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Paper No. 20
Date: September 10, 2020

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

JUNIPER NETWORKS, INC. and PALO ALTO NETWORKS, INC.,
Petitioner,

v.

PACKET INTELLIGENCE LLC,
Patent Owner.

IPR2020-00486
Patent 6,954,789 B2

Before CHARLES J. BOUDREAU, JOHN D. HAMANN, and KRISTI L. R. SAWERT, *Administrative Patent Judges.*

SAWERT, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314, 37 C.F.R. § 42.4

I. INTRODUCTION

Juniper Networks, Inc. and Palo Alto Networks, Inc. (collectively "Petitioner") filed a Petition (Paper 3, "Pet.") requesting an *inter partes* review of claims 31, 33, and 34 of U.S. Patent No. 6,954,789 B2 (Ex. 1005, "the '789 patent") pursuant to 35 U.S.C. § 311. Packet Intelligence LLC ("Patent Owner") filed a Preliminary Response (Paper 7, "Prelim. Resp."). On our authorization (Paper 8, "Order"), Petitioner filed a Preliminary Reply (Paper 9, "Prelim. Reply") and Patent Owner filed a Preliminary Sur-Reply (Paper 10, "Prelim. Sur-Reply").

We have authority under 35 U.S.C. § 314 to determine whether to institute an *inter partes* review. The standard for instituting an *inter partes* review is set forth in 35 U.S.C. § 314(a), which provides that an *inter partes* review may not be instituted unless "there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." The Supreme Court has held that the Board, in a decision to institute under 35 U.S.C. § 314(b), may not institute review on less than all claims challenged in the petition. *SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348, 1355–56 (2018). Moreover, in accordance with USPTO Guidance, "if the PTAB institutes a trial, the PTAB will institute on all challenges raised in the petition." *See* Guidance on the Impact of SAS on AIA Trial Proceedings (April 26, 2018) (available at https://www.uspto.gov/patents-application-process/patent-trial-and-appeal-board/trials/guidance-impact-sas-aia-trial) ("USPTO Guidance"); *see also PGS Geophysical AS v. Iancu*, 891 F.3d 1354, 1360 (Fed. Cir. 2018) (interpreting the statute to require "a simple yes-or-no institution choice respecting a petition, embracing all challenges included in the petition").

Applying those standards, and upon consideration of the information presented in the Petition, the Preliminary Response, the Preliminary Reply, and the Preliminary Sur-Reply, and for the reasons explained below, we determine that Petitioner has demonstrated a reasonable likelihood of success in proving that at least one claim of the '789 patent is unpatentable. Accordingly, we institute an *inter partes* review of all challenged claims (i.e., claims 31, 33, and 34) of the '789 patent, based on all grounds raised in the Petition.

II. BACKGROUND

A. Real Parties in Interest

Petitioner identifies Juniper Networks, Inc. and Palo Alto Networks, Inc. as its real parties-in-interest. Pet. 1. Patent Owner identifies Packet Intelligence LLC and Packet Intelligence Holdings LLC as its real parties-in-interest. Paper 5, 2.

B. Related Matters

The parties collectively identify three district court litigations as related matters that involve the '789 patent or a related patent: *Packet Intelligence LLC v. Juniper Networks, Inc.*, 3:19-cv-04741 (N.D. Cal.); *Palo Alto Networks, Inc. v. Packet Intelligence LLC*, No. 3:19-cv-02471 (N.D. Cal); and *Packet Intelligence LLC v. NetScout Systems, Inc.*, 2:16-cv-230-JRG (E.D. Tex.). Pet. 1; Paper 5, 2. The parties also identify *Packet Intelligence LLC v. NetScout Sys., Inc.*, No. 19-2041 (Fed. Cir.) as involving patents related to the '099 patent. Pet. 1; Paper 5, 2.

In addition, the parties identify the following related matters pending before the Board: (i) IPR2020-00339, which challenges claims 1, 2, 13–17, 19, 20, 42 of the '789 patent; and (ii) IPR2020-00335; IPR2020-00336; IPR2020-00337; IPR2020-00338; and IPR2020-00485, which challenge

patents related to the '789 patent.[1] Pet. 1–2; Paper 5, 2–3. Lastly, the parties collectively identify related matters that are no longer pending before the Board: (i) IPR2017-00629; IPR2017-00630; and IPR2019-01293, which challenged claims of the '789 patent; and (ii) IPR2017-00450; IPR2017-00451; IPR2017-00769; IPR2017-00862; IPR2017-00863; IPR2019-01289; IPR2019-01290; IPR2019-01291; and IPR2019-01292, which challenged claims of patents related to the '789 patent. Pet. 1–2; Paper 5, 3–5.

C. The '789 Patent (Ex. 1005)

The '789 patent, titled "Method and Apparatus for Monitoring Traffic in a Network," relates to "[a] monitor for and a method of examining packets passing through a connection point on a computer network." Ex. 1005, codes (54), (57). The '789 patent states that "[t]here has long been a need for network activity monitors." *Id.* at 1:55. According to the '789 patent, a network activity monitor monitors interconnected networks and collects data on objective information, such as "which services (i.e., application programs) are being used, who is using them, how often they have been accessed, and for how long." *Id.* at 1:63–66. This information, the '789 patent states, "is very useful in the maintenance and continued operation of these networks." *Id.* at 1:66–67. A real-time network monitor may also "provide alarms notifying selected users of problems that may occur with the network or site." *Id.* at 2:3–5.

[1] Decisions denying institution of *inter partes* review in IPR2020-00335 and IPR2020-00485 were entered on August 27, 2020, and a decision instituting *inter partes* review in IPR2020-00338 was entered on September 9, 2020. Decisions on the petitions in the other cited cases are being entered concurrently with the instant Decision.

The '789 patent's network activity monitor receives packets passing in either direction through its connection point on the network and "elucidate[s] what application programs are associated with each packet" by extracting information from the packet, using selected parts of the extracted information to identify this packet as part of a flow, "build[ing] a unique flow signature (also called a 'key') for this flow," and "matching this flow in a database of known flows." *Id.* at 9:6–9; 13:21–28, 60–65.

Figure 3, reproduced below, depicts various components of the network packet monitor 300, including parser subsystem 301, analyzer subsystem 303, and database of known flows 324. *Id.* at 11:49–16:52.

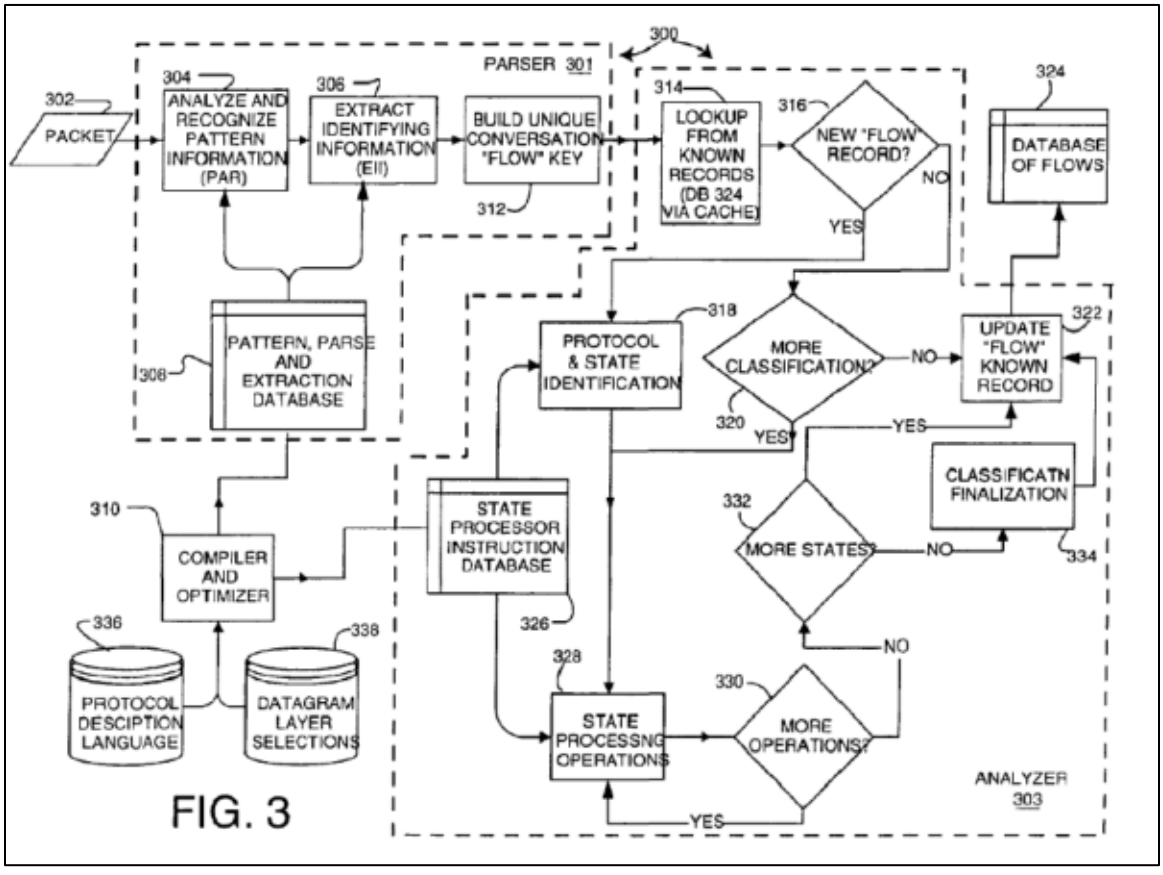

FIG. 3

Figure 3 "is a functional block diagram of a process embodiment of the present invention that can operate as the packet monitor." Ex. 1005, 7:56–59.

Parser subsystem 301 "parses the packet and determines the protocol types and associated headers for each protocol layer that exists in the packet 302," "extracts characteristic portions (signature information) from the packet 302," and "build[s] a unique flow signature (also called a 'key') for this flow." *Id.* at 12:19–24, 13:27–29; *see also id.* at 32:38–34:20 (describing an example of how the disclosed monitor builds signatures and flow states in the context of a Sun Remote Procedure Call (RPC), where, after all of the required processing, "KEY-2 may . . . be used to recognize packets that are in any way associated with the application 'a^2'"); Fig. 2.

Analyzer system 303 then determines whether the packet has a matching flow-entry in database of flows 324, and processes the packet accordingly, including, for example, determining whether the packet belongs to an existing conversational flow or a new (i.e., not previously encountered) flow and, in the case of the latter, performing state processing to determine whether the conversational flow has been "fully characterized" and should be finalized. *Id.* at 13:60–16:52. The '789 patent discloses that

> Future packets that are part of the same conversational flow have their state analysis continued from a previously achieved state. When enough packets related to an application of interest have been processed, a final recognition state is ultimately reached, i.e., a set of states has been traversed by state analysis to completely characterize the conversational flow. The signature for that final state enables each new incoming packet of the same conversational flow to be individually recognized in real time.
>
> In this manner, one of the great advantages of the present invention is realized. Once a particular set of state transitions has been traversed for the first time and ends in a final state, a short-cut recognition pattern—a signature—can be generated that will key on every new incoming packet that relates to the conversational flow. Checking a signature involves a simple

> operation, allowing high packet rates to be successfully monitored on the network.

