

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC,

Petitioner,

v.

HEADWATER RESEARCH LLC,

Patent Owner

IPR2026-00050

Patent No. 8,631,102

PATENT OWNER'S RESPONSE

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TABLE OF AUTHORITIES

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PATENT OWNER'S EXHIBIT LIST

No.	Description
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2002	Joint Motion to Dismiss in <i>Headwater Research, LLC v. Apple, Inc.</i> , No. 7:25-cv-00375-ADA (W.D. Tex.)
2003	Joint Motion to Dismiss in <i>Headwater Research LLC v. Samsung Electronics Co., Ltd. et al.</i> , No. 2:23-cv-103-JRG-RSP (E.D. Tex. Sept. 11, 2025)
2004	Order Granting Joint Motion to Dismiss in <i>Headwater Research LLC v. T-Mobile USA, Inc. et al.</i> , Nos. 2:23-cv-379-JRG-RSP and 2:23-cv-377-JRG-RSP (E.D. Tex. Nov. 13, 2025)
2005	Order Granting Joint Motion to Dismiss in <i>Headwater Research LLC v. AT&T Services, Inc. et al.</i> , No. 2:23-cv-00397-JRG-RSP (E.D. Tex. Nov. 13, 2025)
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2008	Transcript of the Deposition of Dr. Bill Lin (July 7, 2026)

I. Introduction

The '102 patent claims an end-user device—such as a phone acting as a Wi-Fi hotspot—whose memory stores two distinct “service policy settings” controlled through two different channels: a first setting, modified based on configuration information from the network, for authorizing the device to provide a forwarding service, and a second setting, modified in accordance with user input through the device’s user interface, for enabling or disabling that service.

The Petition’s challenge to claim 1, the sole independent claim, rests entirely on Thomas as a primary reference. Thomas discloses one mechanism: a phone asks a server for permission to run its hotspot application, and the server’s answer determines whether the application runs. The Petition presents that single mechanism under two labels—calling it “authorized” to satisfy the first claimed setting and “on” to satisfy the second. Labeling the same setting two different ways does not transform a single setting into the two settings the claims require.

What could potentially be read as an alternative argument—per-user “authorization settings” as the “first” service policy setting—fares no better. Petitioner’s expert disavowed it as “the *same* service policy,” and Thomas’s user-by-user disclosures authorize the *downstream client devices* to access the hotspot’s forwarding service, rather than authorizing *the claimed end-user device* to provide the forwarding service as the claims require. Ex. 1001, claim 1 (“a first service policy

setting *for authorizing the end-user device* to provide a forwarding service...”).

Even setting aside those deficiencies, the Petition never shows—or even alleges—that Thomas discloses the claim elements arranged as in the claim as required for anticipation. The Petition instead assembles its mapping from disclosures that Thomas itself presents as separate “exemplary implementation[s],” and Petitioner’s expert, applying an incorrect articulation of the anticipation standard, offered no opinion on the issue at all.

Finally, the Petition’s Ground 2 (which purports to combine Thomas with Sewall) not propose that Thomas would be obviously modified to cure any of these deficiencies. Petitioner’s expert testified that his opinions “remain[] the same” as in Ground 1, that he proposed no change to Thomas’s operation to arrive at the relevant limitations, and that he identified no motivation to make any such modification, instead citing Sewall (the secondary reference) only for “additional perspective.”

Because claim 1 is the sole independent claim and every challenged claim incorporates the requirements the Petition cannot meet, the Petition fails as to all challenged claims. The Board should reject Grounds 1 and 2 and confirm the patentability of the challenged claims.

II. Overview of the ’102 Patent

The ’102 patent describes “device assisted” service policy implementation, in which “service policy settings for the device”—settings that in conventional

networks resided in the network core—are “moved out of the core network and into the end user device.” Ex. 1001, 8:62–9:4; Ex. 2006, ¶25. As relevant here, the specification describes embodiments in which the end-user device, such as “a Wi-Fi hot spot with a service processor 115 capability,” acts “as a service intermediary or intermediate connection between the network and one or more end point devices,” forwarding traffic between those devices and the network. Ex. 1001, 153:31–37, 154:37–38; Ex. 2006, ¶25.

Claim 1 (the sole independent claim) recites in full:

1. An end-user device, comprising:
 - one or more modems for
 - assisting the end-user device in communicating with a network system over a wireless access network, the network system comprising one or more network elements, and
 - assisting the end-user device in communicating with one or more other devices over a wireless local-area network, a personal-area network, a near-field network, or a combination of these;
 - memory configured to store a plurality of service policy settings, the plurality of service policy settings including a first service policy setting for authorizing the end-user device to provide a forwarding service to the one or more other devices, the forwarding service for forwarding traffic between the one or more other devices and the network system;
 - a user interface; and

one or more processors configured to execute one or more instructions that, when executed by the one or more processors, cause the one or more processors to:

at least assist to obtain configuration information from the one or more network elements, the configuration information instructing the one or more processors to modify or to allow modification of the first service policy setting,

at least assist to obtain, through the user interface, a user input associated with enabling or disabling the forwarding service, and

modify a second service policy setting of the plurality of service policy settings in accordance with the user input, the second service policy setting for at least assisting in enabling or disabling the forwarding service.

Ex. 1001, cl. 1 (163:38–164:6). Claim 1 thus requires two distinct “service policy settings,” controlled through two different channels. The “first service policy setting” is “for *authorizing* the end-user device to provide a forwarding service to the one or more other devices,” and it is modified (or its modification allowed) by “configuration information” that the device obtains “from the one or more network elements.” The “second service policy setting of the plurality of service policy settings” is “for at least assisting in *enabling or disabling* the forwarding service,” and it is modified “in accordance with” a “user input” obtained “through the user interface.” In short, the network side controls whether the end-user device is

authorized to provide the forwarding service at all, while the device's user controls whether that service is enabled or disabled. These are two distinct settings stored together in the device's memory, and modified through two different channels. Ex. 2006, ¶¶26–27.

