

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NETNUT LTD.,
Petitioner,

v.

BRIGHT DATA LTD.,
Patent Owner.

IPR2021-01493
Patent 10,484,510 B2

Before THOMAS L. GIANNETTI, SHEILA F. McSHANE, and
RUSSELL E. CASS, *Administrative Patent Judges*.

McSHANE, *Administrative Patent Judge*.

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

I. INTRODUCTION

NetNut Ltd. (“Petitioner”) filed a Petition (Paper 2, “Pet.”) requesting *inter partes* review of claims 1, 2, 6–11, 13, and 15–24 (the “challenged claims”) of U.S. Patent No. 10,484,510 B2 (Ex. 1001, “the ’510 patent”). Patent Owner, Bright Data Ltd., filed a Preliminary Response (Paper 8, “Prelim. Resp.”). With authorization, Petitioner filed a Reply (Paper 9, “Pet. Reply”), and Patent Owner filed a Sur-reply (Paper 10, “PO Sur-reply”).

The Board has authority to determine whether to institute an *inter partes* review. *See* 35 U.S.C. § 314; 37 C.F.R. § 42.4(a). Under 35 U.S.C. § 314(a), we may not authorize an *inter partes* review unless the information in the petition and the preliminary response “shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.”

For the reasons stated below, we determine that Petitioner has established a reasonable likelihood that it would prevail with respect to at least one claim. We therefore institute *inter partes* review as to all of the challenged claims of the ’510 patent and all of the asserted grounds of unpatentability in the Petition.

II. BACKGROUND

A. Related Matters

The parties identify four district court proceedings involving the ’510 patent and a related patent (U.S. Patent No. 10,257,319 (“the ’319 patent”)):

Bright Data Ltd. v. NetNut Ltd., No. 2:21-cv-225 (E.D. Tex.)
(pending);

Luminati Networks Ltd. v. Teso LT, UAB, et al., No. 2:19-cv-395 (E.D. Tex.) (pending);

Luminati Networks Ltd. v. BI Science (2009) Ltd., No. 2:19-cv-397 (E.D. Tex.) (dismissed, but pending Rule 60 motion); and
Luminati Networks Ltd. v. Tefincom S.A., No. 2:19-cv-414 (E.D. Tex.) (pending).

Pet. 2–3; Paper 4, 1–2.

The ’510 patent was previously before the Board in IPR2020-01358, where institution was denied. Pet. 4; Paper 4, 1. The related ’319 patent is involved in IPR2021-01492, and was previously before the Board in IPR2020-01266, where institution was denied. Pet. 5; Paper 4, 1. Petitioner also identifies a number of other Board proceedings involving patents related to the ’510 patent, as well as a number of other district court actions involving patents related to the ’510 patent, including an action between Patent Owner (then known as Luminati Networks Ltd.) and Petitioner involving patents other than the ’510 patent and ’319 patent. *See* Pet. 3–5.

In addition, Patent Owner identifies *ex parte* reexaminations ordered for the ’319 and ’510 patents, respectively, Control No. 90/014,875 and Control No. 90/014,876. Prelim. Resp. 16.

B. The ’510 Patent

The ’510 patent is titled “System Providing Faster And More Efficient Data Communication” and issued on November 19, 2019 from an application filed on February 17, 2019. Ex. 1001, codes (22), (45), (54). The patent is subject to a terminal disclaimer. *Id.* at code (*). The application for the ’866 patent claims priority to several applications, including U.S. Provisional Application No. 61/249,624, filed October 8, 2009. *Id.* at code (60).

The '510 patent is directed to addressing the “need for a new method of data transfer that is fast for the consumer, cheap for the content distributor and does not require infrastructure investment for ISPs.” Ex. 1001, 1:57–59. The ‘510 patent states that other “attempts at making the Internet faster for the consumer and cheaper for the broadcaster,” such as proxy servers and peer-to-peer file sharing, have various shortcomings. *Id.* at 1:61–3:6. The ‘510 patent provides a system and method “for faster and more efficient data communication within a communication network,” such as in the network illustrated in Figure 3, reproduced below. *Id.* at 3:16–18, 4:5–7.

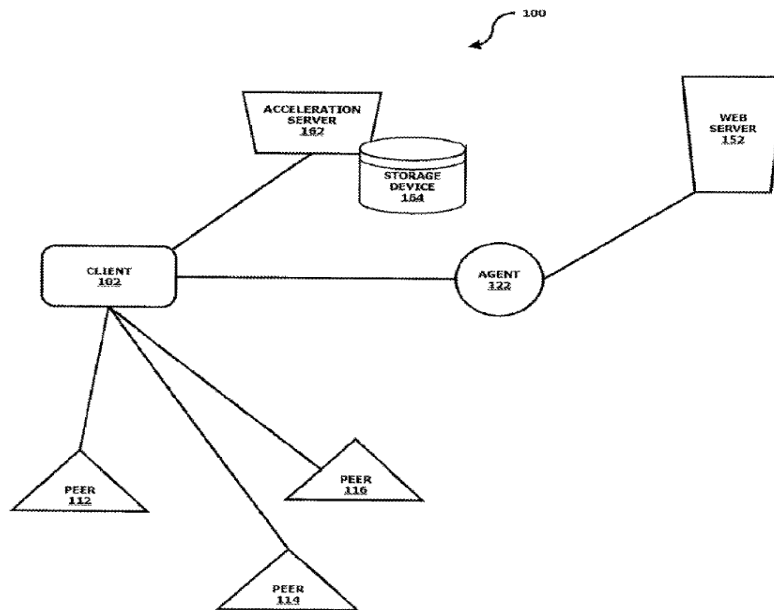


FIG. 3

Figure 3 is a schematic diagram depicting communication network 100 including a number of communication devices. Ex. 1001, 4:56–48. Client 102 is capable of communicating with peers 112, 114, and 116, as well as with one or more agents 122. *Id.* at 4:58–60. Web server 152 may be “a typical HTTP server, such as those being used to deliver content on any of the many such servers on the Internet.” *Id.* at 4:65–5:2. Acceleration server

162 includes an acceleration server storage device 164 with an acceleration server database, which “stores Internet Protocol (IP) addresses of communication devices within the communication network 100 having acceleration software stored therein.” *Id.* at 5:14–17.

