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Paper 13
Date: April 1, 2025

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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SAMSUNG ELECTRONICS CO., LTD.,
Petitioner,

v.

HEADWATER RESEARCH LLC,
Patent Owner.

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IPR2024-01396
Patent 9,647,918 B2

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Before GARTH D. BAER, SCOTT B. HOWARD, and STEPHEN E. BELISLE, *Administrative Patent Judges*.

Opinion for the Board filed by *Administrative Patent Judge* Baer

Opinion Dissenting filed by *Administrative Patent Judge* Howard

BAER, *Administrative Patent Judge*.

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

# I. INTRODUCTION

Petitioner, Samsung Electronics Co., Ltd., filed a Petition requesting an *inter partes* review of claims 1–19 of U.S. Patent No. 9,647,918 B2 (Ex. 1001, "the '918 patent"). Paper 2 ("Pet."). Patent Owner, Headwater Research LLC, filed a Preliminary Response. Paper 7 ("Prelim. Resp."). With permission of the Board, Petitioner filed a Preliminary Reply ("Reply") (Paper 9) and Patent Owner filed a Pre-Institution Sur-reply ("Sur-reply") (Paper 10).

Based on the authority delegated to us by the Director under 37 C.F.R. § 42.4(a), we may not institute an IPR unless the information presented in the Petition and any preliminary response thereto shows "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). For the reasons below, we conclude there is a reasonable likelihood that Petitioner would prevail in demonstrating at least one of the challenged claims is unpatentable. Pursuant to § 314, we hereby institute an *inter partes* review to the challenged claims of the '918 patent.

## *A. Related Matters*

The parties indicate that the '918 patent is at issue in *Headwater Research LLC v. Samsung Electronics Co., Ltd.*, 2-23-cv-00641 (EDTX). Pet. 98; Paper 4, 1. The '918 patent is also the challenged patent in IPR2024-01397.

## *B. The '918 Patent*

The '918 patent is directed to "[a] wireless end-user device has a wireless modem, a network stack configurable to receive and transmit data via the modem and a wireless network, and two Application Programming

Interfaces (APIs) available to device applications." Ex. 1001, code (57). According to the '918 patent, "[t]he first API allows applications to open and use data flows via the network stack" while "[t]he second API allows applications to make data transfer requests for media objects" through "a media service manager." *Id.* Figure 32 of the '918 patent is reproduced below.