Id. at 16:17–34.

D. Illustrative Claims

Each of the challenged claims depends directly or indirectly from independent claim 19 of the '789 patent. Although claim 19 is challenged in co-pending IPR2020-00339 (*see supra* § II.B), not in this proceeding, claim 19 is illustrative of the subject matter claimed in the '789 patent and is reproduced below to provide context for the challenged claims. Claim 19 recites:

> 19. A packet monitor for examining packets passing through a connection point on a computer network, each packets conforming to one or more protocols, the monitor comprising:
>
> (a) a packet acquisition device coupled to the connection point and configured to receive packets passing through the connection point;
>
> (b) an input buffer memory coupled to and configured to accept a packet from the packet acquisition device;
>
> (c) a parser subsystem coupled to the input buffer memory and including a slicer, the parsing subsystem configured to extract selected portions of the accepted packet and to output a parser record containing the selected portions,
>
> (d) a memory for storing a database comprising none or more flow-entries for previously encountered conversational flows, each flow-entry identified by identifying information stored in the flow-entry;
>
> (e) a lookup engine coupled to the output of the parser subsystem and to the flow-entry memory and configured to lookup whether the particular packet whose parser record is output by the parser subsystem has a matching flow-entry, the looking up using at least some of the selected packet portions and determining if the packet is of an existing flow; and

> (f) a flow insertion engine coupled to the flow-entry memory and to the lookup engine and configured to create a flow-entry in the flow-entry database, the flow-entry including identifying information for future packets to be identified with the new flow-entry, the lookup engine configured such that if the packet is of an existing flow, the monitor classifies the packet as belonging to the found existing flow; and if the packet is of a new flow, the flow insertion engine stores a new flow-entry for the new flow in the flow-entry database, including identifying information for future packets to be identified with the new flow-entry,
>
> wherein the operation of the parser subsystem depends on one or more of the protocols to which the packet conforms.

Ex. 1005, 36:30–37:2. Of the claims challenged in this proceeding, claim 31 depends directly from claim 19. Claim 31 recites:

> 31. A packet monitor according to claim 19, further comprising:
>
> a compiler processor coupled to the parsing/extraction operations memory, the compiler processor configured to run a compilation process that includes:
>
> receiving commands in a high-level protocol description language that describe the protocols that may be used in packets encountered by the monitor and any children protocols thereof, and
>
> translating the protocol description language commands into a plurality of parsing/extraction operations that are initialized into the parsing/extraction operations memory.

Id. at 37:61–38:6.

E. Asserted Evidence

Petitioner submits the following evidence:

Evidence	**Exhibit No.**
Declaration of Dr. Jon B. Weissman	1006
U.S. Patent No. 6,412,000 B1 (issued June 25, 2002) ("Riddle")	1008
PCT Published Application No. WO 92/19054 (published Oct. 29, 1992) ("Ferdinand")	1009

Evidence	Exhibit No.
T. Berners-Lee et al., *Hypertext Transfer Protocol -- HTTP/1.0*, Request for Comments 1945 (May 1996) ("RFC1945")	1010
U.S. Patent No. 6,625,150 B1 (issued Sept. 23, 2003) ("Yu")	1011
PCT Published Application No. WO 97/23076 (published June 26, 1997) ("Baker")	1013
U.S. Patent No. 5,740,175 (issued April 14, 1998) ("Wakeman")	1014

F. Asserted Grounds of Unpatentability

Petitioner asserts the following grounds of unpatentability:

Claim(s) Challenged	35 U.S.C. §[2]	Reference(s)/Basis
31	103(a)	Riddle, Ferdinand, Baker
33, 34	103(a)	Riddle, Ferdinand, Wakeman
31	103(a)	Riddle, Ferdinand, Baker, Yu
33, 34	103(a)	Riddle, Ferdinand, Wakeman, Yu
31	103(a)	Riddle, Ferdinand, Baker, RFC1945
33, 34	103(a)	Riddle, Ferdinand, Wakeman, RFC1945

Pet. 8.

III. DISCRETION UNDER 35 U.S.C. § 314(a)

Section 314(a) does not require the Director to institute an *inter partes* review. *See Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1367 (Fed. Cir. 2016) ("[T]he PTO is permitted, but never compelled, to institute an IPR proceeding."). Rather, a decision whether to institute is within the

[2] The Leahy-Smith America Invents Act ("AIA") included revisions to 35 U.S.C. § 103 that became effective on March 16, 2013. Because the '789 patent issued from an application filed before March 16, 2013, we apply the pre-AIA version of the statutory basis for unpatentability.

Director's discretion, and that discretion has been delegated to the Board. *See* 37 C.F.R. § 42.4(a); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2140 (2016) ("[T]he agency's decision to deny a petition is a matter committed to the Patent Office's discretion.").

As the November 2019 Consolidated Trial Practice Guide[3] ("CTPG") noted, the Leahy-Smith America Invents Act ("AIA") was "designed to establish a more efficient and streamlined patent system that will improve patent quality and limit unnecessary and counterproductive litigation costs." CTPG at 56 (quoting H.R. Rep. No. 112-98, pt. 1, at 40 (2011), 2011 U.S.C.C.A.N. 67, 69 (stating that post-grant reviews were meant to be "quick and cost effective alternatives to litigation")); *see also* S. Rep. No. 110-259, at 20 (2008). The Board recognized these goals of the AIA, but also "recognize[d] the potential for abuse of the review process by repeated attacks on patents." *Gen. Plastic Indus. Co. v. Canon Kabushiki Kaisha*, IPR2016-01357, Paper 19 at 16−17 (PTAB Sept. 6, 2017) (precedential as to § II.B.4.i) ("*General Plastic*").

Patent Owner argues that we should exercise our discretion under 35 U.S.C. § 314(a) to deny the Petition for two reasons: first, because there are two co-pending district-court litigations that "have advanced into the claim construction process and are into discovery regarding infringement and validity issues," and, second, because "the instant petition is a serial petition attacking the same patents and claims that have been challenged in prior petitions." Prelim. Resp. 27–37; Prelim. Sur-Reply 1. Petitioner disagrees. Pet. 4–5; Prelim. Reply 1–10.

[3] Available at https://www.uspto.gov/sites/default/files/documents/tpgnov.pdf.

A. Parallel District Court Proceedings

As noted above, there are two co-pending district-court litigations involving the '789 patent and the same parties: *Packet Intelligence LLC v. Juniper Networks, Inc.*, 3:19-cv-04741 (N.D. Cal.) and *Palo Alto Networks, Inc. v. Packet Intelligence LLC*, No. 3:19-cv-02471 (N.D. Cal) (collectively, "the co-pending litigations"). *Supra* § I.A. Pointing to these co-pending litigations, Patent Owner argues that institution in this proceeding would not be an effective alternative to those litigations, nor an efficient use of the Board's limited resources. Prelim. Resp. 1, 28.

In determining whether to exercise discretion to deny institution under § 314(a) on behalf of the Director for reason of parallel court proceeding(s), we are guided by the Board's precedential decisions in *NHK Spring Co. v. Intri-Plex Techs., Inc.*, IPR2018-00752, Paper 8 (PTAB Sept. 12, 2018) ("*NHK*") and *Apple Inc. v. Fintiv Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) ("*Fintiv*"). In *NHK*, the Board found that the "advanced state of the district court proceeding" was a "factor that weighs in favor of denying" the petition under § 314(a). *NHK*, Paper 8 at 20. The Board determined that "[i]nstitution of an *inter partes* review under these circumstances would not be consistent with 'an objective of the AIA . . . to provide an effective and efficient alternative to district court litigation.'" *Id.* (quoting *Gen. Plastic* at 16–17).

In *Fintiv*, the Board explained that "cases addressing earlier trial dates as a basis for denial under *NHK* have sought to balance considerations such as system efficiency, fairness, and patent quality." *Fintiv*, Paper 11 at 5. *Fintiv* sets forth six non-exclusive factors for determining "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." *Id.* at 6. These factors consider:

> 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;
>
> 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.

Id. at 5–6. We discuss the parties' arguments in the context of considering the above factors. In evaluating the factors, we take a holistic view of whether efficiency and integrity of the system are best served by denying or instituting review. *Id.* at 6.

1. Whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted

Patent Owner argues that "this factor strongly favors discretionary denial" because Petitioner has not moved for a stay of the co-pending litigations and because the District Court would be unlikely to grant a stay in any event. Prelim. Resp. 29–30. As to the latter, Patent Owner directs us to an exchange that occurred during a joint case-management conference between counsel for Petitioner and the District Court. *Id.* (citing Ex. 2005, 10–11). Patent Owner argues that the District Court's statement to the Petitioner to "[s]ave your money" shows that the district court would be unlikely to grant a stay should Petitioner move for one. *Id.* (emphasis

omitted). Petitioner contends that Patent Owner mischaracterizes the exchange, and that the District Court simply advised Petitioner that it would not grant a motion to stay pre-institution. Prelim. Reply 4–5. On consideration of the parties' respective arguments and evidence, we find that Petitioner has the better position.

As Petitioner points out, the exchange between counsel for Petitioner and the District Court related to Petitioner's inquiry as to whether the District Court would be amenable to granting a motion to stay *pre-institution*. *Id.* at 4. Specifically, Petitioner asked about "fil[ing] a stay motion based on the filing of the IPRs not waiting until the petitions are ruled on." Ex. 2005, 10–11. The District Court indicated that, in the past, it "granted them sort of willy-nilly," but no longer does so. *Id.* We agree with Petitioner that this exchange relates to the District Court's inclination to grant a stay based solely on filing a petition, not based on a decision whether or not to institute this proceeding. Prelim. Reply 4. Accordingly, we find that the cited exchange has little probative value on the question of whether "evidence exists that [a stay] may be granted if a proceeding is instituted" under the first *Fintiv* factor.

Petitioner contends that the District Court would likely stay the co-pending litigations if this proceeding is instituted. *Id.* at 4–5. Petitioner contends that the district court "already stated in the prior [case-management conference] that institution of relevant IPRs[4] would result in a stay." *Id.* at 4 (citing Ex. 1084, 7–8 (case management conference of August 20,

[4] During this case management conference, the district court was inquiring as to the status of IPR petitions filed by Nokia in July 2019 against some of the same patents being asserted in the parallel proceeding against petitioners here.