In operation, a client may request a resource on the network, for example, through the use of an Internet browser. Ex. 1001, 12:62–13:3. If server 152 is the target of the request, the client sends the IP address of server 152 to acceleration server 162. *Id.* at 13:8–15. Acceleration server 162 then prepares a list of agents that can handle the request, which includes communication devices “that are currently online, and whose IP address is numerically close to the IP of the destination Web server 152.” *Id.* at 13:19–29. The client then sends the original request to the agents in the list to find out which “is best suited to be the one agent that will assist with this request.” *Id.* at 13:31–36. The connection established between the agent and client may be a Transmission Control Protocol [TCP] connection. *Id.* at 17:61–64.

Each agent responds to the client with information as to “whether the agent has seen a previous request for this resource that has been fulfilled,” and “which can help the client to download the request information from peers in the network.” Ex. 1001, 13:51–57. The client selects an agent based on a number of factors, and the selected agent determines whether data stored in its memory or the memory of the peers “still mirrors the information that would have been received from the server itself for this request.” *Id.* at 13:62–14:1, 14:35–38. If the selected agent does not have the necessary information to service a request, it may “load the information

directly from the server in order to be able to provide an answer to the requesting client.” *Id.* at 14:62–67.

C. Illustrative Claim

The ’510 patent has 24 claims. Claim 1, the only independent claim in the ’510 patent, is illustrative of the claimed subject matter and is reproduced below, with bracketed designations added to the limitations for reference purposes.

1. [pre] A method for use with a web server that responds to Hypertext Transfer Protocol (HTTP) requests and stores a first content identified by a first content identifier, the method by a first client device comprising:

- [a] establishing a Transmission Control Protocol (TCP) connection with a second server;
- [b] sending, to the web server over an Internet, the first content identifier;
- [c] receiving, the first content from the web server over the Internet in response to the sending of the first content identifier; and
- [d] sending the received first content, to the second server over the established TCP connection, in response to the receiving of the first content identifier.

Ex. 1001, 19:18–31.

D. Asserted Grounds of Unpatentability

Petitioner challenges the patentability of claims of the ’510 patent on the following grounds:

Claims Challenged	35 U.S.C. § ¹	Reference(s)
1, 6, 7, 13 ² , 15, 16, 18–24	102(b)	Crowds ³
1, 2, 6–11, 13, 15, 16, 18–24	103(a)	Crowds, RFC 2616 ⁴
1, 6, 10, 15–20, 23, 24	102(b)	Border ⁵
1, 6, 8–11, 13, 15–20, 22–24	103(a)	Border, RFC 2616
1, 6–8, 13, 15, 16, 18–24	102(b)	MorphMix ⁶
1, 2, 6–11, 13, 15, 16, 18–24	103(a)	MorphMix, RFC 2616

Pet. 9.

¹ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 287–88 (2011), amended 35 U.S.C. §§ 102 and 103, effective March 16, 2013. Because the ’510 patent claims priority to a provisional application that was filed before this date, with Petitioner not contesting that priority, the pre-AIA versions of §§ 102 and 103 apply. *See* Ex. 1001, code (60); Pet. 17.

² The Petition includes assertions for claim 13 under the Crowds anticipation ground. Pet. 33. Accordingly, we include this claim in the summary table, although not included in the Petition’s summary table. *Id.* at 9.

³ Michael K. Reiter, *Crowds: Anonymity for Web Transactions*, ACM Transactions on Information and System Security, Vol. 1, No. 1, November 1998, at 66–92 (Ex. 1006).

⁴ Hypertext Transfer Protocol—HTTP/1.1, Network Working Group, RFC 2616, The Internet Society, 1999 (Ex. 1013).

⁵ U. S. Patent No. 6,795,848, issued September 21, 2004 (Ex. 1012).

⁶ Marc Rennhard, *MorphMix—A Peer-to-Peer-based System for Anonymous Internet Access* (2004) (Ph.D. dissertation, Swiss Federal Institute of Technology) (Ex. 1008).

III. DISCRETIONARY DENIAL

A. Fintiv

Patent Owner requests that we exercise our discretion under 35 U.S.C. § 314(a) to deny institution in view of the parallel district court proceedings, *Bright Data Ltd. v. NetNut Ltd.*, No. 2:21-cv-225 (E.D. Tex.) (“the district court litigation”). Prelim. Resp. 16–40; PO Sur-reply 1–5.

Under Section 314(a), the Director has discretion to deny institution. *See* 35 U.S.C. § 314(a) (stating “[t]he Director *may not* authorize an inter partes review to be instituted unless the Director determines that the information presented in the petition . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition”) (emphasis added); 37 C.F.R. § 42.108(a) (stating “the Board will authorize the review to proceed”); *cf.* *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.”); *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.”).

The Board’s precedential decision in *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (precedential) (“*Fintiv*”) sets forth six factors that we consider as part of this balanced assessment when determining whether to use our discretion to deny institution:

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.

Fintiv at 6. Recognizing that “there is some overlap among these factors” and that “[s]ome facts may be relevant to more than one factor,” the Board “takes a holistic view of whether efficiency and integrity of the system are best served by denying or instituting review.” *Id.* We now apply these six factors to the facts and circumstances present here.

1. Factor 1—Stay of Related Litigation Proceeding

Under the first *Fintiv* factor, we consider “whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted.”

Fintiv at 6. There has been no stay request made in the district court litigation. Prelim. Resp. 18. Patent Owner contends that this factor weighs in favor of denial because if Petitioner were to move for a stay, it would be denied in view of Judge Gilstrap’s order where he stated “this Court has a consistent practice of denying motions to stay when the PTAB has yet to institute post-grant proceedings.” *Id.* (citing Ex. 2008, 2). Patent Owner further contends that, even if the Board grants institution on or about March 27, 2022, it is unlikely that Judge Gilstrap will grant a stay in view of the advanced stage of the case at that time. *Id.* at 18–19.