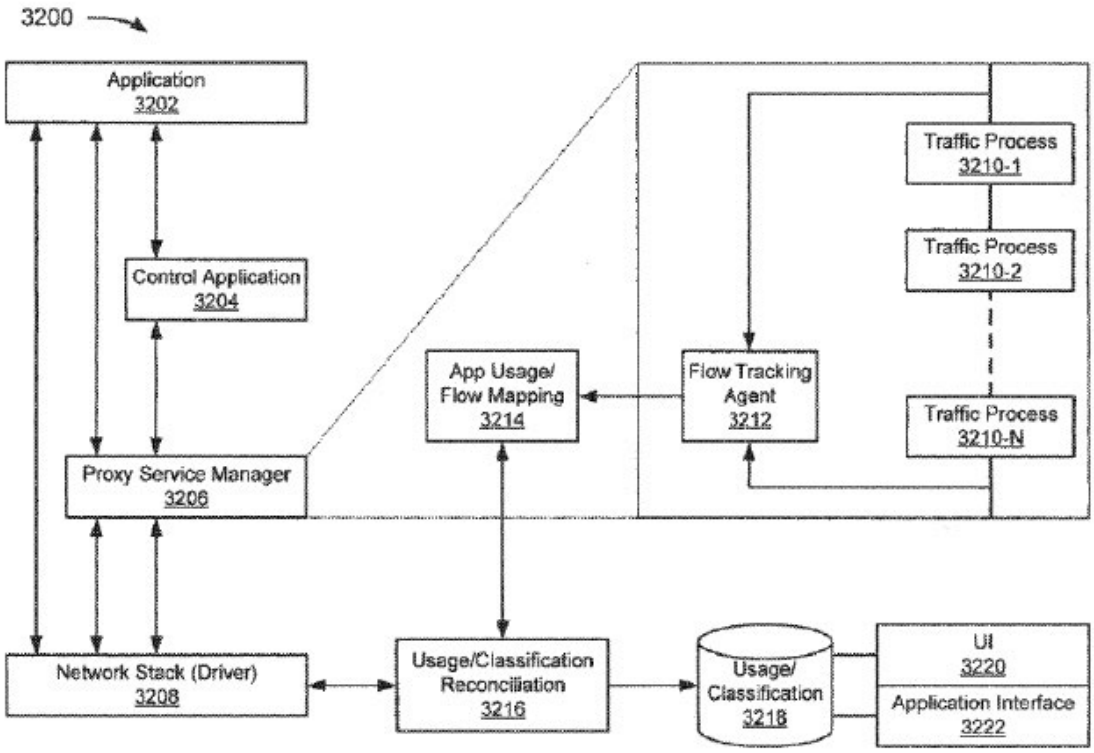


FIG. 32

Figure 32 depicts a system "for classification mapping using virtual tagging." *Id.* at 116:39–40. "The system 3200 includes an application 3202, a control application 3204, a proxy service manager 3206, [and] a network stack (driver) 3208." *Id.* at 116:40–42.

*C. Challenged Claims*

Of the challenged claims, claims 1, 14, 15, and 19 are independent. Independent claim 1 is illustrative of the challenged claims and is

reproduced below.

> 1. A wireless end-user device, comprising:
>
> a wireless modem configurable to connect to a wireless network;
>
> a network stack configurable to receive and transmit data via the wireless modem and the wireless network;
>
> a first network stack Application Programming Interface (API), containing at least one first call accessible to each of a plurality of device applications, the first network stack API callable by each of the plurality of device applications to open and use data packet flows via the network stack, the wireless modem, and the at least one wireless network;
>
> a second API containing at least one second call accessible to each of the plurality of device applications, the second API callable by each of the plurality of device applications to make a data transfer request for a media object associated with a network resource identifier supplied by the calling device application;
>
> a media service manager prompted by the second call, to manage network data transfers for the media object by interfacing with the network stack to retrieve the media object associated with the network resource identifier via the wireless modem and the wireless network; and
>
> one or more service classification and measurement agents to associate wireless network data usage for the media object network data transfers with the device application that requests the data transfer for the media object, to associate wireless network data usage for respective data packet flows opened and used via the first network stack API with the device application opening such respective data packet flow, and to reconcile wireless network data usage for each of the plurality of device applications to track an aggregate wireless network data usage attributable to each of the plurality of device applications via both the first network stack API and the second API.

Ex. 1001, 124:28–63.

*D. Asserted Grounds of Unpatentability*

Petitioner challenges claims 1–19 on the following grounds of unpatentability. Pet. 1–2.

| Claim(s) Challenged | 35 U.S.C. § | References/Basis |
|---|---|---|
| 1–3, 8, 9, 13, 14, 19 | 103 | Bennett[1], Vadde[2] |
| 4–6, 11, 15–17 | 103 | Bennett, Vadde, Riggs[3] |
| 7, 12, 18 | 103 | Bennett, Vadde, Riggs, Hendrickson[4] |
| 10 | 103 | Bennett, Vadde, Riggs, Srikantan[5] |

## II. DISCRETIONARY DENIAL UNDER § 314(A)

*A. Denial Based on Related District Court Proceeding*

Patent Owner argues that the Board should exercise its discretion to deny institution under 35 U.S.C. § 314(a) in light of co-pending district court litigation. Prelim. Resp. 21–32.

We consider the following factors to assess "whether efficiency, fairness, and the merits support the exercise of authority to deny institution in view of an earlier trial date in the parallel proceeding."

1. whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted;
2. proximity of the court's trial date to the Board's projected statutory deadline for a final written decision;
3. investment in the parallel proceeding by the court and the parties;
4. overlap between issues raised in the petition and in the parallel proceeding;

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[1] U.S. 2006/0149811, pub. July 6, 2006 (Ex. 1041, "Bennett").
[2] U.S. 2012/0117478, pub. May 10, 2012 (Ex. 1042, "Vadde").
[3] U.S. 8,429,516, Apr. 23, 2013 (Ex. 1043, "Riggs").
[4] U.S. 6,754,470, June 22, 2004 (Ex. 1054, "Hendrickson").
[5] U.S. 2002/0056126, pub. May 9, 2002 (Ex. 1055, "Srikantan").

5. whether the petitioner and the defendant in the parallel proceeding are the same party; and
6. other circumstances that impact the Board's exercise of discretion, including the merits.

*Apple, Inc. v. Fintiv, Inc*., IPR2020-00019, Paper 11 at 5–6 (PTAB Mar. 20, 2020) (precedential) ("*Fintiv*").

1. *Factor 1 – Whether a Stay Exists or Is Likely to Be Granted if a Proceeding Is Instituted*

Patent Owner argues that this factor favors denial because Petitioner has not requested a stay and there is no evidence the district court would likely grant one. Prelim. Resp. 23. We decline to speculate about how the District Court might rule on a motion that has not been filed. On this record, the first factor is neutral.

2. *Factor 2 – Proximity of the Court's Trial Date to the Board's Projected Statutory Deadline*

The District Court action is scheduled for trial on October 6, 2025. Prelim. Resp. 24. Patent Owner submits evidence that the District Court's median time-to-trial is 19.8 months, which is consistent with the District Court's scheduled trial date. *Id.* at 25 (citing Ex. 2015). Our Final Written Decision is due to be issued approximately six months after the trial's scheduled date, in April 2026. In these circumstances, this second factor favors denial.

3. *Factor 3 – Investment in the Parallel Proceeding by the Court and Parties*

Petitioner asserts that "[b]eyond exchanging preliminary infringement/invalidity contentions, the parties and the District Court have yet to expend significant resources on invalidity." Pet. 97. Petitioner

additionally asserts that it acted with diligence in filing its Petition "months ahead of the one-year time bar, while litigation is in its early stages." *Id.* Accordingly, Petitioner argues that this factor weighs against discretionary denial. Patent Owner asserts that by the time we issue our Institution Decision, "the Markman hearing will be complete and a Markman order will have issued or will soon issue." Prelim. Resp. 30. Patent Owner also asserts that "Petitioners unduly delayed in filing the Petition . . . over eight months after waiving service of the district court complaint." *Id.* at 29.

This Decision predates the scheduled *Markman* hearing. *See* Ex. 2008, 5. Thus, at the time of this Decision, claim construction proceedings will not have completed and the district court will not have issued any substantive orders. Beyond claim construction, Patent Owner's only assertion is that "[f]act discovery will also be just over a month from completion." Prelim. Resp. 28. While that fact indicates the parties have likely done some work, it does not allow us to evaluate the extent of that work involving invalidity to any meaningful degree. In addition, we find Petitioner's diligence in filing its Petition approximately 4 months before it was statutorily required to do so, and while litigation is in its early stages, weighs against denial, not for it. In these circumstances, this factor weighs against denial.

4. *Factor 4 – Overlap Between Issues Raised in the Petition and in the Parallel Proceeding*

Where a "petition includes the same or substantially the same claims, grounds, arguments, and evidence as presented in the parallel proceeding, this fact has favored denial." *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) ("*Fintiv*") 12. "Conversely, if the petition

includes materially different grounds, arguments, and/or evidence than those presented in the district court, this fact has tended to weigh against exercising discretion to deny institution." *Id.* at 12–13.

