

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC,

Petitioner,

v.

HEADWATER RESEARCH LLC,

Patent Owner.

Case: IPR2026-00049
U.S. Patent No. 9,179,359

PETITIONER REPLY

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Petitioner established that Shell-Cole (Ground 1) and Shell-Cole-Flack (Grounds 2 and 3) render obvious claim 26—the sole claim Patent Owner did not disclaim in IPR2024-01407. Nothing in Patent Owner’s Response disturbs that showing, and the Board should cancel claim 26.

For Limitation [1e]—the only limitation Patent Owner addresses in independent claim 1—Patent Owner never confronts Petitioner’s independent mapping of Shell’s “piggyback” connection requests from one application seeking to access a connection already established for a different application. Pet. 44-46, 54-58. By declining to confront this disclosure, Patent Owner has waived any response to it. Patent Owner’s remaining argument for Limitation [1e] attacks positions Petitioner never took. For example, Patent Owner asserts that the claimed “Internet data service” must be a single, application-specific connection passed back and forth between applications, and then faults Petitioner for not satisfying this manufactured requirement. Petitioner never asserted Shell required this. Petitioner instead mapped “Internet data service” to the network access or network connection provided by Shell’s shared resource (e.g., WWAN modem)—not to “a specific connection to a WWAN modem via a socket” as Patent Owner alleges. *See* POR 7.

For claim 26, Patent Owner asks the Board to read in an unrecited requirement that the device affirmatively “evaluate whether a user instigated a

connection request.” *See* POR 11. Claim 26 imposes no such requirement and instead only recites a determination that an application is active based on a user interaction. The Board rejected this narrowing interpretation in IPR2024-01407, and Patent Owner offers no reason to depart from that conclusion. Nor did Patent Owner advance a construction here or in district court. *See* EX1032. In any event, both Shell and Flack disclose determining an active application based on user interaction—through Shell’s user-activated voice calls and Flack’s monitoring of user-driven activity—and it would have been obvious to implement Flack’s mechanism for evaluating user activity within Shell-Cole’s decision logic, as the Petition explained.

Patent Owner’s claim 26 arguments also fail because Patent Owner ignores Shell’s disclosure (Ground 1) of prioritizing a user-initiated “voice call” request—the very embodiment the Board found sufficient to satisfy claim 26 in IPR2024-01407. Pet. 59-63 (citing EX1005 (“Shell”) ¶¶8, 13). Patent Owner likewise fails to address user-driven activity in Flack (Ground 3) via its instant messenger, web browser, media player, and user-sent email. *Id.* at 63-65 (citing EX1007 (“Flack”) ¶¶22, 31, 50, 55, 59-61), 66-67 (citing Flack ¶50), 72-73 (citing Flack ¶¶19, 8, 16, 17, 50). Like its omissions for claim 1, Patent Owner’s failure to address these disclosures constitutes waiver.

For the reasons discussed below and in the Petition, the Board should find claim 26 unpatentable.

I. Shell-Cole and Shell-Cole-Flack Render Obvious Claim 1

Petitioner established that claim 1 would have been obvious in view of Shell-Cole (Ground 1) and Shell-Cole-Flack (Ground 2) based on two independent theories.¹ Pet. 24-58, 63-71.

Petitioner first explained that Shell’s connection manager modules allocate a resource (e.g., a WWAN modem) to one application but not another based on the priority. *Id.* at 47-54. Petitioner separately explained that Shell discloses an embodiment in which one application seeks to “piggyback” onto another active connection, and that it would have been obvious to apply Shell’s connection manager logic to block those requests. *Id.* at 54-58.

Patent Owner’s “Internet data service” arguments only address Petitioner’s first theory and not Shell’s piggyback connection requests. The Board should

¹ Patent Owner disclaimed claims 1-25 and 27-29 in IPR2024-01407 in view of the same Shell and Cole references here, leaving claim 26 as the sole surviving claim. Despite Patent Owner electing to disclaim claim 1 instead of distinguishing it from the references, the Petition nevertheless addressed claim 1 because claim 26 depends from it.

therefore find Limitation [1e] satisfied without needing to reach Patent Owner's arguments. Patent Owner otherwise mischaracterizes the Petition to attack arguments Petitioner never made. Grounds 1 and 2 therefore render claim 1 obvious.

A. Patent Owner Fails to Dispute Petitioner's Independent Obviousness Theory Based on Shell's Piggyback Connection Requests (Grounds 1 and 2)

Patent Owner declines to confront Petitioner's mapping of Shell based on an application requesting a "piggyback" connection and thus waives any rebuttal argument for Limitation [1e]. *See* POR 6-10; Pet. 44-46, 54-58.