Petitioner argues that it is not known if the district court would grant a request for a stay, so this factor should be considered to be neutral. Pet. 10. Petitioner asserts that this district court “has demonstrated a willingness to

stay proceedings where an IPR has actually been instituted.” Pet. Reply 1 (citing *Uniloc USA, Inc. v. Ringcentral, Inc.*, No. 17-cv-0354 (JRG) (Feb. 12, 2018) (“*Uniloc*”). Petitioner also contends that, contrary to Patent Owner’s assertions, the district court litigation is in its early stages. *Id.* (citing Ex. 2003).

In its Sur-reply, Patent Owner asserts that in *Uniloc* the district court had previously granted an unopposed motion to stay, and the Board instituted review of all asserted claims and no claims terms had been construed. PO Sur-reply 1. Patent Owner distinguishes *Uniloc* from the circumstances before us because here the Board will not resolve every asserted claim and the district court has already construed the claim terms. *Id.*

Although we decline to speculate whether the district court would grant a stay in the parallel litigation pending this proceeding, we note that we do not find that the district court litigation is at an advanced stage, as discussed further below. In any event, “[a] judge determines whether to grant a stay based on the facts of each specific case as presented in the briefs by the parties.” *See Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 15 at 12 (PTAB May 13, 2020) (informative) (“*Fintiv II*”). “We decline to infer, based on actions taken in different cases with different facts, how the [d]istrict [c]ourt would rule should a stay be requested by the parties in the parallel case here.” *Id.* Accordingly, we determine that this factor is neutral.

2. Factor 2—Proximity of Court’s Trial Date

Under the second *Fintiv* factor, we consider the “proximity of the court’s trial date to the Board’s projected statutory deadline for a final written decision.” *Fintiv* at 6. The date set for jury selection in the district

court litigation is September 12, 2022. Ex. 2003, 1. The estimated date of the Board's final written decision, if trial is instituted, is March 27, 2022. See Prelim. Resp. 20. Accordingly, the jury selection in the district court litigation would occur approximately six months before the final written decision would issue.

Patent Owner asserts that Petitioner know or should have known of the Eastern District of Texas' usual timeframe from the outset of the lawsuit. Prelim. Resp. 20. Patent Owner argues that this Petition should be denied in view of the trial occurring prior to the issuance of any final written decision, as the timing is similar to that of Code200/Teso petition (IPR2020-01266), where *inter partes* review was denied. *Id.* at 20–21. Patent Owner further contends that the Board has declined to speculate about whether there may be further delays in a district court schedule. *Id.* at 22 (citing *Canon Inc. v. Optimum Imaging Technologies LLC*, IPR2020-01321, Paper 10 at 6 (PTAB March 1, 2021)).

Petitioner asserts that trial dates for this Patent Owner have previously slipped. Pet. Reply 2 (citing Ex. 1101). Petitioner also contends that Patent Owner has already sought two extensions in the related court proceeding. *Id.* (citing Ex. 1102). Petitioner argues that “this factor does not favor discretionary denial nearly as strongly as Patent Owner argues.” *Id.*

Patent Owner argues that Petitioner's assertions about schedule extensions is misleading because the requested extensions were made to address mediation/expert coordination, however, “[n]either of these requested extensions suggests Patent Owner intends to delay the 9/12/2022 trial date in the NetNut Litigation.” PO Sur-reply 2.

Here, if trial was conducted as scheduled, it would occur approximately six months prior to the date of the final written decision issuing in this case. We note, however, that a trial date for this Patent Owner slipped by six months in a case in the Eastern District of Texas (*see* Ex. 1101, docket entries 65, 509), and, further, that Patent Owner sought extensions in a related court proceeding (Ex. 1102). The presently-scheduled trial date is six months off. Factoring in the potential for changed circumstances, we determine that this factor weighs only slightly in favor of exercising our discretion to deny institution.

3. Factor 3—Investment in the Parallel Proceeding

Under the third *Fintiv* factor, we consider the “investment in the parallel proceeding by the court and the parties.” *Fintiv*, 6. Petitioner asserts that there has been only limited work completed in the district court litigation consisting of the exchange of infringement and invalidity contentions and claim constructions. Pet. Reply 2. Petitioner contends that the majority of fact discovery work remains ahead, as well as “expert discovery, summary judgment proceedings, pretrial proceedings, and a jury trial.” *Id.* Petitioner argues that it diligently acted, filing the petition in this case ten months before the deadline. *Id.* at 3. Petitioner contends that the facts here “strongly weighs against exercising discretion to deny institution.” *Id.*

Patent Owner asserts that “[b]y the 3/27/2023 deadline for a final written decision in this proceeding, the parties will have completed trial in the NetNut Litigation.” Prelim. Resp. 21. Patent Owner refers to the scheduled dates in the district court litigation order, arguing that none of these dates are likely to change. *Id.* at 21–22. Patent Owner also contends

that Petitioner fails to sufficiently address the delay in filing the petition because Petitioner “started its invalidity campaign at the USPTO” against other patents of Patent Owner in December 2020, and fails to explain why the petition against the ’510 patent was not filed until September 2021. *Id.* at 23–25. Patent Owner asserts that Petitioner had knowledge of the main prior art, Crowds and MorphMix, from related litigations and Board proceedings, and Petitioner could have earlier filed a petition. *Id.* at 25–27. Further, Patent Owner argues that Petitioner received the benefit of the preliminary response in IPR2020-01266, that addressed technical deficiencies in the petition prior to filing this Petition. *Id.* at 27.

We determine that the third *Fintiv* factor favors not exercising our discretion to deny institution. In the district court litigation, a claim construction hearing is set for April 6, 2022, fact discovery is not set to close until April 13, 2022, expert discovery is not set to close until May 31, 2022, dispositive motions are due on June 6, 2022, and a pretrial order is due by August 1, 2022. Ex. 2003. Although Patent Owner argues that substantial progress will have been made by the time of a final written decision in March 2023, there is still a substantial amount of work to be completed by both the parties and the district court at this time. Further, although Patent Owner argues that Petitioner could have filed a petition earlier, we agree that Petitioner has acted diligently in filing the Petition approximately three months after service of the complaint in the related litigation.