Patent Owner asserts there is significant overlap between this proceeding and the parallel district court action because "the challenged and asserted claims are identical," and "the prior art relied upon in the Petition and at the district court is substantially overlapping." Prelim. Resp. 29.

Petitioner explains that it "provided a stipulation that it will not pursue the IPR grounds in the EDTX Litigation." Pet. 97; *see* Ex. 1061. This stipulation is similar to that in *Sand Revolution II, LLC v. Continental Intermodal Group-Trucking LLC*, IPR2019-01393, Paper 24 at 12 (PTAB June 16, 2020) (informative). Given Petitioner's stipulation, this factor weighs marginally against exercising discretion to deny institution. *See id.*

5. *Factor 5 – Whether the Petitioner and the Defendant in the Parallel Proceeding Are the Same Party*

Because the parties here are the same as those in the parallel litigation, this factor favors denial. *See Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 (PTAB Dec. 1, 2020) (precedential as to § II.A).

6. *Factor 6 - Other Circumstances that Impact the Board's Exercise of Discretion, Including the Merits*

The sixth *Fintiv* factor takes into account other circumstances that may bear on our decision whether to exercise discretion to deny, such as whether the merits of the challenges are particularly strong. *Fintiv*, Paper 11 at 14–16. Petitioner presents a strong case that the challenged claims are unpatentable. Petitioner's obviousness grounds are clear and persuasive. Petitioner articulates clearly how Bennett teaches nearly all of the

independent claims' features. The vast majority of Petitioner's assertions are uncontested at this stage. Further, Petitioner's evidence shows that Bennett discloses "a first network stack Application Programming Interface (API), containing at least one first call accessible to each of a plurality of device applications, the first network stack API callable by each of the plurality of device applications to open and use data packet flows via the network stack, the wireless modem, and the at least one wireless network," which is the only limitation that Patent Owner disputes at this stage of the proceeding. *See infra*, Section III.2. For the sole feature missing from Bennett—i.e., application-based data usage monitoring—Petitioner presents clear and uncontested evidence, backed by multiple prior art references, that the technique and its benefits were well known, as outlined below. Petitioner also articulates, with clear support from its expert and the prior art, not just one but several reasons that would have motivated a skilled artisan to combine Vadde's application-based data monitoring technique in Bennett. For these reasons, we determine that the merits of at least one ground raised in the Petition are particularly strong. Thus, this factor weighs against exercising discretion to deny institution.

7. *Conclusion Regarding Discretionary Denial Based on District Court Proceeding*

Although the trial date and relatedness of parties weigh in favor of discretionary denial, this must be balanced against Petitioner's diligence, the *Sand Revolution* stipulation, the relatively modest investment in the district court action, and Petitioner's particularly strong showing on the merits. On balance, after weighing the *Fintiv* factors, we decline to exercise our discretion to deny institution.

*B. Level of Skill in the Art*

Petitioner argues a person of ordinary skill in the art "would have had (1) at least a bachelor's degree in computer science, computer engineering, electrical engineering, or a related field, and (2) at least two years of industry experience in wireless communication network applications and software." Pet. 2. Further, "[a]dditional graduate education could substitute for professional experience, and *vice versa*." *Id*. Patent Owner does not dispute the level of ordinary skill in the art. Prelim. Resp. 8. For this Decision, we agree with and adopt Petitioner's proposal as reasonable and consistent with the level of skill reflected in both the prior art and the '918 patent.

*C. Description of Primary Prior Art References*

*1. Bennett (Ex. 1041)*

Bennett discloses a "media client for a networked communication device." Ex. 1041, code (57). Bennett's Figure 3 is reproduced below.