As explained in the Petition, Shell discloses that "an application may notify connection plan[n]er 211 it wishes to 'piggy back' on other connection requests." Pet. 16-17 (citing Shell ¶70), 44-46, 54-58. A piggyback request occurs when "an application ... request[s] to only access resources in a destination network when another application is already accessing resources." Shell ¶70; Pet. 16-17, 54-55. Shell's piggyback requests "may call APIs associated with connection manager modules 210 and be given an open handle" notifying the application of the connection. Shell ¶70; Pet. 16-17, 54-55. Petitioner cited undisputed testimony of Dr. Butler to explain that piggyback requests like those in Shell are not always granted, and Shell's piggyback requests calling APIs "associated with connection manager modules 210" discloses or at least renders obvious applying its

connection manager logic to block piggyback connection requests. Pet. 45-46 (citing EX1003 (“Butler”) ¶¶116-117; Shell ¶70), 54-58 (citing Butler ¶¶125-129; Shell ¶70).

Patent Owner and its expert fail to rebut these teachings or dispute Petitioner’s evidence of obviousness. *See* POR 6-10; EX2006 ¶¶31-37, 47-59. Indeed, Patent Owner fails to mention piggyback requests, *see* POR 6-10, and its only citation to Shell’s Paragraph 70 refers to a “single application,” not two different applications sharing a connection, *see id.* at 9. Patent Owner’s “Internet data service” arguments therefore fail to address this theory and Patent Owner waived any opportunity to do so in its sur-reply. Paper No. 14 (“Scheduling Order”) at 10 (“[A]ny arguments not raised in the [POR] may be deemed waived.”); *In re Nuvasive, Inc.*, 842 F.3d 1376, 1380 (Fed. Cir. 2016) (arguments not made “during the trial phase” are waived); 37 C.F.R. § 42.23(b).

Patent Owner additionally fails to address Shell’s piggyback requests in Ground 2, *see* POR at 16-18, which adds implementation details from Flack, Pet. 66-71 (citing Flack ¶¶5-6, 20, 39, 50, 57-58, 63; Butler ¶¶141-145). Flack discloses denying one application’s request for a connection that “has already been established for the second program,” and, to the extent Shell does not expressly disclose or render obvious denying piggyback requests (it does), a POSITA “would have looked to and appreciated Flack for these details.” *Id.* (citing Flack ¶5; Shell

¶93; Butler ¶¶141-145). This waives any rebuttal argument for Ground 2. Scheduling Order at 10; *Nuvasive*, 842 F.3d at 1380; 37 C.F.R. § 42.23(b).

The Board may therefore find claim 1 unpatentable without needing to reach the arguments in Patent Owner’s Response.

**B. Patent Owner’s “Internet data service” Arguments
Mischaracterize the Petition and Fail to Distinguish Shell**

In the limited arguments Patent Owner raises for Limitation [1e], Patent Owner attacks positions Petitioner never took.

**1. Patent Owner Mischaracterizes Petitioner’s Argument to
Assert That Each Connection in Shell Is a Separate
“Internet data service”**

Patent Owner asserts that claim 1 recites a “*single* Internet data service” and that the “*same* Internet data service” must be available to one application while being indicated as unavailable to another. *See* POR 6-7. Contrary to Patent Owner’s arguments, Petitioner does not map Shell to separate Internet data *services*.

Petitioner explained that Shell discloses using its connection manager modules to regulate “network access” and a “network connection” available to applications on telephonic device 100. Pet. 35-37 (citing Shell ¶¶13, 17, 32). The network access or network connection provided by Shell’s WWAN modem is thus the Internet data service, and the Petition is consistent in its mapping to this

feature. *See id.* at 35-37 (“**Internet data service** ... network access”), *id.* at 36-37 (“network connection (**Internet data service**)”), 47-48 (network “connection (i.e., **Internet data service**)”), 53 (“connection using resource 502”).

Patent Owner incorrectly asserts that Petitioner’s “theory” for Shell requires the Internet data service to be “a **specific** connection to a WWAN modem via a socket.” POR 7. According to Patent Owner, “when a ‘different application’ is using a connection to access the Internet and a connection request from the ‘particular application’ is denied, two entirely different connections [and thus **two different Internet data services**] are at issue.” *Id.* This argument fails.