Accordingly, we determine that this factor weighs strongly against the exercise of our discretion to deny institution.

4. Factor 4—Overlap With Issues Raised in Parallel Proceeding

Under the fourth *Fintiv* factor, we consider the “overlap between issues raised in the petition and in the parallel proceeding.” *Fintiv*, 6. Patent Owner contends this factor favors denial of institution because there is substantial overlap of claims and references in the Petition and in the district court litigation. Prelim. Resp. 28. Patent Owner argues that the challenged claims here are the same as those in the district court litigation, except for dependent claims 6, 7, 17, 21, and 24. *Id.* Patent Owner also asserts that the same primary references, Crowds, Border, and MorphMix, are asserted in both this proceeding and the district court litigation. *Id.* at 28. As such, Patent Owner argues that institution will lead to duplicative efforts. *Id.*

Petitioner argues that, as Patent Owner notes, there are five dependent claims in this proceeding which are not at issue in the district court litigation. Pet. Reply 3. Petitioner also asserts that there are additional grounds of invalidity, as well as unenforceability for inequitable conduct, at issue in the district court litigation. *Id.* (citing Ex. 1104). Petitioner contends that “[t]here is overlap, but the overlap is not nearly complete” in the two proceedings. *Id.* at 4.

Given the partial overlap of issues in the respective proceedings, we determine that this factor weighs at least moderately in favor of exercising discretionary denial. *Id.*

5. Factor 5—Commonality of Parties in Parallel Proceedings

Under the fifth *Fintiv* factor, we consider “whether the petitioner and the defendant in the parallel proceeding are the same party.” *Fintiv*, 6. Here, Petitioner is the defendant in the district court proceeding. Prelim.

Resp. 29; Pet. Reply 4. We determine that this factor favors discretionary denial.

6. Factor 6—Other Circumstances

Under the sixth *Fintiv* factor, we consider “other circumstances that impact the Board’s exercise of discretion, including the merits.” *Fintiv*, 6. Petitioner argues that the Petition has strong merits in view of the district court’s broad construction of “client device.” Pet. 11. Petitioner asserts that Patent Owner’s arguments on claim construction have been rejected by the district court and the Board. Pet. Reply 4–5.

Patent Owner contends that the merits are weak and do not outweigh the other *Fintiv* factors. Prelim Resp. 32. More specifically, Patent Owner asserts that Petitioner’s expert employs hindsight analysis. *Id.* at 32–35. Patent Owner contends that, contrary to Petitioner’s assertions, under the district court’s construction, a “second server” was construed as a server, and it differs from a “client device.” *Id.* at 35–37. Patent Owner also submits that it is not an efficient use of the Board’s resources to analyze alleged invalidity of claims based on the same primary references as other proceedings, for example, in view of the recent Teso jury verdict. *Id.* at 37. Additionally, Patent Owner argues that the Patent Office is already conducting *ex parte* reexamination of the ’510 patent, so there is no need to expend additional resources. *Id.* at 38.

As discussed below, we have reviewed Petitioner’s arguments against patentability and Patent Owner’s preliminary responses, and based on the record before us, we disagree with Patent Owner on issues of claim constructions, as well as the assertion that the merits of the Petition are weak. Rather, at this stage of the proceeding, we find that Petitioner has

shown at least a reasonable likelihood of success on the merits. This is based on the determination that the evidence on this record favors Petitioner’s proposed claim construction based on the district court’s broad interpretation of some claim terms. *See infra* Section IV.B. Moreover, because we are persuaded that the disclosures of three separate references anticipate claim 1, the only independent claim of the ’510 patent, we determine that Petitioner’s showing on the teaching of the prior art is strong so as to weigh against exercising discretion to deny under factor 6. *See Fintiv*, at 14–15 (noting that the merits favor institution under factor 6 “if the merits of a ground raised in the petition seem particularly strong.”).

Accordingly, we determine that this factor weighs substantially in favor of not exercising discretionary denial.

7. Conclusion

On this record, after weighing all of the factors and taking a holistic view, we determine that the facts in this case weighing against exercising discretion outweigh the facts that favor exercising discretion. Thus, based on our assessment of the *Fintiv* factors, we decline to exercise our discretion under 35 U.S.C. § 314(a) to deny *inter partes* review.

B. General Plastic

In *General Plastic Indus. Co. v. Canon Kabushiki Kaisha*, IPR2016-01357, Paper 19 (PTAB Sept. 6, 2017) (precedential) (“*General Plastic*”), the Board set out a list of seven factors to consider when asked to exercise its discretion to deny review of follow-on petitions. Here, Patent Owner states that it relies on *Fintiv*, which it believes is dispositive, and does not rely on *General Plastic*. Prelim. Resp. 40, n.28. Nevertheless, Patent Owner addresses certain of the *General Plastic* factors. For factor 1, Patent

Owner asserts that as to Code200 and Teso, who were prior petitioners in IPR2021-01358, Patent Owner “is not presently aware of a significant relationship between NetNut and either Code200 or Teso.” *Id.* at 40. But Patent Owner disagrees that this factor strongly favors institution. *Id.* at 40–41. For *General Plastic* factors 2–5, Patent Owner relies on the arguments presented for factor 3 of *Fintiv*, and for *General Plastic* factor 6, Patent Owner relies on its arguments presented for *Fintiv* factor 6. *Id.* at 41.