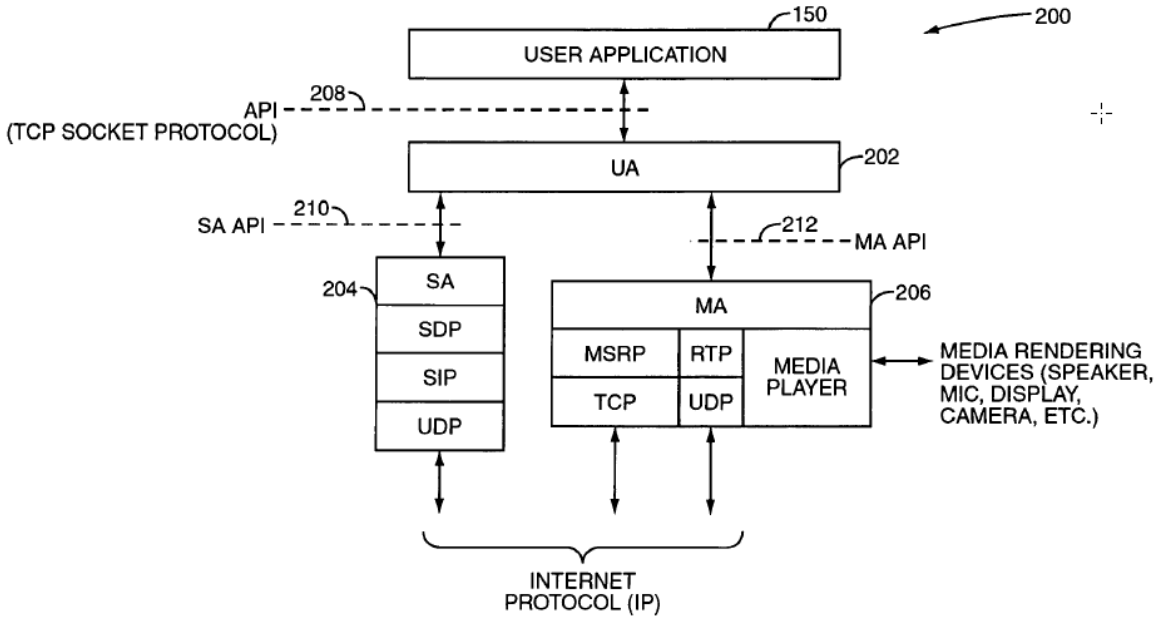


***FIG. 3***

Figure 3 "illustrates the architecture of the media client according to the present invention." *Id.* ¶ 7. Figure 3 includes user agent 202, signaling agent 204, and media agent 206. *Id.* ¶¶ 25, 26.

*2. Vadde (Ex. 1042)*

Vadde teaches techniques for "applying policies to manage data traffic including data transmitted and/or received by each of a plurality of applications executing on a computing device." Ex. 1042, code (57). Vadde's policies include applying "data usage limits" to applications. *Id.* at ¶ 16.

## III. OBVIOUSNESS ANALYSIS

Petitioner contends the challenged claims would have been obvious over Bennett and Vadde, along with Riggs, Hendrickson and/or Srikantan. Pet. 12–95. Based on the present record and for the reasons explained below, we determine that Petitioner has demonstrated a reasonable likelihood of success in demonstrating that the challenged claims would have been obvious.

*1. Petitioner's Proposed Combinations*

Petitioner relies on Bennett for teaching the claimed wireless device, modem, network stack, and Application Programming Interfaces. Pet. 19–29. Petitioner further relies on Bennett for its disclosure of routing network data via a first network stack application programming interface ("API") or a second API call to a proxy media service manager that interfaces with the network stack. *See id.* at 29–43. Petitioner adds Vadde for teaching managing data traffic for applications using a policy-based system that enforces restrictions based on an application's data usage. *Id.* at 44–57. With support from its expert Dr. Traynor and a number of prior art

references, Petitioner explains that "the benefits of data usage monitoring were well-known prior to the '918 Patent and would have been part of a POSITA's general knowledge." *Id.* at 15 (citing Exs. 1003, 1044, 1045, 1062, 1063). Petitioner articulates a number of those benefits including, for example, to facilitate identifying and restricting data-intensive applications to reduce battery usage and to facilitate greater control over data-intensive application activities that risk degrading networks high costs for users. *Id.* at 15–17 (citing Exs. 1003, 1041, 1042, 1046). In addition, Petitioner explains that adding per-application data usage monitoring to Bennett's device "would have enabled device manufacturers and service providers to incorporate additional applications and functionality into wireless devices while allowing users to retain control of aggregate device data usage." *Id.* at 17 (citing Exs. 1003, 1042).