2019)). Petitioner also contends that the District Court's inclination to grant stays is confirmed by two recent decisions granting motions to stay in *J&K IP Assets, LLC v. Armaspec, Inc.* (Case No. 17-cv-07308-WHO (N.D. Cal. Apr. 24, 2019)) and *Contour IP Holding, LLC v. GoPro* (2018 WL 6574188, *2-*3 (N.D. Cal. Dec. 12, 2018)). *Id.* at 5 (citing Ex. 1098; Ex. 1099). Patent Owner argues that those decisions are inapt because the District Court's "recent activity concerning stays pending IPRs indicates that [it] will grant such a stay when agreed to by the parties." Prelim. Sur-Reply 3 (citing Ex. 2050). Patent Owner also argues that the District Court's statements during the case-management conference are not relevant because "that conference related to different IPRs that were filed less than two months after [Petitioner] filed its complaint in the co-pending district court litigation." *Id.* at 2 (citing Ex. 2044; Ex. 2045; Ex. 2046; Ex. 2047; Ex. 2048; Ex. 2049). Here, however, the Petition was filed approximately nine months after the complaint was filed. *Id.*

We find that the record contains adequate evidence that the District Court may grant a stay upon institution. Specifically, after observing that "there are so many PTAB proceedings," the District Court stated that "if they are instituted . . . [t]his will cause a stay in the proceedings." Ex. 1084, 7:22–24, 8:12–14. We acknowledge that the District Court's statements are not specifically directed to this proceeding, because the case-management conference took place before the Petition was filed. *See id.* at 3:1 (setting forth a date of August 20, 2019). Even so, the District Court's statements provide some evidence that it *may* grant a stay upon institution considering all circumstances at the time the motion is filed. *Id.* at 8:15–18.

For these reasons, we find that the first *Fintiv* factor does not support exercising our discretion to deny institution pursuant to § 314(a).

2. Proximity of the court's trial date to the Board's projected statutory deadline for a final written decision

A trial in *Palo Alto Networks, Inc. v. Packet Intelligence LLC* is currently scheduled to start on August 30, 2021. Ex. 2006, 3. A trial in *Packet Intelligence LLC v. Juniper Networks, Inc.* is currently scheduled to start on September 13, 2021. Ex. 2007, 2. The Board's projected statutory deadline for a final written decision is September 10, 2021. *See* 35 U.S.C. § 316(a)(11) (2018). Patent Owner argues that the second *Fintiv* factor "slightly favors discretionary denial" because "the first trial date is before the statutory deadline for a final written decision," and "the second only two days after the statutory deadline." Prelim. Resp. 30. In contrast, Petitioner contends that this factor "weighs slightly against denial," because both trial dates are tentative due to the COVID-19 pandemic and because Patent Owner has previously expressed a "preference for a three-month gap" between the first trial in *Palo Alto Networks, Inc. v. Packet Intelligence LLC* and the second trial in *Packet Intelligence LLC v. Juniper Networks, Inc.*. Prelim. Reply 5–6 (citing Ex. 2005, 4, 8). Patent Owner responds that it "currently does not intend to request an additional extension of the *Juniper* schedule." Prelim. Sur-Reply 4. Patent Owner also argues that "[t]o the extent the district court litigations incur additional delays due to COVID-19, it is likely that PTAB proceedings will incur similar delays." *Id.* at 4–5.

We determine that, on this record, the second *Fintiv* factor weighs against exercising our discretion to deny institution pursuant to § 314(a). Patent Owner's statement that it does not *currently intend* to seek an additional extension of time for the second trial is equivocal. And, although the first trial is currently scheduled to begin days before a final written decision is due, we find that it is more likely that the District Court will

incur delays due to the COVID-19 pandemic than the Board. The Board has explained that, "barring exceptional circumstances, the Board adheres to a one-year statutory deadline prescribed by 35 U.S.C. § 316(a)(11) for entry of final decisions in instituted *inter partes* reviews." *Sand Revolution II, LLC v. Cont'l Intermodal Grp.-Trucking LLC*, IPR2019-01393, Paper 24 at 8–10 (PTAB June 16, 2020). And "even in the extraordinary circumstances under which the entire country is currently operating because of the COVID-19 pandemic, the Board continues to be fully operational" and meeting all statutory deadlines for final written decisions. *Id.* We note that during the same period, the District Court agreed to reschedule the first trial date, and, unlike the Board, the District Court is not bound by a statutory deadline when considering further extensions or changed circumstances. Ex. 1093.

3. Investment in the parallel proceeding by the court and the parties

Patent Owner argues that the third *Fintiv* factor weighs in favor of discretionary denial because the parties have made "significant investments in discovery, contentions, and claim construction to date." Prelim. Resp. 32. Specifically, Patent Owner argues that the parties "have been engaged in extensive discovery and code review," "exchanged infringement and invalidity contentions," "exchanged claim construction positions and evidence," and filed "[o]pening claim construction briefs." *Id.* at 30–32. Petitioner contends that this factor does not weight in favor of discretionary denial because discovery "is far from complete." Prelim. Reply 7. For example, Petitioner contends, "[n]o fact witnesses or experts have been deposed" and "[t]here has been no expert discovery." *Id.*

We have reviewed the parties' respective arguments and evidence and determine that the third *Fintiv* factor weighs against exercising our discretion to deny institution pursuant to § 314(a). Although it is clear that

the parties have invested significant effort in the discovery process, discovery is not yet complete. Prelim. Reply 7. We are also not aware of any decision by the District Court on claim construction. In light of these facts, the investment of time and effort that remains to bring the co-pending litigations to trial appears to far outweigh that which has already been invested.

4. Overlap between issues raised in the petition and in the parallel proceeding

Patent Owner argues that the fourth *Fintiv* factor "weighs strongly in favor of discretionary denial" because the co-pending litigations "will address substantially the same invalidity theories." Prelim. Resp. 33. Patent Owner points out that Petitioner relies on the same prior-art references (i.e., Riddle, Ferdinand, Hasani, Yu, and RFC1945) in both this Petition and the co-pending litigations. *Id.* at 32–33. Petitioner contends that it is "premature to compare arguments, evidence, or issues" because Patent Owner has yet to respond to Petitioner's invalidity contentions in the co-pending litigations. Prelim. Reply 7–8. Petitioner also contends that it challenges claims in this Petition that it has yet to challenge in the co-pending litigations, and thus, "these IPRs will address the validity of claims, and likely whole patents, that the district court trials will not address." *Id.* at 8. Finally, Petitioner argues that this factor weighs against discretionary denial because Patent Owner has asserted its patents against network router sellers and manufacturers "and a public trial record of the important invalidity grounds in the Petition will reduce issues for the public." *Id.* at 8.

Upon consideration of the parties' respective arguments, as well as the possibilities that the district court may stay the related litigations or at least postpone the trial dates (*see supra* §§ III.A.2, III.A.3), we find that the fourth

Fintiv factor weighs against exercising our discretion to deny institution pursuant to § 314(a). Specifically, we find there is a reasonable likelihood that the Board will address the overlapping validity issues prior to the district court reaching them at trial in either of the related litigations, thereby providing the possibility of simplifying issues for trial in those litigations. *See, e.g.*, *MED-EL Elektromedizinische Geraete GmbH v. Sonova AG*, IPR2020-00176, Paper 13 at 15 (PTAB June 3, 2020) ("*MED-EL*") ("As to the fourth factor, the parties do not dispute that overlap exists between the invalidity issues in this case and in the district court. This overlap may inure to the district court's benefit, however, by simplifying issues for trial should we reach our determination on the challenges raised in the Petition before trial.").

5. Whether the petitioner and the defendant in the parallel proceeding are the same party

There is no dispute that the Petitioner is the defendant in the co-pending litigations. Nonetheless, given the considerations discussed above with respect to factors one, two, and four, and the concomitant possibility that the Board will reach a decision on validity before the district court does so, thereby giving rise to potential estoppel against Petitioner, we regard this factor as neutral or weighing at most slightly in favor of denial. *See, e.g.*, *MED-EL* at 15 (concluding that factor 5 weighed slightly in favor of denial where the petitioner was also the defendant in the district court proceeding).

6. Other circumstances that impact the Board's exercise of discretion, including the merits

Patent Owner argues that the sixth *Fintiv* factor weighs in favor of discretionary denial because "none of Riddle, Yu, or RFC 1945 disclose the claimed 'conversational flows.'" Prelim. Resp. 33. For the reasons

explained below, however, we preliminarily determine that the prior art teaches or suggests "conversational flows" as claimed. *Infra* § IV.B.1. Thus, this factor does not support exercising our discretion to deny institution pursuant to § 314(a). *See also* Prelim. Reply 9.

7. Weighing the Factors

We agree with Petitioner that the factors on balance do not favor discretionary denial. Although no single factor is dispositive, the fact that the Board will issue its final written decision within one year of the date for institution under 35 U.S.C. § 316(a)(11)—whereas the trial dates for the co-pending litigations are currently set to occur around the same time as the due date for the final written decision, and being so far distant from the date of this Decision, they are uncertain given the COVID-19 pandemic (factor two), and the fact that the District Court has indicated that institution of relevant IPRs may result in a stay (factor one) weigh heavily against discretionary denial. Of the remaining factors, we find only the fifth factor potentially to weigh slightly in favor of discretionary denial, and even then not sufficiently to tip the balance in our holistic review of all of the *Fintiv* factors. For these reasons, we decline to exercise our discretion to deny institution under § 314(a) for reason of the co-pending district-court litigations.

B. Serial Petitions

Patent Owner also argues that we should exercise discretion under 35 U.S.C. § 314(a) to deny the Petition because "the instant petition is a serial petition attacking the same patents and claims that have been challenged in prior petitions." Prelim. Resp. 27. In particular, Patent Owner argues that the Petition should be denied "because the Board has already considered prior petitions to the same patent and claims." *Id.* Petitioner

contends that the Board should not deny institution, because this Petition is the first and only petition filed by Petitioner with respect to the '789 patent and because the Board has never issued a final written decision or addressed any of the grounds in this Petition. Pet. 4–5.

In *General Plastic*, the Board articulated a non-exhaustive list of factors to consider in evaluating whether to exercise discretion under § 314(a) to deny a petition that challenges a patent that was previously challenged before the Board. These factors are:

> 1. whether the same petitioner previously filed a petition directed to the same claims of the same patent;
>
> 2. whether at the time of filing of the first petition the petitioner knew of the prior art asserted in the second petition or should have known of it;
>
> 3. whether at the time of filing of the second petition the petitioner already received the patent owner's preliminary response to the first petition or received the Board's decision on whether to institute review in the first petition;
>
> 4. the length of time that elapsed between the time the petitioner learned of the prior art asserted in the second petition and the filing of the second petition;
>
> 5. whether the petitioner provides adequate explanation for the time elapsed between the filings of multiple petitions directed to the same claims of the same patent;
>
> 6. the finite resources of the Board; and
>
> 7. the requirement under 35 U.S.C. § 316(a)(11) to issue a final determination not later than 1 year after the date on which the Director notices institution of review.

Gen. Plastic at 9–10. These factors are "a non-exhaustive list" and "additional factors may arise in other cases for consideration, where appropriate." *Id.* at 16, 18; *see also* CTPG at 58 (stating that "[t]he *General*

Plastic factors are also not exclusive" and that "[t]here may be other reasons" that "favor[] denying a petition").