First, contrary to Patent Owner’s arguments, Petitioner never asserted that the claimed Internet data service must be a separate, “**specific** connection to a WWAN modem,” or that two WWAN modem connections represent “separate, application-specific Internet data service[s].” *See* POR 6-8. The Petition instead mapped “Internet data service” to Shell’s network connection or network access provided by a resource (e.g., resource 502 or the “WWAN modem”). Pet. 47-54. Different applications may therefore seek “a connection” or the “same” network connection provided via Shell’s resource 502/WWAN. *See* Pet. 47-54. These do

not represent separate Internet data services, nor did Petitioner argue they should be treated as such.² *See id.*

As explained in the Petition, Shell’s connection manager executes decision logic that allocates resources to connection requests. *Id.* at 47-49 (citing Shell ¶¶15, 17, 57, 67-68). In one example, an application may seek to synchronize email while another application seeks to access a web page “using the same resource (i.e., WWAN modem) and connection (i.e., Internet data service).” *Id.* Based on priority, Shell’s connection manager “allocate[s] resources” to one application and “notifies (i.e., indicates) the unavailability of a connection using [that] resource [] (i.e., Internet data service via the WWAN modem)” to the other application. *Id.* at 49-54 (citing Shell ¶¶57-67, 92; Butler ¶¶121-124). Because the same resource providing a connection is transferred between requests, the same Internet data service (e.g., network access or connection to a WWAN network via the WWAN modem) is at issue. Patent Owner’s contrary arguments manufacture a non-existent requirement based on an argument Petitioner never made—that one application must seek to use another application’s specific, active connection rather than its

² Petitioner’s mapping is consistent with Patent Owner’s infringement contentions, which assert that the Internet data service is “e.g., wireless data communications.” EX1033 at 8.

own connection to the same resource. The Board should decline to adopt this argument because Petitioner did not map Shell this way and claim 1 recites no such requirement. Nor has Patent Owner advanced a construction otherwise. *See* POR 6-10; EX1032.

Regardless, even under Patent Owner's incorrect view that two applications must use the same "specific" connection to satisfy a "*single* Internet data service," POR 6-8, Shell's piggyback connections expressly disclose this, *see* Section I.A; Pet. 54-58, 44-46; Shell ¶¶70, 92. Patent Owner fails to explain why Shell's piggyback embodiment would not qualify as two applications seeking to use the "same" and "specific" connection. *See* POR 6-8. They do. Shell thus satisfies claim 1 even under Patent Owner's arguments.

2. Patent Owner's Citation to Dr. Butler's Deposition Testimony Does Not Establish Separate Internet Data Services

Patent Owner asserts that Dr. Butler "confirmed th[e] theory" that each "specific connection to a WWAN modem via a socket" in Shell must be a separate "Internet data service." *See* POR 7-8. This is wrong. Nothing in Dr. Butler's deposition testimony requires Shell's connection to a resource (e.g., WWAN modem) to be a separate Internet data service. *See id.* (citing EX2008 at 59:16-60:1).

Dr. Butler instead explained that “the Internet data service ... is ... that data service currently available via the WWAN modem.” EX2008 at 58:14-59:3. His statement that “[t]he Internet data service is the connection by which the synchronization of the electronic mail account would be facilitated” is not an admission to the contrary or that each connection must be a “separate” and “single” Internet data service. *See* POR 7 (citing Ex. 2008 at 59:16-60:1).

Whether Dr. Butler considered Patent Owner’s hypothetical case of “an application ... actively accessing the Internet when a separate connection request is denied” is irrelevant. *See* POR 9-10. Dr. Butler explained that Shell’s connection manager “may notify application modules 200” of its resource allocation. Butler ¶¶123-124 (citing Shell ¶92); Pet. 52-54. This includes a connection being blocked, which serves as the claimed “indicat[ion]” to the “particular application” *in response to a connection request*. *See id.* Patent Owner’s argument that an application may theoretically initiate a separate connection over another interface or socket creates an unrecited requirement of total device-level Internet isolation found nowhere in claim 1. Instead, consistent with claim 1, Shell discloses managing its shared modem on a connection-by-connection basis, including blocking individual connection requests. *See* Pet. 41-44, 47-54 (citing Shell ¶¶9, 15, 17, 57, 67-68; Butler ¶¶95-124). This satisfies Limitation [1e].

3. Shell Discloses Limiting WWAN Internet Connectivity on a Request-by-Request Basis

Patent Owner asserts that “the Petition does not explicitly allege that the claimed ‘Internet data service’ [i]s WWAN connectivity generally.” *See* POR 8-9.³ This is wrong, as Shell discloses limiting WWAN connectivity on a request-by-request basis and indicating that connectivity to applications. Pet. 34-40, 41-44, 47-48.