III. Level of Ordinary Skill in the Art

The Petition proposes that a POSITA in the field of the '102 patent “would have at least a bachelor's degree in computer science, electrical engineering, or a related field, and at least two years of work/research experience in the field of computer networking and networking devices,” and that “[m]ore related education may compensate for fewer years of work experience (and vice versa).” Pet. 8. For purposes of this Response, Patent Owner and its expert apply the Petition's proposed level of ordinary skill in the art. *See* Ex. 2006, ¶28.

IV. Claim Construction

The Petition states that “no terms need to be expressly construed.” Pet. 8–9. Patent Owner agrees that for evaluation of the theories articulated in the Petition, no terms need be construed. Ex. 2006, ¶17.

V. The Petition's Ground 1 theory (anticipation based on Thomas alone) fails.

By way of background, Thomas discloses a cell phone that asks a server for permission to provide hotspot service through its hotspot application. This process works as follows: the user starts client access application 312; the phone sends a start

message; server 108 answers “okay to run or never start,” and if an “okay to run” result is received, the hotspot application will be allowed to continue running to provide hotspot service; when the user stops the application, stop messages are exchanged and the session ends. Ex. 1005 ¶¶57–60, 65. *See also* Ex. 2006, ¶¶29–30.

As discussed above, the sole independent claim (claim 1) requires two distinct “service policy setting[s]”: “a first service policy setting for authorizing the end-user device to provide a forwarding service to the one or more other devices” (which policy setting is modified in part based on “configuration information from the one or more network elements”), and a “second service policy setting for at least assisting in enabling or disabling the forwarding service,” which setting is modified “in accordance with... user input.”

The Petition can potentially be read as alleging two different theories in this regard—one in which the “first service policy setting” is “authorized” vs “unauthorized” and another in which the “first service policy setting” is

“authorization settings... for providing the forwarding service on an individual user-by-user basis”—but both fail, as discussed below.

A. The Petition’s primary Ground 1 theory identifies only a single “service policy setting.”

The Petition alleges that the “first service policy setting” is a setting that defines whether Thomas’s phone is “authorized” or “unauthorized” to provide the hotspot forwarding service. Pet. 13–14. When the “authorized” setting is in place, it “instruct[s] the wireless device’s processor to... start application 312.” Pet. 16. The Petition notes: “This authorization ‘setting’ remains in place during the forward-service session.” Pet. 17. In other words, this first setting being set to “authorized” extends from application 312 being started until the forwarding-service session is terminated. *See* Pet. 16–17; Ex. 2006, ¶31.

For the “second service policy setting,” the Petition maps that setting to an “on-or-off” setting for the forwarding service. Pet. 18–19. The Petition relies on Thomas’s user interface as displaying whether the forwarding service is “ON” or “OFF.” *Id.* The Petition states that this setting is set to “on” when the user of the wireless device “starts... the client-access application,” and that the setting is set to “off” when the session is terminated. Pet. 18. In other words, the alleged “second service policy setting” being set to “on” extends from application 312 being started

until the forwarding-service session is terminated. *See* Pet. 18–19; *also* Ex. 2006, ¶32.

The problem with the Petition’s theory is that *both* of these alleged “first” and “second” service policy settings are the *same* setting, because both are commensurate with whether Thomas’s phone is providing the forwarding service. Thomas is explicit that the authorization information the Petition points to for the “first” setting causes the “wireless device 110 [to] start the client access application 312” if the response from the network “indicates that it was okay to run.” Ex. 1005, [0060]. And the Petition’s theory is clear that the “second” setting is coextensive with whether the application 312 is running. *See* Pet. 17 (“[T]he ‘user’ of wireless device 110 may start application 312 to turn on the forwarding service or stop application 312 to turn it off.”); *id.* at 18 (“To enable or disable the forwarding service, the user of wireless device 110 starts or stops the client-access application 312. For example, after exchanging stop messages with server 108, wireless device 110 may terminate the session, changing the second service-policy setting to *off*.”) (*italics in original*). *See also* Ex. 2006, ¶33.

Dr. Lin confirmed as much during his deposition, when he testified that he was unable to identify any disclosure in Thomas wherein the alleged “second service policy setting” could be set to “off” while the wireless device 110 is “authorized.” Ex. 2008 at 68:8–69:24. He also confirmed that he had no opinion whether the

alleged second service policy setting could be set to “*on*” at the same time that the wireless device 100 is *not authorized* to provide network forwarding service.” Ex. 2008 at 67:18–68:7. In other words, Dr. Lin was unable to specify any disclosure in Thomas that these two allegedly distinct “first” and “second” service policy settings were in fact *distinct* from one another, as opposed to each reflecting the *same* stored setting value. *See also* Ex. 2006, ¶34.

And the Petition itself provides no coherent theory as to how “authorized” and “on” are distinct settings. The Petition has no actual analysis on this point, beyond the assertion that “authorized” maps to the “first” setting and “on” maps to the “second” setting. *See generally* Pet. 13–15, 16–17, 18–19 (no discussion of how the alleged “first” and “second” service policy settings are, in fact, distinct from one another). *See also* Ex. 2006, ¶35. Thus, the Petition’s unsupported argument that the “authorized” and “on” characterizations of the same setting are in fact two different settings should be rejected.

B. The Petition’s theory with regard to “authorization settings” “for providing the forwarding service on an individual user-by-user” basis also fails.

Although the Petition is far from clear on its mapping, Petitioner may argue that it has alleged a *different* “first service policy setting” as an alternative theory.

This potential theory is set forth in a single paragraph of the Petition, as set forth below:

Thomas further discloses that its wireless device may change authorization settings (i.e., another “first service policy setting”) for providing the forwarding service on an individual user-by-user basis. EX1005, ¶¶44-46 (“wireless device 110 is provided with a user interface to allow or disallow access to a connection”), 52, Fig. 5; *see also id.*, ¶85; EX1003, ¶67.

