s] different usage models . . . of wireless operation” (Ex. 1007 ¶ 3), “[t]here are costs associated with application access from these different networks[and] also quality considerations” (*id.* ¶ 4). “It is therefore desirable . . . to optimize communications for multi-mode capable devices.” *Id.*

An embodiment of Montemurro “includes a rules engine 206A . . . as a policy-based mechanism using rules to configure TCP/IP network stack 206B and connection table 206C to coordinate communications for applications 204 using . . . network interfaces[] 208.” Ex. 1007 ¶ 27. “Rules engine 206A configures the communication operations with a set of rules/policies that could include various factors such as radio access technology (e.g. for high/low bandwidth properties), cost, presence, time of day, location (e.g. geo-based policies, network roaming), destination IP address, application type, and Quality of Service (QoS) requirements, among others.” *Id.* ¶ 29. “[An] example could be that ‘the CRM application . . . only synchronizes the sales contact database . . . over a WLAN network.’” *Id.*

3. Overview of Araujo

Araujo is directed to the management of a machine’s power by using a power-management policy. Ex. 1006, code (57). When a program “makes a request that involves use of one of the machine’s power-consuming devices, the policy may take into account factors such as the program’s status” indicating “the program’s relative level of justification to consume power.” *Id.* For example, “some programs may have a ‘VIP’ status that allows them to consume power in situations where other programs would not be

permitted to consume power.” *Id.* ¶ 27. Araujo’s system includes a power manager 110 that controls the respective power states of devices and “may cause devices to be turned off, or into a lower power state, based on factors such as timers, the amount of battery power remaining, or any other factor.” *Id.* ¶ 22. Such factors are evaluated by Araujo’s power management runtime 120 that “may implement policies that determine when, and under what circumstances”, power manager 110 is to turn devices 104–108 on or off, or is to place those devices in a different power state.” *Id.*

In addition, “[a] component may intercept a request to use a device before the request reaches the driver, and may deflect requests that, if carried out, are not consistent with [the] power usage policy.” Ex. 1006, code (57). This may be carried out using “[r]equest deflector component 602” interposed “between program 112 and driver 116.” *Id.* ¶ 50. “When request deflector component 602 detects that a request . . . has been made, it interacts with power management runtime 120 to determine what the ambient policy (e.g., power use policy 266) says about whether the request may be carried out at the expense of power use.” *Id.* If the request may be carried out under the power policy, “request deflector component 602 passes the request along to driver 116;” otherwise request deflector component 602 “may permanently or temporarily deflect the request from reaching driver 116.” *Id.*

4. Analysis

Petitioner also challenges the patentability of: claims 2, 4, 5, 7–11, 13, and 15–17 based on Rao and Scahill (Pet. 29–43); claim 3 based on Rao, Scahill, and Oestvall (*id.* at 44–47); claims 6, 14, 18, and 19 based on Rao,

Scahill, and Montemurro (*id.* at 47–57); and claims 12 and 20 based on Rao, Scahill, and Araujo (*id.* at 58–67).

Because Petitioner meets the threshold for institution by demonstrating a reasonable likelihood that at least claim 1 is unpatentable as obvious, we need not decide whether Petitioner’s other challenges demonstrate the same. Those challenges, in our view, are best left for trial after full development of the record.

III. CONCLUSION

Following § 314, we have determined that the totality of the information presented at this stage shows there is a reasonable likelihood that Petitioner would prevail with respect to at least one of the claims challenged in the Petition, and we institute on all grounds raised and all claims challenged in the Petition.

Our factual findings, conclusions of law, and determinations at this stage of the proceeding are preliminary, and based on the evidentiary record developed thus far. This is not a final decision as to the patentability of claims for which *inter partes* review is instituted. Our final decision will be based on the record as fully developed during trial.

IV. ORDER

In consideration of the foregoing, it is hereby

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review is instituted for claims 1–20 of the ’700 patent on the unpatentability grounds asserted in the Petition; and

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial, which commences on the entry date of this Decision.

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