As explained above, the Internet data service is network access or a network connection provided by Shell’s resource (e.g., WWAN modem). *See* Section I.B.1. Shell notifies applications, based on connection requests, that a “connection is being disconnected,” “no connection is currently active,” and “a connection to a resource is blocked for some reason,” which represent “WWAN connectivity.” *See*

³ While Patent Owner separately asserts that Flack fails to disclose blocking Internet connectivity “generally,” *see* POR 16-18, Petitioner relies on Flack for managing piggyback requests in Ground 2, not for the claimed “Internet data service,” Pet. 66-71. Patent Owner’s general-connectivity arguments for Flack are therefore irrelevant. Because Patent Owner declines to address Shell’s piggyback requests, it is undisputed that Shell-Cole-Flack satisfies Limitation [1e] (Ground 2).

Pet. 47-49 (citing Shell ¶92); *id.* at 42 (citing Shell ¶92). This indicates “WWAN connectivity” and satisfies Limitation [1e].

Again, Patent Owner’s assertion that Shell does not teach “preventing a program from requesting multiple sockets for different types of activity” is irrelevant as neither claim 1 nor Petitioner’s analysis requires demonstrating that Shell’s application is barred from the Internet altogether. *See* POR 9-10 (citing EX2008 at 60:18-15); *id.* at 17. Claim 1 instead recites “indicat[ing] to a particular application ... the unavailability ... of an Internet data service that is currently available via the WWAN modem to a different application.” EX1001 at claim 1. Shell’s preventing access on a request-by-request basis and notifying applications of that decision satisfies claim 1. Pet. 48-49 (citing Shell ¶¶17, 67, 92); *id.* at 49-54 (describing how multiple application connection requests would be handled in Figures 5A and 5B.). That an application in Shell may make multiple connection requests or ultimately access the Internet through a different connection (e.g., a WLAN) still satisfies claim 1 because Shell teaches instances in which its WWAN modem resource is allocated to one application while being denied to or taken away from another. Pet. 47-49; *Unwired Planet, LLC v. Google Inc.*, 841 F.3d 995, 1002 (Fed. Cir. 2016) (“combinations of prior art that sometimes meet the claim elements are sufficient to show obviousness.”).

Therefore, separate from Petitioner's un rebutted piggyback theory, Shell-Cole (Ground 1) and Shell-Cole-Flack (Ground 2) render obvious claim 1.

II. Shell-Cole Renders Obvious Claim 26 (Ground 1)

For claim 26, Patent Owner advances a narrowing construction that the Board previously declined to adopt in IPR2024-01407. EX1018 at 25-29. Patent Owner then fails to address several embodiments in Shell and Flack that satisfy Patent Owner's elevated requirements. *See* POR at 10-15, 18-21. The Board should cancel claim 26.

A. Patent Owner's Narrow Interpretation of Claim 26 Is Incorrect

Patent Owner's Shell-Cole arguments propose an interpretation of "determin[ing]" that the Board previously declined to adopt. *See* POR 10-15. Despite asserting that "no terms need be construed," *id.* at 6, Patent Owner asserts that Shell "does not ... evaluate whether a user instigated a connection" or determine "whether or not the user initiated the request through interaction," *id.* at 10-13. Nor does Shell "base its active-versus-background application status on user activity" or distinguish "a connection request [that] was *automatically initiated* as opposed to *initiated by a user*," according to Patent Owner. *Id.* Claim 26, however, does not recite any such "evaluat[ion]" of user interaction, nor did Patent Owner assert such a construction here or in litigation. *See id.* at 6; EX1032; EX1033 at

21-22. Claim 26 instead only requires a determination that the “different application” is active based on user interaction.

The Board previously declined to adopt Patent Owner’s interpretation in IPR2024-01407. EX1018 at 25-29. There, based on similar arguments, the Board held that Patent Owner “do[es] not address sufficiently why claim 26 would not include determining an application is active based on user interaction that caused the application to become active.” *Id.* at 28. As disclosed in Shell, user interaction with the “different application” can instead “cause ... [that] application to become active,” which satisfies claim 26. *Id.* Patent Owner’s Response fails to explain why the Board should take a different approach here.

The plain claim language does not require more and stands in contrast to other claims that recite, for example, “***monitoring of user interaction*** with the device.” EX1001 at claim 19 (emphasis added); *Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005) (en banc) (“Differences among claims can also be a useful guide in understanding the meaning of particular claim terms.”). Patent Owner leans on the specification’s “pop-up and/or other criteria/measures” (EX1001 at 90:14-18) as the benchmark for what “looks like” a user-interaction-based determination. *See* POR at 14. But this disclosure, invoking “e.g.,” “such as,” and “and/or,” is exemplary. EX1001 at 90:14-18. Dr. Butler correctly testified that there is no definition of “active” in the ’359 patent. *See* POR 14-15 (citing

Ex. 2008 at 22:19-23). Instead, claim 26's active application encompasses or at least is rendered obvious in view of Shell's "currently active" status determination for user-initiated connection requests. *See* Pet. 59-63 (citing Shell ¶¶13-14, 51, 57, 92; Butler ¶¶130-136).