Pet. 15.

This potential alternative (“another”) theory fails for numerous reasons.

1. Petitioner’s expert conceded that an “individual user-by-user” setting is not a distinct setting from the authorization discussed above.

As a primary matter, Petitioner’s expert confirmed at deposition that despite stating in his declaration that “first service policy setting” is “another” setting, it is actually the *same* service policy setting as the “authorized” vs “unauthorized” service policy setting discussed above. For instance, Dr. Lin’s declaration includes paragraphs 64 and 67, which introduce these two potential alternative policy settings as reproduced below:

64. The memory of Thomas’s end-user device stores a first service policy setting that authorizes the end-user device to provide a forwarding service to the one or more other devices. As shown in Figure 7 below, when the user of wireless device

110 of *Thomas* starts application 312 to enable the forwarding service, the wireless device 110 first obtains authorization from a network element such as server 108. EX1005, ¶¶ 57-60, Fig. 7. One of skill in the art would understand that the end user device's initial or default policy service with respect to the forwarding service is *unauthorized*, as authorization is required before wireless device 110 can provide its forwarding service. *Id.*

Ex. 1003, ¶64 (FIG. 7 of *Thomas* omitted) (bolding added).

67. *Thomas* further discloses that wireless device 110 may change authorization settings (i.e., another “first service policy setting”) to provide the forwarding service on an individual user-by-user basis. *Id.*, ¶¶44-46, 52, Fig. 5; *see also id.*, ¶85. For example, “wireless device 110 is provided with a user interface to allow or disallow access to a connection ... by computing devices that are within range of the wireless device 110.” *Id.*, ¶¶44-46. This is further demonstrated in Figure 5, as annotated below.

Ex. 1003, ¶67 (bolding added).

At deposition, however, Dr. Lin, after repeated questioning as to what was different about the “service policy setting” discussed in paragraph 64 of his declaration and “*another* ‘service policy setting’” in paragraph 67 of his declaration (*see* Ex. 2008 at 37:6–40:12), Dr. Lin made clear that they are actually referring to

the *same* authorized vs non-authorized service policy setting that forms the Petition's theory discussed in Section V.A above.

Q. Okay. *So is the first service policy setting that you identify in paragraph 67 of your declaration the same first service policy setting or a different first service policy setting or a different first service policy setting than the one you identify in paragraph 64 of your declaration?*

THE WITNESS: *I think in that sense it's the same per service policy, and the first service policy is really with respect to network authorization.* So whether -- I'll back up. My main analysis in the section is about the first service policy with respect to network authorization on the network facing side. That's my main explanation for when a first service policy setting that Thomas teaches. I've cited in paragraph 67 that further evidence from Thomas that talks about individual connections, whether we considered that to be the same first service policy or a different one, I'm not sure that is my central point. My central point is that in these paragraphs a wireless device 110 will request authorization to forward packets to the network on the network side. My paragraphs here talks about forwarding packets through the networking side.

The addition of 67 points to additional supporting teaching that that service policy may include authorization on the network side on an individual basis. So to answer your question, it's the same service policy in terms of network authorization, and paragraph 67 just adds additional support.

Ex. 2008 at 40:13–41:19. In other words, Dr. Lin confirmed that this is not an alternative regarding the “first service policy setting” at all—it’s the same authorized vs non authorized setting discussed above. *See also* Ex. 2006, ¶¶36–37.

To the extent Petitioner attempts to argue that an individual user-by-user authorization is a distinct setting from the overall authorization discussed above, that alternative theory would also fail as discussed below

2. Individual “user-by-user” authorization would at most authorize a downstream device to receive hotspot service from Thomas’s hotspot phone, rather than authorize the claimed end-user device “to provide a forwarding service” to the one or more devices.

The authorization of Thomas’s device 110 to provide the forwarding service is the “on” vs “off,” “authorized” vs “unauthorized” setting discussed above in Section V.A. That is the *only* setting that determines whether Thomas’s phone is in fact authorized to provide forwarding services to “the one or more devices” as the Petition maps them. *See* Ex. 2006, ¶38.

An alternative theory involving a user-by-user authorization would only control whether Thomas’s phone is providing forwarding services to any *individual* device, not whether it is “authoriz[ed]... to provide a forwarding service to the one or more devices.” The authorization “to provide a forwarding service” to the one or more devices is provided, as the Petition concedes, when Thomas’s phone learns it

is “okay to run” and initiates the client application 312 accordingly to provide the forwarding service. *See* Pet. 14.

A POSITA would understand that it is **this** setting that authorizes the device to provide the claimed forwarding service; other settings would at most influence which of the one or more devices *have access* to the particular forwarding service that Thomas’s phone has already been authorized to provide. Nowhere does the Petition explain how user-by-user settings based on information received by the network would authorize Thomas’s device “to provide a forwarding service... for forwarding traffic between the one or more other devices and the network system” as claimed. And the fact that these user-by-user settings do **not** authorize the phone to provide the service is shown by Dr. Lin’s inability to explain how those settings were any different than the authorization setting discussed above in Section V.A. *See* Ex. 2006, ¶38.