On this record, we determine that, based on the facts of this case, the *General Plastic* factors weighing against exercising discretion outweigh the facts that favor exercising discretion. For *General Plastic* factors 2–6, we do not find Patent Owner’s arguments persuasive for the reasons discussed above for *Fintiv* factors 3 and 6. Additionally, Petitioner was not a petitioner in previous proceedings, nor is there any evidence in the record that Petitioner has a significant relationship with petitioners in an earlier case, as acknowledged by Patent Owner. *See Valve Corp. v. Elec. Scripting Prods., Inc.*, IPR2019–00062, Paper 11 at 9–10 (PTAB April 2, 2019) (precedential) (existence of a “significant relationship” between the different petitioners would weigh in favor of discretionary denial); Prelim. Resp. 40. Accordingly, factor 1 of *General Plastic* also weighs against the exercise of discretionary denial. Thus, we decline to exercise our discretion under 35 U.S.C. § 314(a) to deny *inter partes* review.

IV. ANALYSIS

A. Level of Ordinary Skill in the Art

According to Petitioner, a person of ordinary skill in the art “would have at least a bachelor’s degree in Computer Science or related field (or equivalent experience), and two or more years’ experience working with and

programming networked computer systems as of the Priority Date.” Pet. 18. Petitioner further asserts that a person of ordinary skill would be familiar with “the underlying principles of Web, Internet, or network communication, data transfer, and content sharing across networks, including the HTTP and TCP/IP protocols.” *Id.* (citing Ex. 1005 ¶¶ 25–27).

Patent Owner submits that a person of ordinary skill in the art “had a Master’s Degree or higher in the field of Electrical Engineering, Computer Engineering, or Computer Science or as of that time had a Bachelor’s Degree in the same fields and two or more years of experience in Internet Communications.” Prelim. Resp. 46 (citing Ex. 2006 ¶ 19). But Patent Owner acknowledges that the parties’ respective proposed qualifications “are not materially different, at least in terms of affecting an institution decision in this IPR.” *Id.*

For the purposes of this Decision, we adopt the assessment offered by Petitioner as it is consistent with the ’510 patent and the prior art before us.⁷ *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001). We note that, at this juncture, we agree with Patent Owner that the proposed qualifications are not materially different and our assessment of the merits of the Petition, as discussed below, would remain the same under either parties’ proposed qualifications.

B. Claim Construction

In this *inter partes* review, claims are construed using the same claim construction standard that would be used to construe the claims in a civil

⁷ The parties are encouraged to address the impact, if any, of differences in the level of qualifications on the anticipation and obviousness analyses in any subsequent briefing.

action under 35 U.S.C. § 282(b). 37 C.F.R. § 42.100(b) (2021). Under the principles set forth by our reviewing court, the “words of a claim ‘are generally given their ordinary and customary meaning,’” as would be understood by a person of ordinary skill in the art in question at the time of the invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). “In determining the meaning of the disputed claim limitation, we look principally to the intrinsic evidence of record, examining the claim language itself, the written description, and the prosecution history, if in evidence.” *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1014 (Fed. Cir. 2006) (citing *Phillips*, 415 F.3d at 1312–17).

Petitioner asserts that the district court’s constructions in *Luminati Networks Ltd. v. Teso LT, UAB, et al.*, No. 2:19-cv-395 (E.D. Tex.) should apply in this case. Pet. 18. In particular, Petitioner points to two claim construction orders in that case—an original order (Ex. 1017) and a supplemental order (Ex. 1020)—in which the court construed the preamble of claim 1 to be limiting, and construed all other terms to have their plain and ordinary meanings, except for “client device” and “second server.” Pet. 18–19. The district court construed “client device” as “communication device that is operating in the role of a client.” Ex. 1017, 12. The District Court construed “second server” as “server that is not the client device” (*id.* at 14), and later agreed with the defendants’ clarification as to the scope of this construction that a “second server” is “a device that is operating in the

role of a server and that is not the requesting client device or the first web server” (Ex. 1020, 8, 11).

More specifically, Petitioner refers to the district court’s supplemental order which indicates that “a component can be configured to operate in different roles.” Pet. 19 (citing Ex. 1020, 10). Petitioner refers to Figure 3 of the ’510 patent and asserts, consistent with the district court’s interpretation of the claim terms, that “client 102” can be considered a “second server” in accordance with the ’510 specification disclosure, “agent 122” can be considered a “client device,” and “web server 152” is the “first server.” *Id.* at 20–21.

Petitioner disputes Patent Owner’s argument that a “client device” is limited to consumer computers because it would import a limitation into the term. Pet. 22. Further, Petitioner asserts that the district court has declined to include this limitation, as did the Board. *Id.*; *see also id.* at 19 (referring to IPR2021-00458, Paper 11, 19; IPR2021-00465, Paper 11, 14–15). Petitioner additionally adds, in accordance with the ’510 patent, that a “‘client device’ is an entity that receives the content from the intermediate agent device” but the same device acts as a “client” for one content retrieval, and as one of the intermediate “agent” nodes, as well as in the role of a server. *Id.* at 22–23 (citing Ex. 1001, 9:27–36). Petitioner asserts that the interchangeable nature of the devices is consistent with the District Court’s supplemental order. *Id.*

Petitioner also argues, as to the term “second server,” “[t]he only devices in the ’510 patent that ever receive requested content are the ‘communication devices,’ *i.e.*, the clients, peers, and agents” and “[a]ll such recipient devices also have roles as clients.” Pet. 22. Petitioner asserts that

if a “second server” were construed to require special hardware, there would be no embodiment disclosed in the ’510 patent specification within that scope. *Id.*

Patent Owner agrees that the district court’s claim constructions should apply for the preamble, “client device,” and “second server” terms. Prelim. Resp. 46–47. Patent Owner disagrees, however, with Petitioner’s interpretation that allegedly “seek[s] a broader construction of the term ‘second server’ to remove the requirements that it be a server.” *Id.* at 48. Patent Owner asserts that the district court indicated that “[t]he patents do not include servers as a type of ‘communication device,’” and confirmed “that servers must be configured to be servers.” *Id.* (citing Ex. 1020, 10). Patent Owner refers to the district court’s statement that “component can be configured to operate in different roles—so long as it does not ‘simultaneously serve as more than one of: the client device, the first server/second server, and the web server.’” *Id.* (citing Ex. 1020, 10).