Patent Owner's citation to testimony from "Google's corporate representative[s]" as *evidence* of Shell's active-vs-background determination is flawed. *See* POR 13-14. First, claim 26 does not recite "a determination of user interaction," as Patent Owner alleges. *Id.* Second, the testimony relates to system-specific features of Google products, not Shell, and thus is irrelevant. *Id.* Shell discloses that user interaction via a user interface can instigate a request and cause an application to become active and that application to be prioritized, which satisfies claim 26. *See* Shell ¶¶14, 51, 57-92; Pet. 59-63.

Headwater's expert testimony is equally irrelevant (*see* POR 13-14 (citing Ex. 2006 ¶¶42-43)) because Petitioner explained that an active, prioritized application may become active via user interaction in Shell. Pet. 59-63. That a background application may be interacted with in other scenarios and "depending on the system" does not disturb Petitioner's analysis. *See* POR 14. Mr. de la Iglesia's testimony on this point, in addition to being irrelevant, merely repeats Patent Owner's conclusory assertions and thus should be given little weight. *See* Ex. 2006 ¶¶42-43.

B. Shell-Cole Renders Claim 26 Obvious Even Under Patent Owner's Narrow Interpretation

Even if claim 26 did require a specific “evaluat[ion] [of] whether a user instigated a connection request,” *see* POR 11, Shell at least renders this obvious.

As explained in the Petition, Shell discloses a device with several applications (e.g., voice, email, instant messaging, web browser, etc.), assigns priorities to these applications based on their “current state,” prioritizes active applications over background applications, and accepts network connection requests initiated by user input. Pet. 59-62 (citing Shell ¶¶51, 57, 92; Butler ¶133). Responding to a request for a connection in Shell, Petitioner explained that a POSITA “would have understood or would have found it obvious that Shell’s processor is configured to assess whether a request is coming from an application that the user is interacting with as part of the prioritization of connection requests.” *Id.* In doing so, “applications that are currently active based on user interaction with the application” are prioritized and given a connection while others are notified otherwise. *Id.* Thus, lower priority connection requests from a “particular application” are denied or delayed in favor of an active application (e.g., active applications in Shell that constitute the “different application”). *Id.*

Patent Owner is wrong that “Ground 1 alleges only that this concept is *disclosed* in Shell[] and sets forth no obviousness theory.” *See* POR 15. Petitioner

asserted obviousness, as explained above. Pet. 59-62. Patent Owner contrary arguments ignore Petitioner’s obviousness theory and treat Shell as a series of isolated disclosures without considering it *as a whole*, as required for obviousness. *Shockwave Med., Inc. v. Cardiovascular Sys., Inc.*, 142 F.4th 1371, 1384 (Fed. Cir. 2025); *Masimo Corp. v. Apple Inc.*, No. 2022-1894, 2024 WL 111647, at *3 (Fed. Cir. Jan. 10, 2024). As explained, Shell’s prioritizing active applications at least renders obvious determining user interaction with an application under Patent Owner’s view of claim 26.

C. Patent Owner Fails to Address Shell’s Prioritizing User-Activated “voice calls”

Patent Owner’s arguments also ignore embodiments in Shell that indisputably require user-instigated connection requests. *See* POR 10-15. Separate from synching email, browsing stock quotes, and using a messaging application, Shell discloses that “a user [may] attempt[] a *voice call*.” Shell ¶14 (emphasis added); *id.* ¶8; Pet. 29-30 (citing Shell ¶¶14, 57), 33, 39, 48-49. Using Shell’s connection manager logic, “voice requests may be assigned a higher priority than data requests.” Shell ¶57; *id.* ¶13 (same); Pet. 39 (citing Shell ¶¶49, 55, 13), 48-49 (citing Shell ¶13), 59-62 (citing Shell ¶¶8, 13). Shell discloses that a “voice application 204” makes a connection request and the connection manager handles this request. Shell ¶¶46, 90, Fig. 2; *see also* EX-1006 ¶¶9, 104 (describing

well-known “voice-over-IP (VOIP)” calls). Patent Owner and its expert fail to dispute that a user attempting a voice call using Shell’s telephonic device 100 is a user-initiated request via an active application. *Compare* POR 10-15, *with* Shell ¶¶8, 13-14, 38-42, 57; Pet. 59-62.