The fact that these individual user-by-user settings do not “authoriz[e] the end-user device to provide a forwarding service... for forwarding traffic between the one or more other devices and the network system” is further established by the fact that any user-by-user settings could only be changed **after** the hotspot is already authorized to provide the forwarding service. *See* Ex. 2006, ¶38. The only thing that an individual user-by-user setting would control is whether any individual client

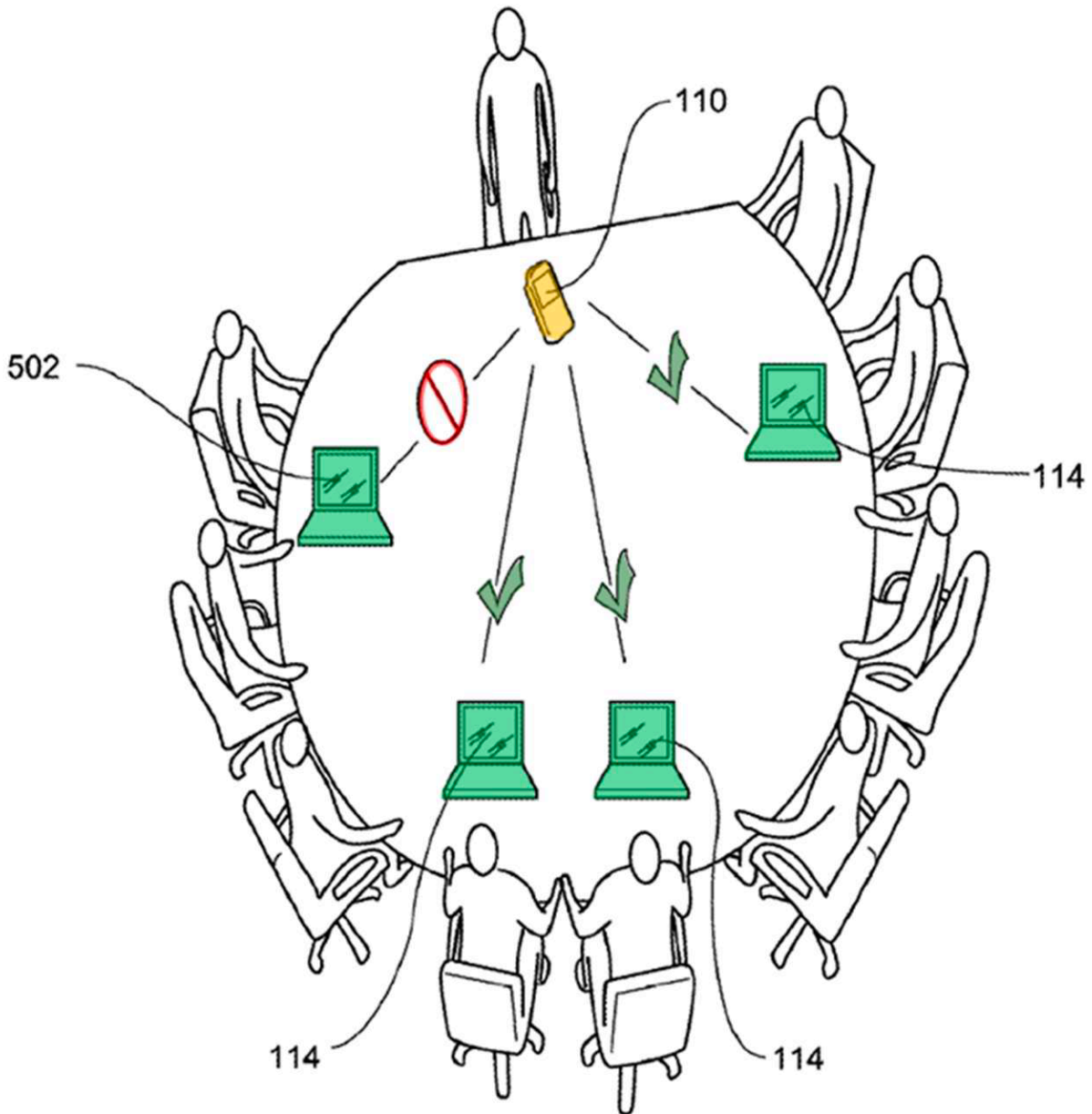
device 114 is authorized to provide access to the forwarding service, which service is being provided by the hotspot.

This is clear from the disclosures of Thomas itself, which consistently describe the authorization as an authorization that is provided to the downstream computing devices to provide access to Thomas's forwarding service, not whether Thomas's hotspot device itself is authorized to provide such forwarding services. For example, paragraph 44 of Thomas discloses:

FIG. 5 illustrates an exemplary implementation 500 where a single wireless device 110 is provided with a user interface to allow or disallow access to a connection via the Internet 104 **by computing devices** that are within range of wireless device 110. Within FIG. 5, **three of the computing devices have been approved** [i.e., authorized] to use the wireless device 110 as client computing devices 114. An additional computing device 502 **is not authorized** to use the wireless device 110 for networking activities.

Ex. 1005, [0044]. The Petition's annotation of Thomas's FIG. 5 is likewise reproduced below:

FIGURE 5



Pet. 4 (Petition's annotation of Thomas's FIG. 5). The Petition maps Thomas's phone 110 to the "end-user device" of the claims, but it is the devices 114 or 502

that are authorized or not to access the forwarding service under a device-specific authorization theory.

The Petition does not identify, and Thomas does not include, any passage wherein Thomas discloses these device-specific settings as authorizations *of the end-user device 110* to provide a forwarding service. Instead, as noted above, Thomas is clear that it is the *individual client computing devices 114* (i.e., the claimed “one or more devices”) that receive authorization to access the forwarding service (or, in paragraph 52’s words, that are “authenticated to provide access” to their users) which the hotspot has *previously* been authorized to provide. *See* Ex. 1005, [0044] (noting that client computing devices 114 or 502 may be authorized or not to access the forwarding service); *id.* [0046] (“*Authorization of computer traffic from the client computing devices 114* may be performed by any one of a number of methods of identifying *eligible computing devices*.... The user of the wireless device 110 may accept or deny the request to access the Internet through the wireless device 110.”). *See also* Ex. 2006, ¶39.