1. Whether the same petitioner previously filed a petition directed to the same claims of the same patent

As Patent Owner points out, claims 1–8 and 11–49 of the '789 patent were challenged previously in IPR2017-00629 and IPR2017-00630, filed by Sandvine Corp. and Sandvine Inc. ULC ("Sandvine"). Prelim. Resp. 35. The Board denied institution in those proceedings on July 26, 2017. IPR2017-00629 (Paper 8); IPR2017-00630 (Paper 9). Certain claims of the '789 patent were also challenged previously in IPR2019-01293 by Nokia Corp. and Nokia of America Corp. (collectively, "Nokia"). Before Patent Owner filed a preliminary response in that proceeding, the Board granted the parties' joint motion to terminate. IPR2019-01293 (Paper 9).

Patent Owner acknowledges that the petitioners are not the same, but argues that "the claims challenged in the instant petition were already challenged in the prior petitions" and "the arguments Petitioner[] present[s] are substantially the same arguments the Board has already rejected numerous times." Prelim. Resp. 35.

We have considered Patent Owner's arguments but determine that the first *General Plastic* factor weighs against exercising our discretion to deny institution. Under this factor, we consider "whether the same petitioner previously filed a petition directed to the same claims of the same patent." *Gen. Plastic* at 16. Petitioner, as Patent Owner admits, has not previously filed any petition directed to the '789 patent. In addition, there is no evidence of record that Petitioner shares any relationship with Sandvine or Nokia. *See Valve Corp. v. Elec. Scripting Prods., Inc.*, IPR2019-00062,

-00063, -00084, Paper 11 at 9 (PTAB April 2, 2019) (precedential) (stating that "when different petitioners challenge the same patent, we consider any relationship between those petitioners when weighing the *General Plastic* factors").

2. Whether, at the time of filing of the first petition, the petitioner knew of the prior art asserted in the second petition or should have known of it

Patent Owner argues that the second *General Plastic* factor weighs in favor of denial because Petitioner knew of, or should have known of, prior-art references Riddle, Yu, and RFC1945 for many years before filing this Petition. Prelim. Resp. 35–36.

The second *General Plastic* factor relates to "whether a petitioner should have or could have raised the new challenges earlier." *Gen. Plastic* at 18. Here, however, Patent Owner's arguments do not show any relationship between Petitioner and Sandvine or Nokia at the times Sandvine and Nokia filed their respective petitions. Thus, whether Petitioner knew of, or should have known of, the prior art relied upon in this Petition at the time Sandvine and/or Nokia filed their petitions is not relevant under this factor. For this reason, we determine that the second *General Plastic* factor does not weigh in favor of denial.

3. Whether at the time of filing of the second petition the petitioner already received the patent owner's preliminary response to the first petition or received the Board's decision on whether to institute review in the first petition

As to the third *General Plastic* factor, Patent Owner argues that Petitioner "had the benefit of the preliminary responses filed in the Sandvine IPRs (which were filed in the first half of 2017) as well as the Board's analysis in those same IPRs (which issued in July 2017)." Prelim. Resp. 36–

37. Even so, we determine that Patent Owner has not shown persuasively that this factor weighs in favor of denial.

The third *General Plastic* factor is designed to prevent a challenger from using the Patent Owner's preliminary response as a guide for formulating a subsequent challenge. *See Toyota Motor Corp. v. Cellport Sys., Inc.*, IPR2015-01423, Paper 7 at 8 (PTAB Oct. 28, 2015) ("[T]he opportunity to read Patent Owner's Preliminary Response in IPR2015-00634, prior to filing the Petition here, is unjust."). Here, even though Patent Owner filed preliminary responses in IPR2017-00629 and IPR2017-00630, Patent Owner presents no analysis supporting a reasonable inference that Petitioner used those preliminary responses as a guide for formulating the arguments in this Petition. Thus, we determine that the third *General Plastic* factor does not weigh in favor of denial.

4. The length of time that elapsed between the time the petitioner learned of the prior art asserted in the second petition and the filing of the second petition; Whether the petitioner provides adequate explanation for the time elapsed between the filings of multiple petitions directed to the same claims of the same patent

Patent Owner argues that the fourth and fifth *General Plastic* factors weigh in favor of denial, because Petitioner "knew of the primary art raised in this Petition for at least nine years" and fails to "explain the twelve months that lapsed between [Petitioner's] knowledge of the challenged patent . . . and the filing of the instant petition." Prelim. Resp. 37. Again, we determine these factors do not weigh in favor of exercising our discretion to deny institution. Even if Petitioner could have filed its Petition earlier, "we have no reason to believe, on this record, that Petitioner *delayed* by filing when it did, or that Petitioner gained any particular advantage by filing when it did." *Samsung Elecs. Co. v. Immersion Corp.*, IPR2018-01499,

Paper 11 at 20–21 (PTAB Mar. 6, 2019). For example, Patent Owner has not pointed to any particular advantage enjoyed by Petitioner by its alleged delay.

5. The finite resources of the Board; The requirement under 35 U.S.C. § 316(a)(11) to issue a final determination not later than 1 year after the date on which the Director notices institution of review

Patent Owner argues that the sixth and seventh *General Plastic* factors weigh in favor of denial given challenges related to the "ongoing COVID-19 pandemic" as well as "the ongoing investment in two district court litigations involving the same challenged patents and asserted art." Prelim. Resp. 37. Having considered Patent Owner's arguments, we determine that the sixth and seventh *General Plastic* factors do not weigh in favor of denying institution. "[T]he intent of the [sixth] factor . . . is to conserve *Board* resources from repeat or multiple staggered petitions challenging the same claims of the same patent before the Board." *Samsung* at 17. And here, this proceeding is not part of a series of multiple, staggered proceedings, but rather is only one of two challenges to the '789 patent that Petitioner filed. Moreover, as explained above, we find that it is more likely that the District Court will incur delays due to the COVID-19 pandemic than the Board. *Supra* § III.A.2.

6. Weighing the Factors

For the reasons discussed above, we determine that all the factors in this particular case do not weigh in favor of exercising our discretion under 35 U.S.C. § 314(a). Therefore, we decline Patent Owner's request to deny the Petition under 35 U.S.C. § 314(a) for reason of serial petitions.

IV. PATENTABILITY ANALYSIS

Petitioner contends that claims 31, 33, and 34 of the '789 patent are unpatentable under 35 U.S.C. § 103 as obvious over various combinations of prior-art references Riddle, Ferdinand, Baker, Wakeman, Yu, and RFC1945. A patent claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) when in evidence, objective evidence of nonobviousness.[5] *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

"In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable." *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify "with particularity . . . the evidence that supports the grounds for the challenge to each claim")). This burden of persuasion never shifts to Patent Owner. *See Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (discussing the burden of proof in *inter partes* review).

[5] Patent Owner does not present arguments or evidence of secondary considerations in its Preliminary Response. Therefore, secondary considerations do not constitute part of our analysis herein.

We organize our patentability analysis into four sections. First, we address the level of ordinary skill in the art. Second, we address claim construction. Third, we provide an overview of the asserted references. And fourth, taking account of the information presented, we consider whether the Petition satisfies the threshold requirement for instituting an *inter partes* review under 35 U.S.C. § 314(a).

A. Level of Ordinary Skill in the Art

We consider the asserted grounds of unpatentability in view of the understanding of a person of ordinary skill in the art. In assessing the level of ordinary skill in the art, various factors may be considered, including the "type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field." *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (quoting *Custom Accessories, Inc. v. Jeffrey-Allan Indus., Inc.*, 807 F.2d 955, 962 (Fed. Cir. 1986)). "[O]ne or more factors may predominate." *Id.*

Citing the Board's Institution Decision in IPR2017-00450, Petitioner contends that an ordinarily skilled artisan would have "had a bachelor's degree in electrical engineering, computer engineering, computer science, or a related field (or its equivalent), and one to two years of experience working in networking environments, including at least some experience with network traffic monitors and/or analyzers." Pet. 8–9 (citing Ex. 1056 (IPR2017-00450 Institution Decision), 13–14; Ex. 1006 ¶¶ 195–201).

Patent Owner proposes a different definition for the level of ordinary skill in the art, but Patent Owner provides no reasoning to deviate from the Board's earlier preliminary finding. Prelim. Resp. 21. Based on this record, we adopt Petitioner's articulation of the level of skill in the art (i.e., the level

determined in IPR2017-00450 Institution Decision), which is consistent with the '789 patent and the asserted prior art, and we apply it in our obviousness evaluations below.

B. Claim Construction

Next, we turn to claim construction. In interpreting the claims of the '789 patent, we "us[e] the same claim construction standard that would be used to construe the claim[s] in a civil action under 35 U.S.C. [§] 282(b)." *See* 37 C.F.R. § 42.100(b)(2019). The claim construction standard includes construing claims in accordance with the ordinary and customary meaning of such claims as would have been understood by one of ordinary skill in the art and the prosecution history pertaining to the patent. *See id.*; *Phillips v. AWH Corp*., 415 F.3d 1303, 1312–14 (Fed. Cir. 2005) (*en banc*).

Petitioner submits the following claim terms for construction: (i) "conversational flow(s)," (ii) "the flow"/"new flow"/"existing flow," and (iii) "flow-entry database." Pet. 9–17. As to the remaining claim terms, Petitioner argues that they should be afforded their plain and ordinary meaning. *Id.* at 17. Patent Owner disputes Petitioner's proposed construction for "conversational flow"/"conversational flow-sequence," while not submitting any other terms for construction. Prelim. Resp. 21–26.

1. "conversational flow(s)"

In prior *inter partes* review proceedings involving the '789 patent and related patents, the Board preliminarily construed "conversational flow" as "the sequence of packets that are exchanged in any direction as a result of an activity (for instance, the running of an application on a server as requested by a client), where some conversational flows involve more than one connection, and some even involve more than one exchange of packets

between a client and a server." *See, e.g.*, IPR2017-00629, Paper 8 at 7–9 (PTAB July 26, 2017) (Ex. 1058).[6] The same construction—with only non-substantive punctuation changes—was also adopted by the district court in *Packet Intelligence LLC v. NetScout Sys., Inc.*, No. 2:16-cv-230 (E.D. Tex.) and *Packet Intelligence LLC v. Sandvine Corp.*, No. 2:16-cv-00147 (E.D. Tex.).[7]

While acknowledging the Board's prior construction, Petitioner contends that the Board nevertheless should apply a narrower construction in this proceeding than in the prior proceedings because this is the first time the Board will construe the claims under the *Phillips* standard, as opposed to the broadest reasonable interpretation standard. Pet. 9–10. Under the *Phillips* standard, Petitioner contends, "conversational flow" should be construed as "the sequence of packets that are exchanged in any direction as a result of specific software program activity, where such packets form multiple connection flows that are linked based on that activity." *Id.* In support of this construction, Petitioner contends that Patent Owner has argued in prior *inter partes* review proceedings and prior district court proceedings that a

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[6] The Board also preliminarily adopted the same construction in IPR2017-00450, Paper 8 at 8–10 (PTAB July 26, 2017) (Ex. 1056); IPR2017-00451, Paper 8 at 7–10 (PTAB July 26, 2017) (Ex. 1057); IPR2017-00630, Paper 9 at 9 (PTAB July 26, 2017) (Ex. 1059); IPR2017-00769, Paper 8 at 10 (PTAB July 26, 2017) (Ex. 1060); and IPR2017-00862, Paper 8 at 9–10 (PTAB July 26, 2017) (Ex. 1061).