Shell’s prioritizing voice calls—and thus registering a user-activated call request from voice application 204—satisfies claim 26’s determination of an active application based on a user interaction. The Board previously agreed in IPR2024-01407: “[t]he attempt to make a voice call [in Shell] **would be a user interaction** resulting in a request for a voice connection that would be prioritized over the data request of another application using the current data connection.” EX1018 at 26 (emphasis added) (citing Shell ¶¶8, 13, 14, 57). “The attempt to make a voice call ... **involves a user interacting** with an application to make it an active application.” *Id.* at 26-27 (emphasis added); *id.* at 27 (recognizing the petitioner’s argument that “the user **has to interact** with that application to attempt that voice call and cause that same application to become an active application.” (emphasis added)).

To the extent Patent Owner asserts otherwise, nothing in claim 26 recites any characteristic of a user’s interaction to trigger the determination of an active application. Instead, Shell’s prioritizing voice call requests discloses monitoring voice application 204, which becomes active based on user interaction when a user

requests a voice call. *See* Shell at Fig. 2, ¶¶45-46, 51; Pet. 59-62 (citing Shell ¶¶51, 57, 92; Butler ¶133). Indeed, the Petition explains that a POSITA would have understood or would have found it obvious that Shell’s processor assesses whether a request is coming from an application, such as voice application 204, that the user is interacting with, and “in certain circumstances like a phone call ... , the processor would only provide these applications with an Internet connection when they are in use.” Pet. 60-61 (citing Butler ¶133). This includes assessing that an application, like the voice application 204, is active via the interaction and providing it “a connection using resource 502 (i.e., Internet data service via the WWAN modem).” *Id.* at 53. This satisfies the claimed “determin[ation].” *See id.* at 59-62 (citing Shell ¶¶8, 13-14, 57; Butler ¶¶130-136). Patent Owner waives any arguments to the contrary. Scheduling Order at 10; *Nuvasive*, 842 F.3d at 1380; 37 C.F.R. § 42.23(b).

III. Shell-Cole-Flack Additionally Renders Obvious Claim 26 (Ground 3)

A. Flack Discloses Determining an Application Is an Active Application “based on user interaction”

Petitioner also established that claim 26 would have been obvious in view of Shell-Cole-Flack (Ground 3). Patent Owner’s arguments only address the *mechanism* Flack utilizes to indicate user interaction and again ignore Flack’s embodiments that undisputedly require user interaction.

1. Patent Owner's Attempt to Distinguish Flack Based on Unrecited Limitations Must Fail

Patent Owner does not dispute the reasons provided for combining Shell-Cole with Flack and instead takes issue with the way Flack determines user activity. *See* POR 18-21. Patent Owner asserts that Flack only “classif[ies] types of *connection requests* according to [a] category,” *see id.* at 18, and that Flack does not identify whether a connection request is “in fact” initiated by user interaction, *id.* at 19.

As discussed above, claim 26 encompasses an application that becomes active based on user interaction and does not require measuring whether a user “in fact” interacted with an application. *See* Section II.A. However, even if claim 26 recited this requirement, the claim does not limit *how* this may be accomplished. Nor does the specification, which contemplates “other criteria/measures.” EX1001 at 90:14-18.

Consistent with the specification, Flack discloses one such “criteria” or “measure” by an activity or traffic profile that is used to monitor packets via communication ports corresponding to user-initiated activity. *See* Flack ¶18; Pet. 64-65, 72-73. Flack uses its profile to “determine[] whether the communications activity represents user actions within a user application.” Flack ¶19; *id.* ¶¶7-8

(same), 50-51 (distinguishing “processes that were not launched responsive to the user”), 53 (same); Pet. 64-65, 72-73.

Flack therefore satisfies claim 26 by determining that a communications request from an active application is “based on user interaction” with the application. Patent Owner’s dispute regarding Flack’s mechanism for doing so fails to distinguish claim 26.

2. Patent Owner’s Attempt to Distinguish Flack Only Addresses Limited Embodiments

Addressing only Flack’s “receiving [e]mail,” Patent Owner asserts that this activity “can be reflective of user interaction with an app *or not*.” *See* POR 19. This argument fails. First, Patent Owner acknowledges that Flack distinguishes general “Mailbox” communications that do “not represent user activities” from a request to “send message” that “represents user activities.” *See id.*; Flack ¶28. Patent Owner’s “receiving [e]mail” arguments therefore fail to confront sending an email in Flack, which is a user-activated activity satisfying claim 26. *See Unwired Planet*, 841 F.3d at 1002.