The same is true for Thomas’s Figure 6 embodiment, which may (contrary to Thomas’s Figure 5 embodiment) involve the client device 114 receiving authorization in part based on communications with a “service provider” (which the Petition maps to one or more “network elements”—*see* Pet. 17). For instance, paragraph 52 of Thomas, relating to the Figure 6 embodiment, discloses:

A stranger seeking to access the Internet 104 **would initiate a request to connect to the Internet 104**, then would be passed through an available wireless device 110 within wireless communication range of the user's client computing device 114 **and authenticated to provide access**. Rather than the authentication being performed by the wireless device 110, the authentication could be performed by a service provider that provides a wireless service to the wireless device 110.

Alternatively, *a service provider with which the stranger has an account may be contacted separately by the stranger for account authorization* and the stranger may provide identifying information for the wireless device 110 that it wants to connect through and the service provider may initiate authentication with the wireless device 110.

Ex. 1005, [0052].

As shown above, there are several alternative implementations of FIG. 6 used to provide the **same** authentication to the client device 114. In the first of these scenarios, the client device 114 (controlled by a "stranger") is passed to wireless device 110 so that client device 114 may provide Internet access to the stranger via the device 110. Wireless device 110 can, in response, authenticate device 114 to provide access to the Internet. (Of course, wireless device 110 need not authenticate **itself**—it already knows whether or not it is authorized to provide forwarding services.) Separately, this same authentication of the stranger's device 114 can be

routed through to a service provider via wireless device 110, but ultimately it is still client device 114 controlled by the stranger that is being authenticated / being authorized to provide Internet access to the stranger. Finally, the authentication / authorization request may be routed directly to a service provider, and the service provider can obtain the required authentication from wireless device 110. *See* Ex. 1005, [0052] (“Alternatively, *a service provider with which the stranger has an account may be contacted separately by the stranger for account authorization* and the stranger may provide identifying information for the wireless device 110 that it wants to connect through and the service provider may initiate authentication with the wireless device 110.”). *See also* Ex. 2006, ¶40.

None of these disclosures relate to the *wireless device 110* receiving authorization or permission to provide any service. Instead, they all relate to downstream *client devices 114* requesting and receiving authorization / authentication to obtain access to the forwarding service that wireless device 110 is providing. *See* Ex. 2006, ¶40.

This understanding is confirmed by Thomas’s Figure 8, which is disclosed as setting forth “generalized steps for establishing a session where the request for access through the wireless device 110 is processed at the wireless device 110” but also involving a determination by “server 108” regarding “whether it is appropriate

for the proposed device [114] to run.” Ex. 1005, [0061], [0063]. Thomas’s Figure 8 is reproduced below.

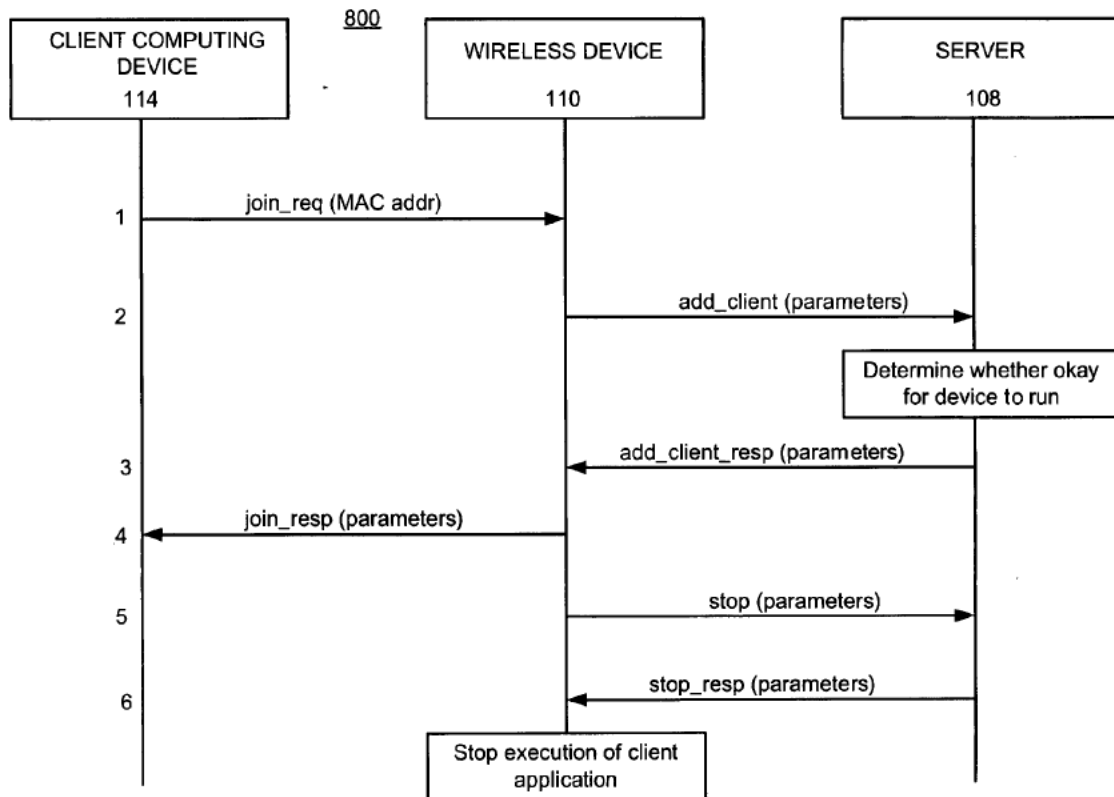


FIGURE 8

Ex. 1005, FIG. 8. As shown above, Figure 8 depicts an embodiment wherein server 108 is involved in providing information to wireless device 110 regarding whether client computing device 114 is authorized to run on the network.