Patent Owner also disagrees that with Petitioner’s description of the elements of Figure 3 of the ’510 patent. Prelim. Resp. 49. Patent Owner asserts that it used Figure 3 “only used to illustrate the lines of communication showing the steps performed by the proxy client device.” *Id.* (citing Ex. 2007, 7–8). Patent Owner refers to Figure 1 of the ’510 patent wherein “a server can be used as an additional intermediary between the proxy client device of the claims and a second client device originating the requests for content.” *Id.* at 49.

Patent Owner has failed to consider some of the district court’s statements on the construction of terms. Specifically, the district court stated that “a component can be *configured* to operate in different roles—‘so long

as it does not simultaneously serve as more than one of: the client device, the first server/second server, and the web server.” Ex. 1020, 10. That is, although the district court determined that a single component could not simultaneously serve more than one function at any particular time, it stated that different components could operate in different roles. *Id.* More particularly, in the discussion of “server” terms, the district court indicated that the function of a component, not its structure, serves to define the term. *Id.* at 7–10. For instance, the district court adopted the language “a device that is operating in the role of” for the term “client device.” *See id.* at 10. Further, the district court found that the contention “that a client device is specifically not a server—is not supported by the specification.” Ex. 1017, 11. The district court also stated that “[t]he patents do not include servers as a type of ‘communication device,’ *but that is not sufficient to construe ‘client device’ as unable to act as a server in all cases.*” *Id.* at 12 (emphasis added).

We credit the district court’s interpretation of the claim terms. Accordingly, for the purposes of this decision we adopt the construction of a “client device” as “communication device that is operating in the role of a client.” Ex. 1017, 12. Additionally, we construe the term “second server” as “server that is not the client device” (*id.* at 14), consistent with the district court’s clarification (Ex. 1020, 8, 11).

We determine that we need not expressly construe any other claim terms to resolve the parties’ disputes on the current record. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (“[W]e need only construe terms ‘that are in controversy, and

only to the extent necessary to resolve the controversy.” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

C. Principles of Law

A claim is unpatentable under 35 U.S.C. § 102 if a prior art reference discloses each and every limitation of the claimed invention, either explicitly or inherently. *Glaxo Inc. v. Novopharm Ltd.*, 52 F.3d 1043, 1047 (Fed. Cir. 1995); see *MEHL/Biophile Int’l Corp. v. Milgraum*, 192 F.3d 1362, 1365 (Fed. Cir. 1999) (“To anticipate, a claim a prior art reference must disclose every limitation of the claimed invention . . .;” any limitation not explicitly taught must be inherently taught and would be so understood by a person experienced in the field); *In re Baxter Travenol Labs.*, 952 F.2d 388, 390 (Fed. Cir. 1991) (the dispositive question is “whether one skilled in the art would reasonably understand or infer” that a reference teaches or discloses all of the limitations of the claimed invention).

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 indicia of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

D. Anticipation of Claims 1, 6, 7, 13, 15, 16, and 18–24 By Crowds

Petitioner contends that claims 1, 6, 7, 13, 15, 16, and 18–24 are anticipated by Crowds. Pet. 25–36. To support its contentions, Petitioner provides explanations as to how Crowds discloses each claim limitation. *Id.* Petitioner also relies upon the Teruya Declaration (Ex. 1005) to support its positions. Patent Owner argues that Crowds does not disclose all the claim limitations. Prelim. Resp. 59–62.

We begin our discussion with a brief summary of Crowds, and then address the evidence and arguments presented.

1. Crowds (Ex. 1006)

Crowds is an article that “introduce[s] a new approach for increasing the privacy of web transactions.” Ex. 1006, 67.⁸ In this approach, a user joins a “crowd” of other users, wherein the user’s request to a web server is passed to a random member of the crowd, and possibly forwarded to one or more other members, prior to being submitted to the end server. *Id.* In this way, “[w]hen the request is eventually submitted, it is submitted by a random member, thus preventing the end server from identifying its true initiator.” *Id.* In Crowds, a user is represented “by a process on her computer called a *jondo* (pronounced ‘John Doe’ and meant to convey the image of a faceless participant).” *Id.* at 73. “When the jondo is started, it contacts a server called the *blender* to request admittance to the crowd.” *Id.* Exemplary paths for web requests from crowd users are shown in Figure 2, reproduced below:

⁸ Unless otherwise stated, citations to exhibits use the page numbers identified by the parties.

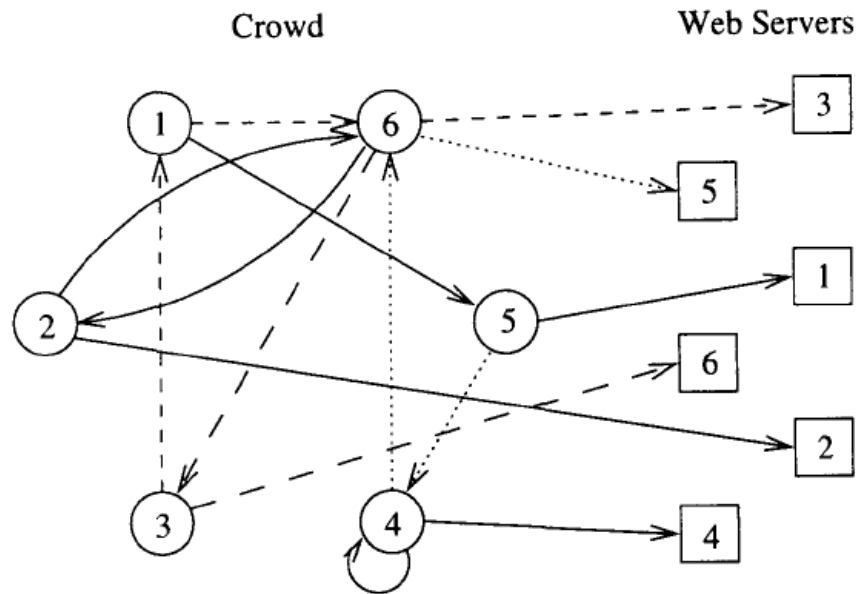


Fig. 2. Paths in a crowd (the initiator and web server of each path are labeled the same).