[7] *See, e.g.*, *Packet Intelligence LLC v. Netscout Sys., Inc.*, No. 2:16-cv-230, Dkt. No. 66 at 6 (E.D. Tex. Mar. 15, 2017) (Ex. 1067) (construing "conversational flow" as "the sequence of packets that are exchanged in any direction as a result of an activity—for instance, the running of an application on a server as requested by a client—and where some conversational flows involve more than one connection, and some even involve more than one exchange of packets between a client and server").

conversational flow is "based on specific software program activity." *Id.* at 10–12. Regardless of these arguments, however, Petitioner further contends that "[t]he prior art invalidates the Challenged Claims under [either] Petitioner['s] or Patent Owner's proposed construction." *Id.* at 13.

Patent Owner responds that "Petitioner[] present[s] no compelling reason to deviate from the previous constructions," which, Patent Owner argues, "stem from the specification's express definition of the term." Prelim. Resp. 22–23 (citing Ex. 1001, 2:37–45 ("A conversational flow, on the other hand, is the sequence of packets that are exchanged in any direction as a result of an activity—for instance, the running of an application on a server as requested by a client. . . . [And] some conversational flows involve more than one connection, and some even involve more than one exchange of packets between a client and server.")).[8] Patent Owner further argues that Petitioner misinterprets statements made in previous proceedings and takes them out of context to advance an improper construction of "conversational flow." *Id.* at 23–24. As argued by Patent Owner, each of the statements highlighted by Petitioner, when viewed in context, follows the definition of "conversational flow" provided in the specification and adopted by both the Board and the district court in prior proceedings. *Id.* at 24; *see also id.* at 25–26.

Having considered the parties' respective arguments, we are not persuaded at this stage of the proceeding by Petitioner's contentions that Patent Owner's statements in the prior Board proceedings or in the district court proceedings warrant limiting the term to sequences resulting from

[8] The quoted "definition" also appears in the written description of the '789 patent. Ex. 1005, 2:45–53.

"specific software" activity. At the same time, however, we also do not see any reason to include the additional phrases of the prior Board and district court constructions—i.e., "(for instance, the running of an application on a server as requested by a client), where some conversational flows involve more than one connection, and some even involve more than one exchange of packets between a client and a server"—all of which we regard as merely exemplary and non-limiting. We do not understand the inclusion of those phrases to, for example, exclude from the construction flows involving only a single connection or flows that involve only a single exchange of packets. *See* Prelim. Resp. 24 ("[A]s the specification teaches, not all 'conversational flows' *necessarily* include multiple related connections—some conversations may entail only a single connection."). Accordingly, to the extent necessary for this Decision, we preliminarily construe "conversational flow," as "sequence of packets that are exchanged in any direction as a result of an activity."

2. Other claim terms

We conclude that no express claim construction is necessary for any other claim terms at this stage of the proceeding. *See, e.g.*, *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (citing *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) ("[W]e need only construe terms 'that are in controversy, and only to the extent necessary to resolve the controversy.'")).

C. The Prior Art

Before turning to Petitioner's asserted grounds of unpatentability, we provide a brief summary of the asserted references.

1. Riddle (Ex. 1008)

Riddle relates a method for automatically classifying packet flows for use in allocating bandwidth resources by a rule of assignment of a service level. Ex. 1008, 4:6–10. The method comprises applying individual instances of traffic classification paradigms to packet network flows based on selectable information obtaining from layers of a multi-layered communication protocol in order to define a characteristic class, then mapping the flow to the defined traffic class. *Id.* at 4:10–15. Figure 3 is reproduced below.

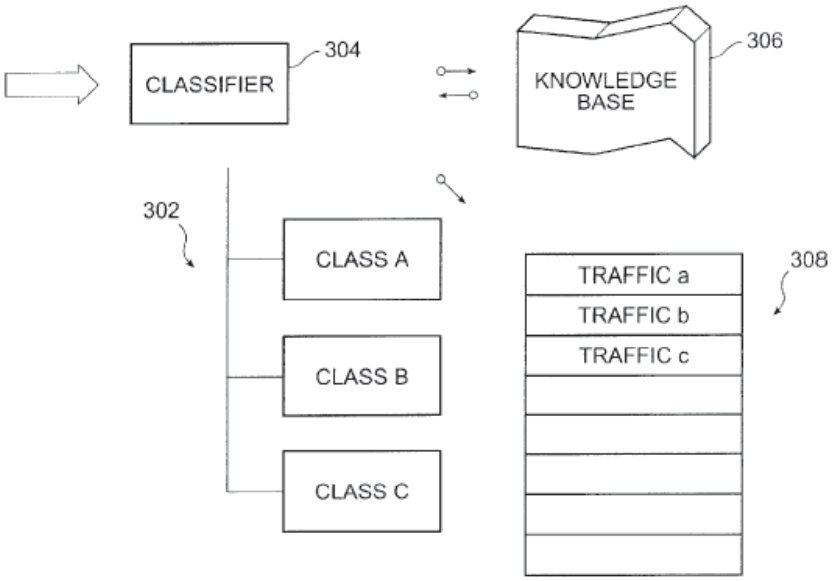

FIG. 3

> Figure 3 illustrates a system for automatically classifying traffic. Ex. 1008, 12:27–28.

A traffic tree 302 classifies new traffic under a particular member class node. *Id.* at 12:28–30. A traffic classifier 304 detects services for incoming traffic. *Id.* at 12:30–31. A knowledge base 306 contains heuristics for determining traffic classes. *Id.* at 12:32–33. A plurality of saved lists

308 stores classified traffic pending incorporation into the traffic tree 302. *Id.* at 12:37–38.

Figure 4A is reproduced below.

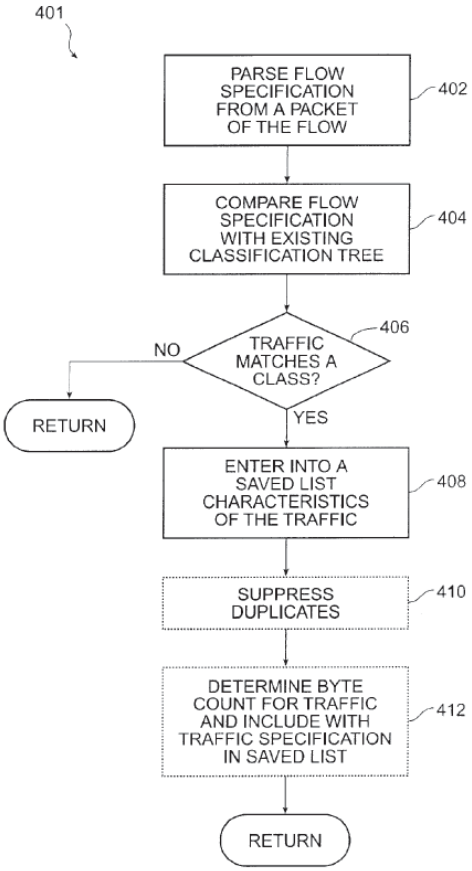

FIG. 4A

> Figure 4A illustrates a flowchart 401 of processing steps for automatically classifying traffic. Ex. 1008, 12:42–43.

In a step 402, a flow specification is parsed from the flow being classified. *Id.* at 12:43–44. Then in a step 404, the flow specification parsed from the flow in step 402 is compared with the traffic specifications in each node of the classification tree. *Id.* at 12:44–47. In a decisional step 406, a determination is made of whether traffic matches one of the classes being classified. *Id.* at 12:48–50. If this is so, then in a step 408, an entry is made in a list of identifying characteristics, such as protocol type, IP protocol

number, server port, traffic type, MIME type, or time of occurrence of traffic. *Id.* at 12:50–53.

Figure 4B is reproduced below.

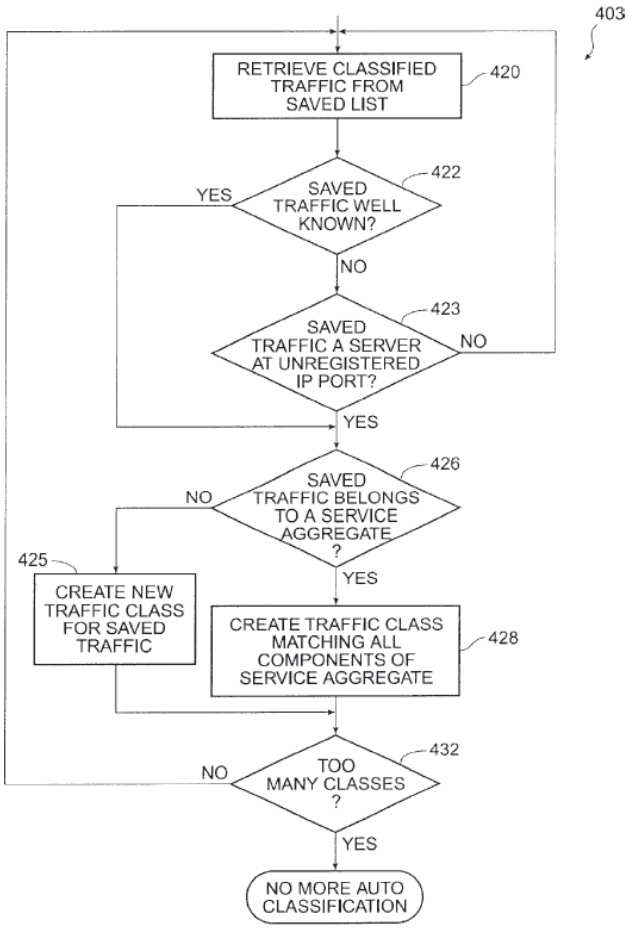

FIG. 4B

> Figure 4B illustrates a flowchart 403 of the processing steps for integrating traffic classes into a classification tree. Ex. 1008, 13:36–38.

In a step 420, an instance of saved traffic is received from a saved traffic list 308. *Id.* at 13:40–42. Next, in a decisional step 422, the instance of saved traffic is examined to determine whether it is well-known and a name representing its type exists. *Id.* at 13:42–45. If this is so, then processing continues with a test of whether the saved traffic belongs to a service aggregate in step 426. *Id.* at 13:45–47. Otherwise, in a step 423, the

instance of saved traffic is examined to determine whether it appears to be a server connection port of an unregistered IP port. *Id.* at 13:47–50. If this is not so, then processing continues with the next traffic class in the saved list in step 420. *Id.* at 13:51–52. In decisional step 426, the instance of saved traffic is examined to determine whether it belongs to a service aggregate. *Id.* at 13:52–54. If the traffic does belong to a service aggregate, then, in a step 428, a traffic class is created which will match all components of the service aggregate. *Id.* at 13:57–59. In a further step 425, a new traffic class is created to match the instance of saved traffic. *Id.* at 13:59–62.