Second, separate from email, Patent Owner ignores several embodiments that (again) undisputedly determine an active application based on user interaction. For example, Flack discloses monitoring activity from an “instant messenger” by listening to a port for a user sending an instant message. Flack ¶¶20, 27, 29, 31, 39,

50. Flack also monitors user web browsing activity. *Id.* ¶¶20, 23, 31, 39, 50-51. Flack further monitors communications from a media player, which “may include controls that enable ***the user to select*** an Internet radio station.” *Id.* ¶40 (emphasis added); *id.* ¶¶20, 23, 27, 30. The Petition cited these embodiments and explained how Flack’s monitoring associated communications activity discloses a determination of these active applications based on user interaction. *See* Pet. 64 (citing Flack ¶¶22, 31, 50, 55, 59-61), 66-67 (citing Flack ¶50), 72 (citing Flack ¶50). Patent Owner declines to address or distinguish these embodiments and thus waives any rebuttal to them. Scheduling Order at 10; *Nuvasive*, 842 F.3d at 1380; 37 C.F.R. § 42.23(b).

Ultimately, Flack discloses monitoring for user activity and provides a specific mechanism for making that determination: application communication activity. Patent Owner’s arguments addressing limited embodiments and contesting the mechanism Flack uses to make its user-activity determination fail to distinguish Flack. To the extent claim 26 requires any measure of user interaction, neither claim 26 nor the specification are limited to a particular mechanism for doing so. Shell-Cole-Flack therefore satisfies claim 26.

B. Petitioner’s Articulation of the Shell-Cole-Flack Combination Is Not Deficient

Patent Owner is wrong that the Petition “does not articulate *what* it contends” constitutes the determination of application status based on user activity in Shell-Cole-Flack. *See* POR at 21. Petitioner instead explained that Flack’s determination of user activity based on “communication activity” is incorporated into Shell-Cole. *See* Pet. 64, 71-76.

For example, Flack “identifies an application associated with [its] *communication activity*.” Pet. 63-64 (citing Flack ¶¶3, 17, 50, 54) (emphasis added), 66 (citing Flack ¶50), 66 (same), 72 (“Flack teaches allowing applications access to a network based on a *communications configuration*.” (emphasis added)) (citing Flack ¶20). This allows Flack to limit network access to those applications that “having a relatively high degree of user reliance on the network connectivity, for example, based on user actions that generate visual feedback useful to the user in perceiving the user application.” Flack ¶16; Pet. 64.

Combining Flack with Shell-Cole, Petitioner asserted “a POSITA would have implemented Flack’s ‘determin[ation] that *communications activity* represents user actions’ as part of Shell-Cole’s decision logic.” Pet. 73 (emphasis added) (citing Butler ¶149). Indeed, “[a] POSITA would ... have appreciated that *Flack’s mechanism for determining user-driven communications activity* and

initiating network connectivity complements Shell-Cole’s prioritization of active applications.” *Id.* at 76 (emphasis added); *id.* at 74-76 (providing reasons for the combination). Flack therefore discloses a mechanism for identifying user activity (e.g., communications activity) that Petitioner proposed adding to Shell-Cole. Nothing about the combination lacks clarity.

Patent Owner’s citation to Dr. Butler’s testimony fails to demonstrate otherwise. *See* POR 21-22 (citing Ex. 2008 at 38:19-39:13). Dr. Butler correctly explained that Flack identifies “how [an application is] being used and information indicative of communications representing user actions.” Ex. 2008 at 38:16-39:1. He then explained that “Flack discusses communications that represent user actions” and—over several pages of consistent testimony—identified how that use of communication activity would have been implemented in Shell-Cole. *See id.* 39:15-21, 40:22-41:10 (citing EX1003 ¶149), 41:19-42:9 (“Flack ... access[es] information indicative of which communications represent user actions.”) (citing Flack ¶53), 44:13-20 (“Flack’s determination ... would be part of the larger decision logic”), 46:21-47:7 (“Flack provides ... implementation detail ... that can be used by the Shell-Cole decision logic.”), 49:2-17 (“[T]he classification of applications present, ... , protocols representing user activities”), 51:19-52:9.

Patent Owner is wrong that Petitioner failed to establish that Flack’s methods of monitoring a “protocol ... used for communication” satisfies claim 26.