Thomas consistently discloses this process as authentication *of the computing device 114* to run and provide network access, rather than authentication or authorization *of wireless device 110* to provide a forwarding service as the Petition’s alternative theory would require. For example, Thomas states that Figure 8

“illustrates an exemplary authentication message flow between a computing device, a wireless device, and a server *for authentication of a computing device* to operate upon the network.” Ex. 1005, [0018]; *see also, e.g., id.* [0061] (same, further noting that the client device 114’s “request for access” is “processed at the wireless device 110”). Thomas teaches that this process involves “the client computing device 114 sending a join request” (line 1 of FIG. 8) which may include “its MAC address or other identifier as a parameter,” which the wireless device 110 will use to “send[] an add client message to the server 108 (line 2).” Ex. 1005, [0062]. Then, “[i]n response to the receipt of the add client message, the server 108 determines *whether it is appropriate for the proposed device to run.*” *Id.*, [0063].

Thomas is explicit that this is an authorization *for the proposed device 114*, not an authorization for wireless device 110, in describing “[m]any options... for determining whether *the proposed device* should be authorized to run.” *Id.*, [0063]; *see, e.g., id.*, (“[T]he server 108 may determine whether it is appropriate *for the proposed device to run* based upon... identification information... for the device....”); *id.* (“The server 108 sends an add client response message to the wireless device 110 in response to it[s] determination about whether *the client computing device 114* is to be allowed to run (line 3). A parameter for the add client response message includes a message type indicating whether *the device* is authorized to run.

For ease of illustration, it will be assumed that the *client computing device 114* is authorized to run.”). *See also* Ex. 2006, ¶41.

Thus, all disclosures of Thomas that relate to an individual-user-by-user authorization describe whether the downstream *client devices 114* are authorized to provide network access via the hotspot 110, rather than whether hotspot 110 is authorized to provide a forwarding service to the client devices as would be required by the Petition’s theory to satisfy the claim requirement of “a first service policy setting for *authorizing the end user device to provide a forwarding service* to the one or more other devices.” *See* Ex. 2006, ¶42.

C. The Petition makes no showing that the elements of claim 1 are disclosed as arranged in the claim.

For the reasons discussed above, Thomas does not disclose all limitations of claim 1. But even if Thomas *did* disclose all limitations, that is insufficient for anticipation, because “a prior art reference must provide every element of the claimed invention *arranged as in the claim* in order to anticipate.” *Microsoft Corp. v. Biscotti, Inc.*, 878 F.3d 1052, 1069 (Fed. Cir. 2017).

The Petition makes no such showing, and indeed does not even *allege* that Thomas provides all limitations “arranged as in the claim.” *Id.* Instead, the Petition merely alleges that “Thomas discloses each and every element of claim 1 and therefore anticipates it.” Pet. 11. This allegation is insufficient and applies an

incorrect understanding of anticipation, which cannot be satisfied even on a showing that all limitations of a claim are individually disclosed in a single prior art reference. *See Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1371 (Fed. Cir. 2008) (reversing finding of anticipation “because it was error for the district court to find anticipation by combining different parts of the separate protocols in the iKP reference simply because they were found within the four corners of the document”).

This deficiency is fatal to the Petition, because the Petition’s analysis relies on numerous different figures and disclosures within Thomas without alleging that each of these disclosures are arranged together in the same way the claim arranges them. *See, e.g.*, Pet. 11 (citing Thomas at FIGs. 3, 5–6); *id.* (citing Thomas at FIG. 1); *id.* at 13 (citing Thomas at [0062]–[0069], which relate to Thomas’s FIGs. 7–8); Pet. 17 (citing Thomas at [0076]–[0077], which relate to Thomas’s FIGs. 9–10); Pet. 25 (citing Thomas at [0079]–[0080], which relate to Thomas’s FIG. 11); Pet. 17 (citing paragraph [0085] of Thomas). *See also* Ex. 2006, ¶43.

The Petition’s deficiency in showing that the relied-upon portions of Thomas are arranged as claimed was confirmed by Dr. Lin. At his deposition, Dr. Lin was unable to answer which figures of Thomas he relied upon related to the “same embodiment,” appearing not to be familiar with the terminology of an “embodiment.” *See* Ex. 2008 at 9:19–12:21, particularly at 10:18–23 (“Do you have an opinion regarding whether figures 2 through 11 of Thomas all relate to the same

embodiment of Thomas? THE WITNESS: I'm not sure I understand your question.”). After noting that Thomas used the phrase “exemplary implementation” rather than “embodiment” (*id.* at 12:12–21), Dr. Lin was asked whether “figures 5 and 6” of Thomas were part of “the same implementation or different implementations.” *Id.* at 12:22–13:2. Dr. Lin responded by noting that Thomas describes both figures as “an exemplary implementation in each case,” and he declined to describe these figures as being part of the *same* implementation of Thomas. *Id.* This is the same terminology Thomas uses to describe each of the Figures relied upon by the Petition (i.e., Figures 3, 5–11). *See* Ex. 1005, [0013], [0015]–[0021] (describing each of these figures as depicting “an exemplary block diagram,” “an exemplary implementation,” “an exemplary message flow,” etc.). *See also* Ex. 2006, ¶¶43–44.

Dr. Lin presumably did not consider this issue because he applied the incorrect legal standard, as articulated in ¶27 of his declaration. Specifically, Dr. Lin applied “legal principles that counsel in this case explained to [him]” (Ex. 1003, ¶21), including that “a patent claim is invalid as anticipated if a single piece of prior art teaches every element of the claims.” Ex. 1003, ¶27. As noted above, that is incorrect, because “a prior art reference must provide every element of the claimed invention *arranged as in the claim* in order to anticipate.” *Microsoft Corp. v. Biscotti, Inc.*, 878 F.3d 1052, 1069 (Fed. Cir. 2017). In other words, “anticipation is

not proven by multiple, distinct teachings that the artisan might somehow combine to achieve the claimed invention.” *Id.* (internal quotation marks omitted); *see also Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1371 (Fed. Cir. 2008) (reversing finding of anticipation “because it was error for the district court to find anticipation by combining different parts of the separate protocols in the iKP reference simply because they were found within the four corners of the document”).