In Figure 2 of Crowds, when a jondo receives a user request from a browser, it “initiates the establishment of a random *path* of jondos that carries its users’ transactions to and from their intended web servers.” Ex. 1006, 73. For example, the paths in Figure 2 among the jondos labeled 1 to 6 are as follows: “1 → 5 → server; 2 → 6 → 2 → server; 3 → 1 → 6 → server; 4 → 4 → server; 5 → 4 → 6 → server; and 6 → 3 → server.” *Id.* “[S]erver replies traverse the same path as the requests, only in reverse.” *Id.* at 74.

2. Discussion

a. Claim 1

Petitioner asserts that Crowds discloses the claimed web server of the preamble that responds to HTTP requests and stores a first content identifier. Pet. 26–27. Petitioner refers to annotated Figure 2 of Crowds.

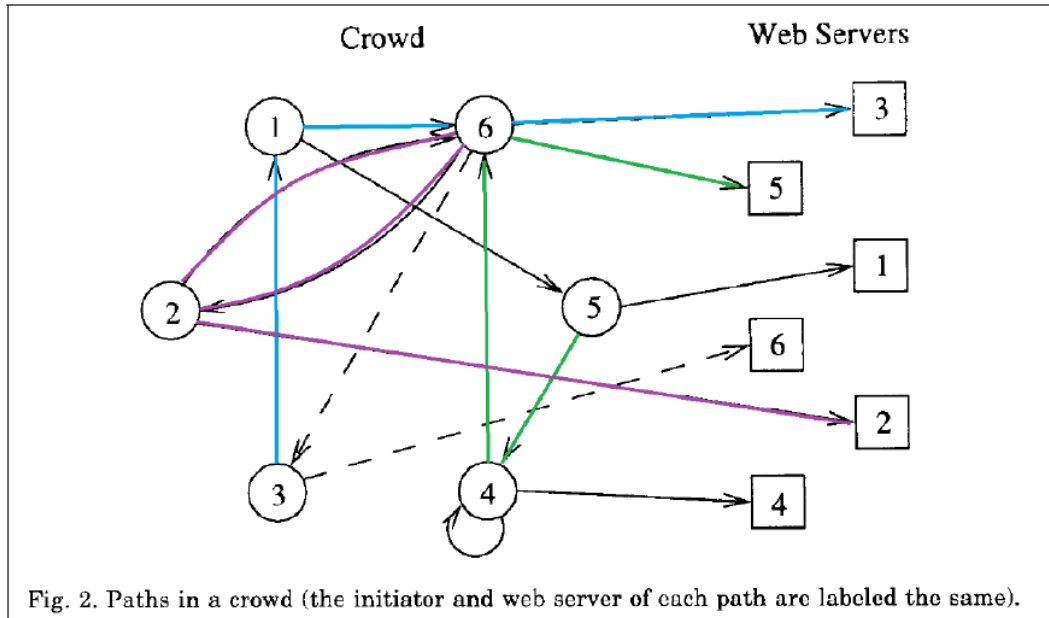


Figure 2 of Crowds (annotated)

As shown in Petitioner's annotated version of Figure 2 of Crowds, Petitioner refers to the path 5→4→6→server (highlighted in green), with boxed "5" mapped to the web server. Pet. 26. Petitioner asserts that "[i]n accordance with the preamble, a first client device (jondo 6) performs the claim steps, fetching requested content from a web server, '5.'" *Id.*

Petitioner asserts that limitation 1[a] is performed by Crowds by the establishment of a TCP connection between jondo 6 (first client device) and jondo 4 (the second server). Pet. 27–28. Petitioner asserts that jondo 6 is a client device because "it acts as in the role of a client in requesting the service of content from web server 5." *Id.* at 27. Petitioner further asserts that jondo 4 is a server because it provides a service to requesting jondo 5 consistent with Crowds' "description [which] uses client-server terminology, where one jondo is a client of its successor on the path." *Id.* (citing Ex. 1006, 74). Petitioner argues that a communication path is established when

jondo 5 receives a user request, and, more specifically, “a TCP connection is established between the first client device and the second server.” *Id.* at 28 (citing Ex. 1006, 73, 81).

For limitation 1[b], Petitioner asserts that in Crowds’ 5→4→6→server example, the first client device (jondo 6) sends a web request via HTTP to the target web server (boxed element 5). Pet. 28 (citing Ex. 1006, 73–74, Fig. 2). Petitioner asserts that the HTTP request comprises the first content identifier, that is, the request contains a URL. *Id.* at 29–30. Petitioner contends that the first content identifier may be considered to be either “the disclosed ‘request’ itself, or the URL that the request contains.” *Id.* at 30 (citing Ex. 1003 ¶¶ 70–72).

For limitation 1[c], Petitioner asserts that under the Crowds’ example path, jondo 6, the recited first server device, will receive the requested content in response. Pet. 31. Petitioner argues that this content routing is in accordance with Crowds’ disclosure that the “server replies traverse the same path as the requests, only in reverse.” *Id.* (citing Ex. 1006, 73–74). For limitation 1[d], Petitioner asserts that a TCP connection exists between jondos 6 and 4. *Id.* And consistent with Crowds’ disclosure that routing travels on the same path, but in reverse, Petitioner argues that jondo 6 sends the requested content to jondo 4, the second server. *Id.*

At this juncture, we determine that Petitioner has provided sufficient evidence that Crowds discloses the preamble of claim 1 and limitations 1[a]–1[d].⁹

⁹ We need not determine whether the preamble of claim 1 is limiting because Petitioner has shown that Crowds discloses the preamble. *See Nidec*, 868 F.3d at 1017.

Patent Owner argues that Petitioner's assertions that Crowds' jondo 6 corresponds to the claimed "first client device" and jondo 4 corresponds to the claimed "second server" fail for several reasons. *See* Prelim. Resp. 59–62.