2. Ferdinand (Ex. 1009)

Ferdinand relates to a system for "monitoring and managing communication networks for computers." Ex. 1009, code (54), 1:3–4. Ferdinand discloses a monitoring system with "a Network Monitor 10 and a Management Workstation 12." *Id.* at 11:32–12:1. In monitoring the network, Ferdinand indicates that a "statistical object represents a network parameter for which performance information is gathered," and that Monitor 10 keeps information about monitored statistical objects in "Statistics Module (STATS) 36." *Id.* at 22:18–22. STATS 36 is a database (*id.* at 19:5–11) and "defines the database and it contains subroutines for updating the statistics which it keeps" (*id.* at 28:14–15). Examples of data the database stores include records "per ip address," "per ip pair," "per udp pair," "per ftp control connection," and "per ftp data connection." *Id.* at 29:3–30:7.

3. Baker (Ex. 1013)

Baker relates to systems and methods for parsing, filtering, generating and analyzing data (or frames of data) transmitted over a data

communications network. Ex. 1013, 3:32–35. Figure 1 of Baker is reproduced below.

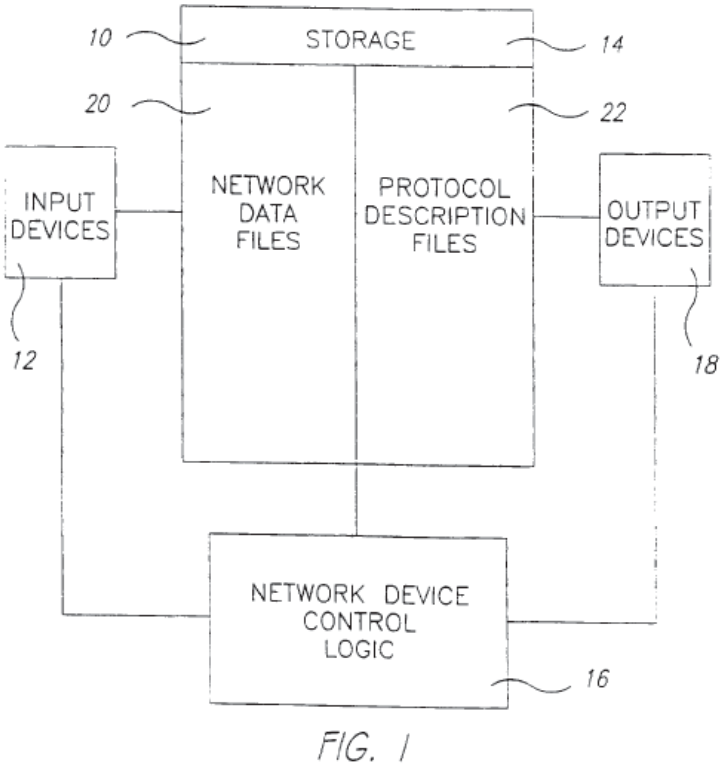

FIG. 1

Figure 1 illustrates a network interface system. Ex. 1013, 8:11–13.

Baker describes a network interface system 10 implemented in a network device including input devices 12, data storage devices 14, analysis control logic 16 for facilitating input, storage, retrieval and analysis of network frames, and output devices 18 for forwarding frames or displaying or orienting the results of frames. *Id.* at 10:10–17. A data storage device 14 includes a data file 20 of network frames having *n* protocol data records. *Id.* at 10:17–19. Protocol description files 22 also are stored in the data storage device 14, where the protocol description files 22 describe a subset of a network protocol and include rules for analyzing that protocol. *Id.* at 10:21–25. The network device control logic 16 retrieves a subset of network

frames from the input devices 12 or data files 20 which satisfy criteria based upon extracted field values and filtering criteria contained in the protocol description files 22. *Id.* at 10:26–31. The network device control logic 16 also determines frames and protocol header lengths, gathers statistics, performs verifications and error checkings, determines routes, varies values, and formats output. *Id.* at 10:31–35.

Baker further describes that the network interface system parses successive protocol headers and further parses remaining information as application data and a frame pad. *Id.* at 26:27–32. Baker also describes that the network interface system parses fixed and optional fields in a selected protocol. *Id.* at 26:32–35. Baker additionally describes that the network interface system performs operations on extracted field values. *Id.* at 26:35–27:3. Baker further describes that the network interface system makes branching, next protocol determination, and validity decisions based on the extracted field values. *Id.* at 27:3–7.

4. Wakeman (Ex. 1014)

Wakeman relates to a local access network (LAN) network switch that includes a random access memory (RAM) forwarding database (FDB) containing address-to-port mappings for all devices connected to the switch's ports, as well as at least one CAM-cache connected to one or more of the switch's ports. Ex. 1014, codes (54), (57). By way of background, Wakeman explains that LAN network switches typically include a switch engine (SE), an FDB, and one or more dozens of ports, where the FDB may be implemented either as a hardware CAM or as a RAM. *Id.* at 1:18–23, 1:55–56. According to Wakeman, a hardware CAM is "very fast," but "can be prohibitively expensive," whereas RAM "can be implemented at a fraction of the cost of such hardware CAM" but is "typically too slow to

keep up" with a network switch's SE. *Id.* at 1:56–67. By including both a RAM FDB and a CAM-cache having an access time much faster than that of the FDB, Wakeman's switch purportedly overcomes the problems in the prior art. *Id.* at 2:22–30; *see also id.* at 2:15–18 (citing a need for a network switch that is "not confined by the rigid balancing between the superior performance of a CAM database and the cost savings of a RAM database").

5. Yu (Ex. 1011)

Yu relates to "an architecture 100 for applying policies to network data traffic." Ex. 1011, 2:46–50. The architecture includes three components: an application "such as a firewall, virtual private network (VPN), or traffic management," a "policy engine 106," and an API 104 between these two components. *Id.* at 2:51–59.

Yu describes a "flow classification specification 203a provides the screening criteria for the flow classifier logic 204 to sort network traffic into flows," that "[a]ll packets that match the same flow classification specification 203a form a flow," that "a flow is a stream of correlated packets to which policy decisions apply," and that "a flow classifier 204 classifies the packet according to one or more classification specifications 203a and finds one or more corresponding action specifications 203b. Ex. 1011, 3:32–59. Yu further describes that a "stream is an 'instantiation' of a flow-packets that have the same source and destination address, source and destination port, and protocol type," and "[p]ackets may be sorted into streams, and a flow may include one or more streams," where "[a]ll packets belonging to the same stream are to be regulated by the same policy." *Id.* at 4:2–9.

In Yu, "the stream classifier 207 matches the packets to a particular stream specification 208 and then, using the corresponding action

specifications 210, activates the proper action processors 206." Ex. 1011, 5:8–11.

6. RFC1945 (Ex. 1010)

RFC1945 is an informational specification, published by the Network Working Group, and concerns Hypertext Transfer Protocol 1.0. Ex. 1010, 1. The publication "reflects common usage of the protocol referred to as 'HTTP/1.0'." *Id.* The RFC defines several message headers, such as "Referer," which "allows the client to specify, for the server's benefit, the address (URI) of the resource from which the Request-URI was obtained," and "Server," which "contains information about the software used by the origin server to handle the request." *Id.* at 44–45.

D. Alleged Grounds of Unpatentability

We now consider whether the Petition satisfies the threshold requirement for instituting an inter partes review under 35 U.S.C. § 314(a) by addressing each of Petitioner's asserted grounds of unpatentability, below.

1. Asserted Obviousness Over Riddle in View of Ferdinand and Further in View of Baker

Petitioner contends that claim 31 would have been obvious over Riddle in view of Ferdinand. Pet. 18–75. Specifically, Petitioner contends that the combination of Riddle, Ferdinand, and Baker teaches each and every element of the challenged claims, and relying on Dr. Weissman's Declaration, Petitioner also contends that an ordinarily skilled artisan would have been motivated to combine the teachings of the references with a reasonable expectation of success. *Id.* Patent Owner opposes. *See generally* Prelim. Resp. 37–48.

Claim 31 depends from claim 19. Ex. 1005, 37:61–62. Claim 19 is not before us in this proceeding, but is at issue in related case IPR2020-00339 (trial instituted on September 10, 2020). Petitioner repeats its analysis of claim 19 from the Petition in IPR2020-00339, and then provides its arguments and evidence for dependent claim 31. We first provide an overview of Petitioner's arguments and evidence for claim 19, and then turn to claim 31.

Having considered the arguments and evidence before us, we find that the record establishes a reasonable likelihood that Petitioner would prevail on this asserted ground of unpatentability.

a) The limitations of claim 19

Petitioner contends that Riddle teaches or suggests most limitations of claim 19. Pet. 30–67. Petitioner contends that the combination of Riddle and Ferdinand teaches limitations 19(b), 19(d), and 19(e). *Id.*

In support of its contentions as to Riddle, Petitioner provides a detailed mapping of: the preamble of claim 19, Pet. 30–34 (citing Ex. 1006 ¶¶ 262–271, 618–623, 866; Ex. 1008, code (57), 1:38–44, 1:54–61, 2:4–13, 2:66–67, 3:32–39, 3:67–4:2, 4:6–17, 5:53–67, 6:5–15, 7:10–8:46, 10:57-59, 12:3–12, 12:27–41, 14:22–40, Figs. 1A–1D, Fig. 3)[9]; limitation 19(a), Pet. 34–36 (citing Ex. 1006 ¶¶ 263–269, 273, 624–626, 892; Ex. 1008, code (57), 4:7–17, 6:5–15, 7:21–24, 16:54–17:15 (claim 8), Figs. 1A-1C); limitation

[9] Petitioner also cites to U.S. Patent No. 6,046,980 to Packer (Ex. 1031) for further "describ[ing] a traffic-classification system examining traffic flows 'continuously and automatically.'" Pet. 33 n.92. Petitioner contends that the disclosure of Packer was incorporated by reference into Riddle. *Id.* (citing Ex. 1008, 1:38–44; Ex. 1031, 4:12–16; Ex. 1006 ¶¶ 269–271).