See POR at 21-23. As explained, this is how Flack determines user activity and what is incorporated into Shell-Cole. *See* Pet. 72-76. Patent Owner’s contrary argument—that a communications protocol and user interaction are “independent”—only rehashes its earlier arguments targeting the specific mechanism of Flack, which fails for the same reasons. *See* Section III.A. Claim 26—to the extent it requires any determination of user interaction—is silent as to a specific trigger, and Flack’s use of application communication activity represents one such method. *See* Section III.A. Even if better methods of determining user interaction exist, as Patent Owner seems to contend, obviousness does not require “the best option,” only a “suitable option.” *DivX, LLC v. Unified Patents, LLC*, No. 2023-1699, 2025 WL 1743001, at *2 (Fed. Cir. June 24, 2025) (citation omitted).

Patent Owner is also wrong that the Petition fails to explain “how” Flack’s determination of user activity would be integrated into Shell-Cole. *See* POR 23-24. As explained, the Shell-Cole-Flack decision logic would apply Flack’s use of communication activity for determining application status (e.g., that an application is active based on user interaction) to distinguish background activity. Pet. 73-76. A POSITA would have appreciated “Flack’s mechanism for determining user-driven communications activity” and “recognized the benefit of integrating these teachings” into Shell-Cole. *Id.* at 76. This includes using communication

activity (e.g., Flack’s analyzing IP packets via ports) to determine user activity. *Id.*; *see also id.* at 64-65 (citing Flack ¶¶8, 22, 31, 50, 55, 59-61). This adequately articulates the Shell-Cole-Flack combination and “how” its policy logic would operate.

Patent Owner’s additional attack on Dr. Butler’s testimony—that he could not supply a so-called “critical missing detail” in the combination—lacks merit. *See* POR 23-24 (citing Ex. 2008 at 46:12-47:6). Dr. Butler answered, consistent with his previous responses, that Flack’s monitoring “client communication” is incorporated into Shell-Cole. Ex. 2008 at 46:12-47:6. He also rightly pushed back against counsel’s repeated questioning directed to “how” Flack would have been combined: “[a]re you asking me to ... sketch an implementation or -- or code[?]” *See* Ex. 2008 at 48:11-18. Obviousness does not require source-code-level detail. Instead, Dr. Butler sufficiently explained the incorporated feature from Flack—use of communication activity to determine application status—and explained how this would be used in the combination: by monitoring “protocols representing user activities.” *Id.* at 48:19-49:17. This is consistent with the Petition and his declaration testimony. *See* Pet. 71-76; Butler ¶¶146-152. While Patent Owner takes issue with testimony regarding “unauthorized” programs—Dr. Butler simply responded to counsel’s questions. *See* POR 23-24 (citing Ex. 2008 at 52:14-53:3).

That testimony does not undermine his declaration or the Petition’s explanation of the combination.

Patent Owner’s citation to *Personal Web Technologies, LLC v. Apple, Inc.* (see POR 25) is distinguishable because Petitioner did not assert that Shell, Cole, and Flack “*could be* combined.” 848 F.3d 987, 993 (Fed. Cir. 2017). Instead, Petitioner explained how Flack uses communication activity to determine user activity and that it would have been obvious to implement *that mechanism* into the Shell-Cole policy logic. See Pet. 71-76. Petitioner also explained why. See *id.*; see also *id.* at 67-71. Shell-Cole-Flack therefore renders obvious claim 26.

IV. Conclusion

For these reasons and as explained in the Petition, the Board should find claim 26 of the ’359 patent unpatentable.

Dated: September 30, 2026

By: /Erika H. Arner/
Erika H. Arner, Lead Counsel
Reg. No. 57,540

CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(c)(1), the undersigned hereby certifies that the foregoing **PETITIONER REPLY** contains 5,599 words, excluding the parts exempted under 37 C.F.R. § 42.24(c), as measured by the word-processing system used to prepare this paper.

Dated: September 30, 2026

/Erika H. Arner/

Erika H. Arner, Lead Counsel

Reg. No. 57,540

CERTIFICATE OF SERVICE

The undersigned certifies that, in accordance with 37 C.F.R. § 42.6(e) and 37 C.F.R. § 42.105, a copy of the foregoing **PETITIONER REPLY** and Exhibits 1032-1033 were served via email on counsel of record for Patent Owner at the following:

Reza Mirzaie
rmirzaie@raklaw.com
rak_headwater@raklaw.com

Marc A. Fenster
mfenster@raklaw.com

Dale Chang
dchang@raklaw.com

James A. Milkey
jmilkey@raklaw.com

Neil Rubin
nrubin@raklaw.com

Philip X. Wang
pwang@raklaw.com

Dated: September 30, 2026

By: /Daniel E. Doku/
Daniel E. Doku
Senior Litigation Paralegal
FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, LLP