Because the Petition made no showing, and Petitioner’s expert Dr. Lin provided no opinions regarding, whether the relied-upon disclosures of Thomas are arranged as in the claims, the Petition’s anticipation theory as to Thomas cannot succeed. *See also* Ex. 2006, ¶44.

VI. The Petition’s Ground 2 (Thomas in view of Sewall) does not cure any of the deficiencies with respect to Ground 1 above.

As discussed above in Sections V.A–B, the Petition fails to identify two distinct “service policy settings” in Thomas that satisfy the claim requirements. Nowhere in the Petition’s Ground 2 does the Petition explain how the Petition’s deficient Ground 1 theory would be modified in a way that would satisfy the claim requirements.

For example, in limitation 1[b] (which introduces the “first service policy setting”), the Petition alleges that “*Thomas* discloses 1[b]” (Pet. 29, incorporating by reference the Petition’s Ground 1 analysis), and separately alleges that “*Sewall*

also discloses 1[b] in aspects included in the combination with *Thomas*,” with no explanation of *how* the alleged “first service-policy setting for authorizing the hotspot device to provide a forwarding service” of Sewall would be implemented in *Thomas*. Pet. 30–31. For example, would this alleged “first service-policy setting” *replace* *Thomas*’s authorization setting? Be used in addition to *Thomas*’s authorization setting? Would the “first service policy setting” in the combination be some hybrid between the two alleged “first service policy setting[s]” in *Thomas* and *Sewall*? The Petition provides no clarity on this point whatsoever, and it is impossible to discern what the Petition’s theory as to how *Thomas* would even allegedly be modified in view of *Sewall* to arrive at this limitation. *See also* Ex. 2006, ¶45.

Dr. Lin at his deposition was likewise unable to articulate any modification to *Thomas* to arrive at this limitation. *See generally* Ex. 2008 at 48:19–50:24. Dr. Lin initially testified that his limitation 1[b] theory in Ground 2 was the *same* as his Ground 1 theory, relying on *Sewall* only for “additional perspective on how *Sewall* [also teaches] the claim elements” and “providing additional perspective”:

Q. Okay. And my question is, in the combination of *Thomas* with *Sewall* what do you propose would be changed about *Thomas*’ operation with respect to limitation 1B?

THE WITNESS: *I think for all of the claims where I've offered my opinion that Thomas alone anticipates, my opinion*

remains the same with respect to here as well. The purpose of the combination is two-fold. One is to give additional perspective on how Sewall teaches also the claim elements. So that's the primary reason for my declaration that explains how Sewall addresses these claim elements by providing additional perspective. On some claims like, for example, claim 4, I explained the combination of Thomas and Sewall, which I didn't argue as anticipated in the ground 1.

Ex. 2008 at 48:19–49:10.

When pressed further as to what (if any) modification would be applied to Thomas's disclosure, Dr. Lin made clear that he was not relying on a modification to Thomas at all to arrive at the claim limitations, but was instead relying on his opinion that "both Thomas and Sewall each discloses 1B" as the basis for his opinion that the limitation was obvious:

Q. Okay. *So for limitation 1B are you proposing that it would be obvious to change the operation of Thomas in a way that would arrive at limitation 1B in view of Sewall*, or are you just relying on the individual disclosures of Thomas and Sewall as disclosing limitation 1B?

THE WITNESS: So I'm relying, as I said earlier -- I think with respect to 1B, the Thomas and Sewall provides different perspectives of teachings, different perspective of prior art teaching, the claim element 1B as well as other ones that I just

mentioned and, as I said in paragraph 125, I said, “one of skill would recognize that Sewall also discloses 1B.”

So what I mean by that is both Thomas and Sewall each discloses 1B, offering different perspectives.

Q. Okay. So if they both individually describe limitation 1B, how would the combined system operate? Like, the combination of Thomas and Sewall together. How would that combined system operate to satisfy limitation 1B?

THE WITNESS: So in my analysis, for example, in 1B I think each Thomas and Sewall discloses the -- discloses 1B on their own. ***I’m looking at the teachings of Thomas and Sewall in my analysis. I think that’s really my analysis, is that they both teach 1B.***

Ex. 2008 at 49:11–50:16.

Dr. Lin was then given another opportunity to explain whether he had provided “any motivation to change Thomas’ operation with respect to limitation 1[b],” yet was unable to do so:

Q. Okay. Do you identify any motivation to change Thomas’ operation with respect to limitation 1B?

THE WITNESS: I think my analysis in 1B, as stated in my declaration, ***each discloses 1B on their own*** and both discloses or teaches -- disclose or teach 1B.

Ex. 2008 at 50:17–24. And counsel for Petitioner declined to provide any redirect to clarify Dr. Lin’s repeated inability to identify any modification to modify Thomas

to arrive at limitation 1[b] (or motivation to modify Thomas to do so). *Id.* at 70:16–22. *See also* Ex. 2006, ¶46.

This same problem pervades the Petition and Dr. Lin’s analysis with respect to limitation 1[d][iii], which introduces the claimed “second service policy setting.” Although the Petition alleges that “it would have been obvious to include a user-selectable option to enable or disable the forwarding service,” the Petition makes clear that it is not proposing any modification to Thomas in this regard, because it would operate “just as *Thomas* discloses.” Pet. 34 (“As detailed above, it would have been obvious to include a user-selectable option to enable or disable the forwarding service, ***just as Thomas discloses.***”). Nothing in the Petition’s description of limitation 1[d][iii] proposes any modification to Thomas (or motivation to modify Thomas) to arrive at limitation 1[d][iii], and the Petition’s analysis of limitation 1[d][iii] cites no disclosure of Sewall itself, and instead only cites Dr. Lin’s declaration the Petition’s 1[d][ii] analysis. *See* Pet. 34. *See also* Ex. 2006, ¶47.