Petitioner adds three references, Riggs, Hendrickson and Srikantan, for their disclosures of various dependent claim features including log generators/reports, storing data associated with played media content, and a network resource indicator that identifies the media object. Pet. 58–95.

Patent Owner challenges one aspect of Petitioner's obviousness analysis. We address that issue below.

2. *"one first call accessible to each of a plurality of device applications, the first network stack API callable by each of the plurality of device applications"*

Claim 1 requires "a first network stack Application Programming Interface (API), containing at least one first call accessible to each of a plurality of device applications, the first network stack API callable by each of the plurality of device applications to open and use data packet flows via

the network stack, the wireless modem, and the at least one wireless network." Independent claims 14, 15, and 19 have similar limitations. Petitioner contends that Bennett teaches this feature because Bennett teaches "a SA [signaling agent] 'is called by the user agent (UA) 202' of the media client 200 using a 'SA API 210' . . . in response to a request from a 'user application 150.'" Pet. 29 (citing Ex. 1041). Petitioner provides the following annotated version of Bennett's Figure 3 in support of its contentions.

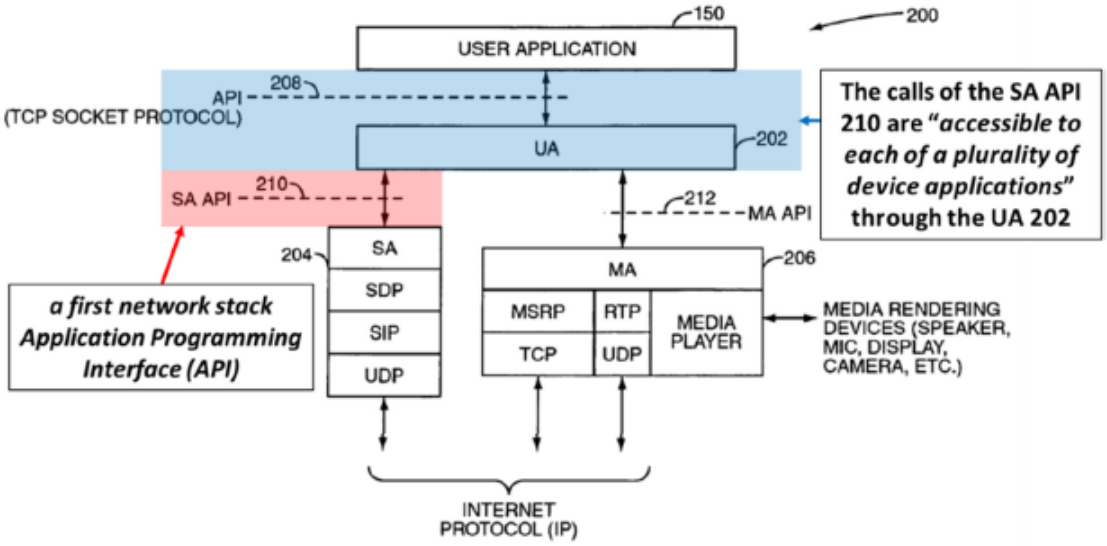


*FIG. 3*

SAMSUNG-1041, FIG. 3.

Pet. 30. Bennett's Figure 3 "illustrates the architecture of the media client." Ex. 1041 ¶ 7. The TCP socket protocol is identified in blue and the SA API is identified in pink and Petitioner has annotated those two areas. Pet. 30.

Patent Owner argues that Bennett does not teach claim 1's "first call accessible to each of a plurality of device applications," and "API callable

by each of the plurality of device applications because Bennett's applications call the SA APIs through an intermediary, i.e., user agent 202, rather than directly. *See* Prelim. Resp. 12–20; Sur-reply 1–5.