19(c), Pet. 38–42 (citing Ex. 1006 ¶¶ 692–700, 894–896; Ex. 1008, 4:10–15, 6:1–15, 8:67–9:42, 9:48–49, 12:26–59, 13:37–54, 15:55–16:14 (claim 1), 16:54–17:15 (claim 8), 17:21–18:16 (claim 11), Fig. 1A, Fig. 4A); limitation 19(f) ("a flow insertion engine coupled to the flow-entry memory and to the lookup engine and configured to create a flow-entry in the flow-entry database, the flow-entry including identifying information for future packets to be identified with the new flow-entry"), Pet. 61–62 (citing Ex. 1006 ¶¶ 715–720, 900–903; Ex. 1008, 5:53–57, 11:10–23, 12:37–38, 12:42–59, 13:36–62, Fig. 3, Fig. 4A); limitation 19(f) ("the lookup engine configured such that if the packet is of an existing flow, the monitor classifies the packet as belonging to the found existing flow"), Pet. 63 (citing Ex. 1006 ¶¶ 650–652, 705–706, 721–723, 904; Ex. 1008, 5:53-57, 12:53–60, 13:52–59, 15:55–16:14 (claim 1), 16:15–26 (claim 2), 16:54–17:15 (claim 8), Figs. 4A–4B); limitation 19(f) ("if the packet is of a new flow, the flow insertion engine stores a new flow-entry for the new flow in the flow-entry database, including identifying information for future packets to be identified with the new flow-entry"), Pet. 64–65 (citing Ex. 1006 ¶¶ 655, 724–728, 905; Ex. 1008, 9:28–41, 10:19–56, 12:42–59, 13:36–62, 15:16–27, 15:55–16:14 (claim 1), 16:15–26 (claim 2), 16:26–28 (claim 3), 16:54–17:15 (claim 8), Figs. 2A–2B, Fig. 3, Figs. 4A–4B); and the final "wherein" limitation of claim 19, Pet. 66–67 (citing Ex. 1006 ¶¶ 729–733, 906; Ex. 1008, code (57), 4:10–15, 9:28–42, 9:48–49, 9:64–65, 11:48–67, 12:3–12, 12:26–41).

We have reviewed Petitioner's contentions and supporting evidence regarding these limitations, and are satisfied on this record that Petitioner establishes sufficiently for institution that Riddle teaches or suggests these limitations of claim 19.

In support of its contentions as to the combination of Riddle and Ferdinand, Petitioner provides a detailed mapping of: limitation 19(b), Pet. 36–38 (citing Ex. 1006 ¶¶ 270–276, 689–691, 893; Ex. 1008, 2:51–55, 6:1–23, 7:21–24, 16:54–17:15 (claim 8), Figs. 1A–1B; Ex. 1009, 26:2–7, 41:17–31, 49:2–12); limitation 19(d), Pet. 43–58 (citing Ex. 1006 ¶¶ 301–339, 342, 371–376, 627–639, 701–704, 897–898; Ex. 1008, 4:49–51, 6:1–23, 6:43–50, 8:47–50, 9:28–33, 10:1–18 (Table 2), 11:10–36, 11:50–53, 11:50–12:12, 12:37–59, 12:61–13:23, 13:35–14:6, 14:54–63, 15:1–20, 15:28–31, 15:55–16:14 (claim 1), 16:15–26 (claim 2), 16:40–48 (claim 5), 16:54–17:15 (claim 8), 17:21–18:6 (claim 11), Figs. 1A–1B, Fig. 3, Figs. 4A–4B; Ex. 1009, 23:19–23, 26:2–18, 27:16–19, 28:14–24, 29:4–30:10, 39:23–40:16, 54:13–17, 60:10-15, Figs. 7A-7C, Fig. 22); and limitation 19(e), Pet. 58–60 (citing Ex. 1006 ¶¶ 328–339, 342, 632–636, 649–653, 705–706, 899; Ex. 1008, 5:53–57, 6:5–15, 11:10–23, 12:39–49, 13:36–62, 16:54–17:15 (claim 8), Fig. 1A, Fig. 3, Figs. 4A–4B).

Again, we have reviewed Petitioner's contentions and supporting evidence regarding these limitations, and are satisfied on this record that Petitioner establishes sufficiently for institution that the combination of Riddle and Ferdinand teaches these limitations of claim 19.

b) The limitations of claim 31

We now turn to claim 31. Claim 31 recites that the packet monitor further comprises:

> a compiler processor coupled to the parsing/extraction operations memory, the compiler processor configured to run a compilation process that includes:
>
> receiving commands in a high-level protocol description language that describe the protocols that may be used in packets

> encountered by the monitor and any children protocols thereof, and
>
> translating the protocol description language commands into a plurality of parsing/extraction operations that are initialized into the parsing/extraction operations memory.

Ex. 1005, 37:61–38:6. In support of its contentions as to the combination of Riddle and Baker, Petitioner provides a detailed mapping of Baker's teachings of "compilation processes that (a) receive commands in a high-level protocol description language describing protocols and (b) translate those commands into parsing/extraction operations." Pet. 74–75; *id.* at 73–75 (citing Ex. 1013, 2:63–3:8, 11:26–12:6, 17:7–18, 21:32–24:5 (Tables 12–13) 128:20–132:24; Ex. 1006 ¶¶ 408–421, 589–594, 918–919). We have reviewed Petitioner's contentions and supporting evidence regarding these limitations, and are satisfied on this record that Petitioner establishes sufficiently for institution that the combination of Riddle and Ferdinand teaches these limitations of claim 31.

c) Patent Owner's response

We have reviewed Patent Owner's arguments and evidence in response, but do not agree, on this record and for institution, that Riddle or the combination of Riddle with Ferdinand and Baker fails to teach or suggest the limitations of claim 31 (as dependent on claim 1). Prelim. Resp. 37–44. Specifically, Patent Owner argues that Riddle fails to disclose the recited "conversational flows" under either of the proposed constructions of that term. *Id.* According to Patent Owner, "[a]ll of the proposed constructions relate a 'conversational flow' to an 'activity'" such as "the running of an application on a server as requested by a client," whereas "Riddle's traffic classes correlate traffic according to whether it matches a given

specification" and, thus, "[a]t best . . . relate to a multitude of activities." *Id.* at 37–38 (citing Ex. 1001, 2:39–40).

According to Patent Owner, the written description teaches that an "activity" is, "for instance, the running of an application on a server as requested by a client." *Id.* at 38 (citing Ex. 1001, 2:39–40). As an example, Patent Owner asserts that "[a] client running Skype to conduct a call is an example of an 'activity.'" *Id.* at 38–39. Further, according to Patent Owner, among three simultaneous Skype calls, "[e]ach call is a separate activity, but all the activities stem from the same application." *Id*. at 40. Patent Owner proceeds to extend its Skype example to the portions of Riddle discussed in the Petition relative to this element. *Id.* at 41–44.

Patent Owner argues that neither Riddle's "service aggregates" nor its recognition of "PointCast" traffic cited by Petitioner discloses the recited "conversational flow." *Id.* at 41. With respect to Riddle's service aggregates, Patent Owner asserts that "a service aggregate is essentially a 'set' of . . . traffic classes." *Id.* at 42. Patent Owner posits that a service aggregate could be created to match Skype traffic, but that such a service aggregate would not recognize the presence of three different conversation flows among three simultaneous Skype calls. *Id.* According to Patent Owner, the '789 patent "distinguishes between the three different Skype conversations because each one is a different 'activity.'" *Id.*

Similarly, with respect to Riddle's disclosure of PointCast traffic, Patent Owner argues that "Riddle's purported ability to recognize PointCast traffic as showing that Riddle recognizes 'conversational flows'" is "merely a specific example of using one of Riddle's traffic classes—namely one for PointCast." *Id.* at 43. Patent Owner argues that under this teaching of Riddle, "[a]ll PointCast traffic activities would be lumped together, rather

than recognizing that each different client using PointCast represents a different 'activity' as specified by the claims." *Id.* Patent Owner concludes that "the specification teaches that different activities of the same type, but by different clients, yield different conversational flows" and, therefore, Riddle's PointCast traffic recognition fails to disclose the claimed "conversational flows." *Id.* at 43–44 (citing Ex. 1001, 3:4–6).

We agree generally with Patent Owner's assertion that the claims tie "conversational flow" to an activity. *See supra* § IV.B.1 (preliminarily construing "conversation flow" as "sequence of packets that are exchanged in any direction as a result of an *activity*" (emphasis added)). But Patent Owner does not persuade us, on this record, that the examples presented as a "multitude of activities" cannot instead represent an "activity." That Patent Owner provides examples from the specification of an "activity" that suggest particularized sets of actions correspond to an activity does not exclude other larger sets of actions from also corresponding to an activity. We are persuaded that Petitioner presents sufficient evidence that would support a finding that either of Riddle's disclosures of service aggregates or PointCast traffic teaches or suggests an activity in the context of a conversational flow. Accordingly, having considered the parties' respective arguments, we are persuaded that Petitioner has sufficiently established that Riddle teaches the disputed limitations.

d) Motivation to combine/reasonable expectation of success

Even "[i]f all elements of the claims are found in a combination of prior art references," "the factfinder should further consider whether a person of ordinary skill in the art would [have been] motivated to combine those references, and whether in making that combination, a person of ordinary skill would have [had] a reasonable expectation of success." *Merck*

& Cie v. Gnosis S.P.A., 808 F.3d 829, 833 (Fed. Cir. 2015). The "motivation to combine" and "reasonable expectation of success" factors are subsidiary requirements for obviousness subsumed within the Graham factors. *Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1361 (Fed. Cir. 2007).

With respect to reasons to combine the teachings of Riddle and Ferdinand, Petitioner contends that "Riddle and Ferdinand are in the same field of endeavor," "contain overlapping disclosures with similar purposes," and "illustrate that it was well-known and ubiquitous in the art for networking devices to include database storage structures, buffers, caches, and distinct processing engines." Pet. 28 (citing Ex. 1008, 4:7–17, 9:14–27, 12:37–59, Fig. 3, Fig. 4A, Fig. 4B; Ex. 1009, 12:3–9; Ex. 1006 ¶¶ 256–258).

Relying on the testimony of Dr. Weissman, Petitioner contends that a person of ordinary skill in the art "would have been motivated and found it obvious to store Riddle's hierarchical classification trees and flow-entries in a database such as the database taught by Ferdinand," including to provide increased functionality (e.g., searching, analyzing, and modifying the flow-entries), to allow multiple network operators to access classification information simultaneously, and in accordance with "Riddle's desired goal of managing data entries to determine with the examined packets belong to a service aggregate, such as an FTP session." *Id.* at 28–29 (citing Ex. 1008, 11:9–24, 12:34–35, 12:65–13:7; Ex. 1009, 41:32–42:3, 44:8–14, 47:3–48:11; Ex. 1006 ¶ 259).

With respect to reasons for adding the teachings of Baker, Petitioner also contends that "Riddle, Ferdinand, and Baker are in the same field of endeavor and contain overlapping disclosures with similar purposes." Pet. 69 (citing Ex. 1013, 1:2–2:10, 3:32–4:6; Ex. 1006 ¶¶ 400–402). Relying on the testimony of Dr. Weissman, Petitioner contends that a person

of ordinary skill in the art "would have been motivated to modify Riddle's processor with compilation processes that (a) receive commands in a high-level protocol description language describing protocols and (b) translate those commands into parsing/extraction operations." *Id.* (citing Ex. 1006 ¶¶ 403–404).

Having considered the arguments and evidence before us, we are satisfied on this record that Petitioner has shown sufficiently for institution that an ordinarily skilled artisan would have had a reason to combine the disclosures of Riddle, Ferdinand, and Baker. Patent Owner does not specifically challenge Petitioner's contentions as to motivation to combine Riddle with Ferdinand and Baker in its Preliminary Response. We are persuaded, on the current record, that Petitioner provides adequate evidence to support its contentions.

e) Summary

In sum, based on the record before us and the application of the reasonable likelihood standard, we are satisfied that Petitioner establishes a reasonable likelihood that it would prevail in showing that claim 31 is unpatentable as obvious over the combination of Riddle, Ferdinand, and Baker.