Dr. Lin confirmed he had no opinion in this regard. *See* Ex. 2008 at 51:4–53:5. Most directly, he testified:

Q. Okay. In your analysis of ground 2 do you propose any changes to Thomas that would further arrive at limitation 1D3?

THE WITNESS: ***I don't believe so.*** I think Thomas discloses 1D3.

Ex. 2008 at 52:25–53:5. And as noted above, Petitioner declined to elicit further testimony from Dr. Lin on this point. *Id.* at 70:16–22. *See also* Ex. 2006, ¶47.

A showing of obviousness requires identifying what, if anything, is missing from a single reference and articulating a reason a POSITA would have modified or combined references to supply it. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (the obviousness “analysis should be made explicit” as to the reasons a skilled artisan would have combined known elements). Here, the Petition provides no articulation of how Thomas and Sewall would be combined in any way that would cure the deficiencies of Thomas with respect to Ground 1 above, such that the Petition’s failure with respect to Ground 1 cannot be cured by the Petition’s Ground 2. *See also* Ex. 2006, ¶48.

Nor can the Petition contend that Sewall itself discloses all limitations under Ground 2. For example, the Petition presents no anticipation argument based on Sewall, nor does the Petition allege obviousness with Sewall as a primary reference. And the Petition’s theory with respect to limitation 1[d][iii] does not rely on *any*

teaching of Sewall. *See* Pet. 34.¹ Accordingly, the Petition's Ground 2 theory does nothing to cure the Ground 1's deficiencies with respect to independent claim 1.

VII. Conclusion

As discussed above, the Petition's Ground 1 and Ground 2 challenges with respect to claim 1 fail. Because claim 1 is the sole independent claim, and Grounds 1 and 2 are the only grounds challenging that claim, the Petition fails with respect to all challenged claims.

Date: July 21, 2026

Respectfully submitted,

/James A. Milkey/
James A. Milkey, Reg. No. 79,503
RUSS, AUGUST & KABAT
12424 Wilshire Blvd., 12th Fl.
Los Angeles, CA 90025

Counsel for Patent Owner

¹ The Petition also does not allege it would be obvious to combine any distinct embodiments of Thomas to arrive at claim 1. *See* Section V.C, *supra* (discussing the Petition's failure to allege Thomas alone discloses all limitations *as arranged in the claims*).

CERTIFICATION REGARDING WORD COUNT

Pursuant to 37 C.F.R. §42.24(d), Patent Owner certifies that there are 6,586 words in the paper excluding the portions exempted under 37 C.F.R. §42.24(a)(1).

Date: July 21, 2026

/James A. Milkey/
James A. Milkey, Reg. No. 79,503
RUSS, AUGUST & KABAT
12424 Wilshire Blvd., 12th Floor
Los Angeles, CA 90025

Counsel for Patent Owner

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

The undersigned hereby certifies that the above document was served on July 21, 2026 by filing this document through the Patent Trial and Appeal Case Tracking System (PTACTS) as well as delivering a copy via electronic mail upon the following attorneys of record for Petitioner:

Erika H. Arner, Reg. No. 57,540
Daniel C. Tucker, Reg. No. 62,781
Elliot Cook, Reg. No. 61,769
Michael V. Young, Reg. No. 61,180
Alexander M. Boyer, Reg. No. 66,599
Bradford C. Schulz, Reg. No. 75,006
Christopher B. Anderson, Reg. No. 77,898
Umbra Aggarwal, Reg. No. 76,098
Abhay A. Watwe, Reg. No. 59,461
Kathleen C. Galleher, Reg. No. 80,837
Finnegan, Henderson, Farabow, Garrett, & Dunner LLP
1875 Explorer Street, Suite 800
Reston, VA 20190-6023
erika.arner@finnegan.com
daniel.tucker@finnegan.com
elliott.cook@finnegan.com
michael.young@finnegan.com
alexander.boyer@finnegan.com
bradford.schulz@finnegan.com
christopher.anderson@finnegan.com
umbra.aggarwal@finnegan.com
abhay.watwe@finnegan.com
kathleen.galleher@finnegan.com

Joshua L. Goldberg, Reg. No. 59,369
Daniel F. Klodowski, Reg. No. 72,693
Pier D. DeRoo, Reg. No. 69,340
Christopher C. Johns, Reg. No. 68,664
Kassandra M. Officer, Reg. No. 74,083

William C. Neer, Reg. No. 78,874
Kai Rajan, Reg. No. 70,110
Connor M. McGregor, Reg. No. 79,634
Heather J. Ren, Reg. No. 82,089
Finnegan, Henderson, Farabow, Garrett & Dunner, LLP
901 New York Avenue NW
Washington, DC 20001-4413
joshua.goldberg@finnegan.com
daniel.klodowski@finnegan.com
pier.deroo@finnegan.com
Christopher.Johns@finnegan.com
Kassandra.Officer@finnegan.com
william.neer@finnegan.com
kai.rajan@finnegan.com
connor.mcgregor@finnegan.com
heather.ren@finnegan.com

Benjamin A. Saidman, Reg. No. 69,325
Finnegan, Henderson, Farabow, Garrett & Dunner, LLP
271 17th Street NW, Suite 1400
Atlanta, GA 30363-6209
Phone: 404-653-6510
Fax: 404-653-6444
benjamin.saidman@finnegan.com

Yi Yang, pro hac vice to be filed
Finnegan, Henderson, Farabow, Garrett & Dunner, LLP
2 Seaport Lane, 6th Floor
Boston, MA 02210
yi.yang@finnegan.com

HeadwaterIPRTeam@finnegan.com

Date: July 21, 2026

Respectfully submitted,

/James A. Milkey/

James A. Milkey, Reg. No. 79,503
RUSS, AUGUST & KABAT
12424 Wilshire Blvd., 12th Fl.
Los Angeles, CA 90025

Counsel for Patent Owner