Neither party has proposed a construction for the at-issue claim terms that would specifically include or exclude access or API calls made through an intermediary. We invite the parties to address this claim-construction issue at trial. However, at this stage, Petitioner has demonstrated sufficiently that Bennett teaches the disputed limitation. As Petitioner notes, the claims neither recite applications "directly" accessing/calling APIs, nor expressly preclude indirect access/calls through an intermediary. In addition, the '918 patent's Figure 32 includes an intermediary similar to Bennett's—i.e., "application 3202 communicating through a 'control application 3204' that is positioned between the application and proxy service manager 3206." Reply 2 (citing Ex. 1001). Patent Owner's assertion that Figure 32's control application is "optional" (Sur-reply 3 n.2) does not undermine that requiring direct access/calls would, as Petitioner asserts, "impermissibly read [the control application embodiment of FIG. 32] out of the scope of the claims." Reply. 3. Thus, at this stage, we agree with Petitioner that Bennett teaches the claimed "first network stack Application Programming Interface (API), containing at least one first call accessible to each of a plurality of device applications, the first network stack API callable by each of the plurality of device applications to open and use data packet flows via the network stack, the wireless modem, and the at least one wireless network."

*3. Summary*

Other than as outlined above, Patent Owner does not additionally challenge Petitioner's obviousness analysis. We have reviewed Petitioner's arguments and the underlying evidence cited in support and we are persuaded that, at this stage, Petitioner sufficiently demonstrates a reasonable likelihood of succeeding in its obviousness challenges to the challenged claims.

## IV. CONCLUSION

After considering the evidence and arguments presented in the current record, we determine that Petitioner has demonstrated a reasonable likelihood of success in proving that at least one of the challenged claims of the '918 patent is unpatentable. We therefore institute trial on all challenged claims and grounds raised in the Petition. 37 C.F.R. § 42.108(a). At this stage of the proceeding, we have not made a final determination as to the patentability of any challenged claim or as to the construction of any claim term. Any final determination will be based on the record developed during trial. We place Patent Owner on express notice that any argument not asserted in a timely-filed Response to the Petition, or in another manner permitted during trial, shall be deemed waived, even if that argument was presented in the Preliminary Response.

## V. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims 1–19 of the '918 patent is instituted with respect to all grounds set forth in the Petition; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4(b), an IPR of the ’918 patent shall commence on the entry date of this Decision, and notice is hereby given of the institution of a trial.

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IPR2024-01396
Patent 9,647,918 B2

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Before GARTH D. BAER, SCOTT B. HOWARD, and STEPHEN E. BELISLE, *Administrative Patent Judges*.

HOWARD, *Administrative Patent Judge*, dissenting.

I respectfully disagree with the conclusion that we should not exercise discretion to deny institution under 35 U.S.C. § 314(a), based upon the analysis of the discretionary denial factors articulated in *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 at 5–6 (PTAB Mar. 20, 2020) (precedential). I agree with the majority's fact finding regarding the individual factors but, for the reasons discussed below, determine that the factors, on balance, weigh in favor of exercising discretion to deny institution. Specifically, I dissent because the Majority does not give sufficient weight to *Fintiv* factor 2.

The district court trial is scheduled for October 6, 2025. Ex. 2008, 1. That is approximately six months before the date the final written decision will be due in this proceeding. Even if the scheduled date of the district court trial is pushed back a few months, the district court trial will be completed long before we issue our final written decision. Accordingly, I would give this factor additional weight when balancing all of the factors.

I have considered the circumstances and facts in view of the *Fintiv* factors. My analysis is fact driven and no single factor is determinative under § 314(a). Based on the circumstances presented, I determine that, as a whole, the factors weigh in favor of exercising discretion to deny institution of the Petition. Therefore, I would exercise discretion to deny institution under § 314(a), and, respectfully, dissent.

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