2. Asserted Obviousness Over Riddle in View of Ferdinand and Further in View of Wakeman

Petitioner contends that remaining claims 33 and 34 would have been obvious over Riddle in view of Ferdinand and further in view of Wakeman. Pet. 75–81. Having determined that Petitioner has met its burden under 35 U.S.C. § 314(a) as to its challenge of claim 31, it is appropriate to institute *inter partes* review as to all claims challenged in the Petition, and on all grounds presented pursuant to *SAS* and the USPTO Guidance. Thus, we also

institute an *inter partes* review of challenged claims 33 and 34 on the ground of obviousness over Riddle in view of Ferdinand and further in view of Wakeman.

Claims 33 and 34 depend from claim 31 and further recites a "cache subsystem." Ex. 1005, 38:22–30. The cache subsystem in claim 33 is coupled to and between the lookup engine and the flow-entry database memory, and "provid[es] for fast access of a set of likely-to-be-accessed flow-entries from the flow-entry database." *Id.* at 38:22–27. The cache subsystem of claim 34 "is an associate cache subsystem including one or more content addressable memory cells (CAMS)." *Id.* at 38:29–30. Petitioner contends that using a cache subsystem "to speed up flow processing was well known in the art." Pet. 79 (citing Ex. 1006 ¶¶ 640, 648). Petitioner points to Ferdinand as disclosing various examples of caches, such as sets of 64KB caches, and contends that Ferdinand teaches the coupling of a flow-entry database to a cache. *Id.* (citing Ex. 1006 ¶¶ 640, 648; Ex. 1009 18:27–29, 28:14–21). Petitioner also points to Wakeman as disclosing "a CAM-cache at length." *Id.* at 80 (citing Ex. 1014, 1:20–28, 2:31–49, 3:36–45, Fig. 2; Ex. 1006 ¶ 645).

Relying on Dr. Weissman's Declaration, Petitioner also contends that an ordinarily skilled artisan would have been motivated to combine the teachings of the references with a reasonable expectation of success. *Id.* at 80–81. In particular, Petitioner contends that the skilled artisan would have been motivated "to modify the flow-entry database of the Riddle-Ferdinand combination to improve the database by providing faster access and retrieval of likely-to-be-accessed flow-entries, such as Ethernet packet source and destination addresses." *Id.* at 80 (citing Ex. 1006 ¶ 648).

Again, in light of *SAS* and USPTO Guidance, we institute an *inter partes* review on the ground of obviousness over Riddle, Ferdinand, and Wakeman for claims 33 and 34. At this point in the proceeding, Patent Owner does not present separate, substantive arguments for these claims, but instead relies on arguments set forth for independent claim 19 (and dependent claim 31). *See* Prelim. Resp. 37–44.

3. Asserted Obviousness Over Riddle in View of Ferdinand and Baker, and Further in View of Yu or Further in View of RFC1945

Petitioner contends that claim 31 would have been obvious over Riddle, Ferdinand, and Baker, and further in view of Yu, or further in view of RFC1945. *See* Pet. 82–84 (the combination of Riddle, Ferdinand, Baker, and Yu), *id.* at 85–91 (the combination of Riddle, Ferdinand, Baker, and RFC1945). Petitioner's contentions about these grounds are similar to those presented for the ground based on Riddle, Ferdinand, and Baker, discussed in § IV.D.1 above. In these additional asserted grounds, Petitioner relies on Yu or RFC1945, rather than Riddle, for the teaching of conversational flows. *See* Pet. 82 (stating that "[w]hile Riddle itself discloses identifying the claimed 'conversational flows,' Yu further demonstrates identifying conversational flows through its 'flow classification'"); *id.* 85 (stating that "[w]hile Riddle itself discloses identifying the claimed 'conversational flows,' RFC1945 further demonstrates identifying conversational flows based on the application-level protocol").

With respect to Yu, Petitioner contends that "Yu's flow classification specification provides the screening criteria for flow classifier logic to sort network traffic into 'flows' (which include multiple streams, i.e., connection flows), such as defining a specific pair of hosts running a specific application," where "Yu defines a 'flow' as 'all packets that match the same

flow classification specification' and specifically notes that 'a flow may include ***one or more*** streams." Pet. 83 (quoting Ex. 1011, 3:32–36, 3:47–49, 4:7–8; Ex. 1006 ¶¶ 429–430). Further, Petitioner contends that "Yu specifies 'the matching criteria used by a flow classifier to classify a flow may include a specific value, a range, or wildcard on interface port numbers, protocols, IP addresses, TCP ports, ***applications, application data***, or any user specifiable criteria.'" *Id.* (quoting Ex. 1011, 1:56–60). Thus, Petitioner contends, "Yu's flow classifier links multiple 'streams' into a 'flow' based on application or application data, thus identifying the '789 [p]atent's 'conversational flow.'" *Id.* at 83–84 (citing Ex. 1006 ¶ 430).

With respect to RFC1945, Petitioner contends that RFC1945 describes examining HTTP header fields, including a "'referrer' request header," and contends that Patent Owner's technical expert in prior district-court litigations "testified that information from HTTP referrers are used to create conversational flows" and that "HTTP Referrer fields may satisfy the requirements of a 'conversational flow' by correlating connection flows." *Id.* at 85–89 (citing Ex. 1010, 44–45; Ex. 1069, 25:14–26:7, 48:23–50:14; Ex. 1074, 27–30; Ex. 1075 ¶ 3; Ex. 1076, 5; Ex. 1006 ¶¶ 176–178, 445–451, 461–465, 986–987, 991–992). Relying on Dr. Weissman's testimony, Petitioner further contends that an ordinarily skilled artisan "would have recognized that HTTP Referrer fields were known in the art and used to relate traffic flows," and "Patentee's reliance on the HTTP Referrer field as linking connection flows into a conversational flow demonstrates the obviousness of the claims, at least under Patentee's interpretation of 'conversational flow.'" *Id.* at 89 (citing Ex. 1006 ¶¶ 451, 987, 992).

Petitioner also presents reasons why a person of ordinary skill in the art would have been motivated to combine the teachings of Yu or RFC1945

with the teachings of Riddle and Ferdinand in the manner asserted and why such a person would have had a reasonable expectation of success in doing so, supported by the testimony of Dr. Weissman and disclosure in the references themselves. *Id.* at 84 (citing Ex. 1006 ¶¶ 433–435, 967–968, 972–973; Ex. 1011, 1:10–13, 1:63–67, 2:26–28); *id.* at 90–91 (citing Ex. 1006 ¶¶ 452–454, 458–460, 991–993, 986–988; Ex. 1008, 9:25–27; Ex. 1010, 37–46).

Patent Owner responds that Petitioner has failed to sufficiently show that the ordinarily skilled artisan would have combined Yu with Riddle and that, in any event, both Yu and RFC1945 fail to disclose "conversational flows." Prelim. Resp. 44–48. According to Patent Owner, "Riddle focuses on a simple solution in which well-known protocols and services are automatically recognized based on port number or string matching without requiring complex configuration" while "Yu . . . touts a flexible solution in which developers can continually update the software configuration. *Id.* at 45 (citing Ex. 1011, 5:47–50). Patent Owner argues that "Riddle's simple solution would be thwarted by the complexities introduced by Yu's proposed system, which requires specialized hardware and regularly updated software modules." *Id.*

Although we have considered Patent Owner's arguments, we are not persuaded at this stage. "[F]amiliar items may have obvious uses beyond their primary purposes, and a person of ordinary skill often will be able to fit the teachings of multiple patents together like pieces of a puzzle." *KSR*, 550 U.S. at 402. Here, we find persuasive for institution Petitioner's assertions that Yu teaches using software to manage application policies to classify flows, and that a person of ordinary skill in the art "would have looked to Yu for its teachings of flexibility and efficiency in implementing Riddle's

packet classifier." Pet. 84 (citing Ex. 1006 ¶¶ 967, 972; Ex. 1011, 1:63–67, 1:10–13, 2:26–28).

As to whether Yu discloses "conversational flows," Patent Owner asserts that "[j]ust as Riddle does not differentiate between different Skype calls, Yu's flow classification specification likewise does not differentiate between different Skype calls, which would be different conversational flows." Prelim Resp. 46. As discussed above, however, Patent Owner does not persuade us, on this record and for institution, that the examples presented as multiple activities of the same type cannot also represent an "activity." *Supra* § IV.D.1.b). Therefore, Patent Owner's argument that Skype calls would not be differentiated by Yu not persuasive at this stage of the proceeding.

With respect to RFC1945, however, at this stage of the proceeding and on this record, we are not persuaded based on any citation to the content of the reference itself that RFC1945 discloses conversational flows. Moreover, we find persuasive Patent Owner's argument that the slides referenced at pages 88–89 of the Petition (Ex. 1074, 27, Ex. 1076, 5) go beyond "the general description of the Hypertext Transfer Protocol version 1.0, which is what RFC 1945 details." Prelim Resp. 47.

Thus, having considered Petitioner's contentions in the Petition, we are persuaded that Petitioner has made a sufficient showing at this stage with respect to the teachings of Yu to establish a reasonable likelihood of prevailing with respect to the ground based on the combination of Riddle, Ferdinand, Baker, and Yu.

4. Asserted Obviousness Over Riddle in View of Ferdinand and Wakeman and Further in View of Yu or Further in View of RFC1945

Again, Petitioner contends that remaining claims 33 and 34 would have been obvious over Riddle in view of Ferdinand and further in view of Wakeman and Yu, or Riddle in view of Ferdinand and further in view of Wakeman and RFC1945. Pet. 82–91. Again, in light of *SAS* and USPTO Guidance, we institute an *inter partes* review on these ground of obviousness for claims 33 and 34.

V. CONCLUSION

After considering the arguments presented in the Petition, the Preliminary Response, the Preliminary Reply, and the Preliminary Sur-Reply, as well as the evidence of record, we determine that Petitioner has demonstrated at least a reasonable likelihood of success in proving that at least one claim of the '789 patent is unpatentable. Thus, we institute an *inter partes* review of all challenged claims (i.e., claims 31, 33, and 34) on all grounds set forth in the Petition. Our determinations at this stage of the proceeding are based on the evidentiary record currently before us. This decision to institute trial is not a final decision as to patentability of any claim for which we have instituted an inter partes review. *See TriVascular, Inc. v. Samuels*, 812 F.3d 1056, 1068 (Fed. Cir. 2016) (noting that "there is a significant difference between a petitioner's burden to establish a 'reasonable likelihood of success' at institution, and actually proving invalidity by a preponderance of the evidence at trial") (quoting 35 U.S.C. § 314(a) and comparing *id.* § 316(e)). We will base any final decision on the full record developed during trial.

VI. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review is instituted on all challenged claims with respect to all grounds set forth in the Petition; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(a), *inter partes* review of claims 31, 33, and 34 of the '789 patent is instituted commencing on the entry date of this Order, and pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is given of the institution of a trial.

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