First, Patent Owner contends that Crowds only discloses a peer-to-peer system that uses only client devices that are generic user computers. Prelim. Resp. 50. Patent Owner asserts that the claims "operate within a specific second server ↔ first client device ↔ web server architecture, which is not disclosed in Crowds." *Id.*

This argument is based on the premise that Crowds' client devices cannot be considered to be the claimed second server. We do not agree. As we discuss *supra* Section IV.B, the district court determined, and we concur based on the present record, that a "second server" functions only as "a device that is operating in the role of a server and that is not the requesting client device or the first web server," and the district court did not endorse a construction where a client device could not act as a server. Ex. 1017, 11–12. Here, under Petitioner's analysis, Crowds' jondo 4 functions as the claimed device second server, and is not acting as either a client device or the first web server. Additionally, under Petitioner's analysis, Crowd's jondo 6 functions as a first client device and element 5 acts as a web server. Accordingly, Petitioner sufficiently shows at this stage of the proceeding that Crowds discloses all the elements in the claim limitations consistent with the construction adopted here.

Second, Patent Owner asserts that the district court's claim constructions distinguish a "second server" and "first client device." Prelim. Resp. 60. Patent Owner argues that Petitioner arbitrarily identifies jondo 4

as a server and jondo 6 as a client device, and this is contrary to the district court's construction. *Id.* Patent Owner argues that the jondos are identical and interchangeable devices, and Petitioner fails to explain why it mapped the respective jondos as a server or client device. *Id.* Third, Patent Owner argues that Petitioner "fails to address whether the jondos simultaneously operate in different roles, contrary to the Court's claim constructions." *Id.*

Again, under the claim constructions adopted here, discussed *supra* Section IV.B, we do not find Patent Owner's arguments persuasive. Here, under Petitioner's analysis, different jondos perform different functions that conform with a "client device," which operates in the role of a client, and a "second server," which operates as a server. Further, we find that Petitioner has sufficiently provided sufficient explanation and support for the different functions and roles of Crowds' elements as mapped.

Additionally, Patent Owner contends that Petitioner argues that in Crowds "[a] user's request to a web server *is not passed directly to the web server*, but instead to a random member of the crowd, who either submits the request directly to the web server or forwards it again." Prelim. Resp. 61 (citing Pet. 25). Patent Owner states that Petitioner's allegation is untrue and Crowds discloses that "when a jondo receives a request from a user's browser, 'the jondo picks a jondo from the crowd (*possibly itself*) at random, and forwards the request to it.'" *Id.* (citing Ex. 1006, 8). As such, Patent Owner contends that "a jondo may decide to forward a user's request directly to a web server, without forwarding the request to any other user/jondo." *Id.*

We do not agree with this argument. As an initial matter, even if a jondo were to pick itself for forwarding a user request to, the request is still

routed indirectly from the user through the jondo to the web server, that is, there would still be not be direct passing of the user request to the web server. Moreover, as Patent Owner acknowledges, Crowds discloses “when a jondo receives a request from a user’s browser, ‘the jondo picks a jondo from the crowd’” and the selected jondo could be another jondo, and that routing would also be indirect. *See* Ex. 1006, 8.

Accordingly, we are persuaded that Petitioner has demonstrated a reasonable likelihood that it would prevail in showing that claim 1 is anticipated by Crowds.

b. Claims 6, 7, 13, 15, 16, and 18–24

Claims 6, 7, 13, 15, 16, and 18–24 depend directly or indirectly from claim 1. Petitioner provides evidence and argument that each of these claims is anticipated by Crowds. Pet. 32–36. We find this evidence and argument is sufficient at this juncture. *Id.* Patent Owner presents no additional arguments directed to these claims. *See generally* Prelim. Resp.

On this record, we are persuaded that Petitioner has demonstrated a reasonable likelihood of prevailing on its assertion that claims 6, 7, 13, 15, 16, and 18–24 are anticipated by Crowds.

E. Obviousness of Claims 1, 2, 6–11, 13, 15, 16, 18–24 Over Crowds and RFC 2616

Petitioner contends that claims 1, 2, 6–11, 13, 15, 16, 18–24 would have been obvious over Crowds and RFC 2616. Pet. 36–41. To support its contentions, Petitioner provides explanations as to how the combination of Crowds and RFC2616 teaches each claim limitation. *Id.* Petitioner also relies upon the Teruya Declaration (Ex. 1005) to support its positions.

Patent Owner argues that Crowds does not disclose all the claim limitations. Prelim. Resp. 59–62.

We begin our discussion with a brief summary of RFC2616, and then address the evidence and arguments presented.

1. RFC 2616 (Ex. 1013)

This RFC documents version 1.1 of the HTTP protocol, which is “foundational to the World Wide Web.” Pet. 24; Ex. 1005 ¶ 53.

2. Discussion

For claim 1, Petitioner refers to RFC2616 and contends that “[s]ince Crowds was directed at improving the same types of communications, a POSITA [person of ordinary skill] developing software for like applications would have had a powerful motivation to combine its disclosure with knowledge of Internet standards governing HTTP.” Pet. 36–37. Petitioner further argues that “[e]ven if the Board were to construe ‘second server’ as requiring a specialized data-center class device, such an adaptation would have been obvious.” *Id.* at 37. Petitioner contends “POSITA [a person of ordinary skill] would have been aware, in 2009, of equipment commonly used as ‘servers,’ including workstation computers and computers running UNIX and Microsoft operating systems as disclosed by Crowds.” *Id.* at 38 (citing Ex. 1006, 82). For support, Petitioner relies on testimony from Dr Teruya. Ex. 1005 ¶¶ 111–117.

We have considered the evidence and argument presented and find it to be sufficient at this juncture. Pet. 36–41. Patent Owner presents no additional arguments beyond those directed to Crowds, which we do not find persuasive for the reasons discussed above. *See* Prelim. Resp. 59–62.

On this record, we are persuaded that Petitioner has demonstrated a reasonable likelihood of prevailing on its assertion that claims 1, 2, 6–11, 13, 15, 16, 18–24 would have been obvious over Crowds and RFC 2616.

F. Anticipation of Claims 1, 6, 10, 15–20, 23, and 24 By Border

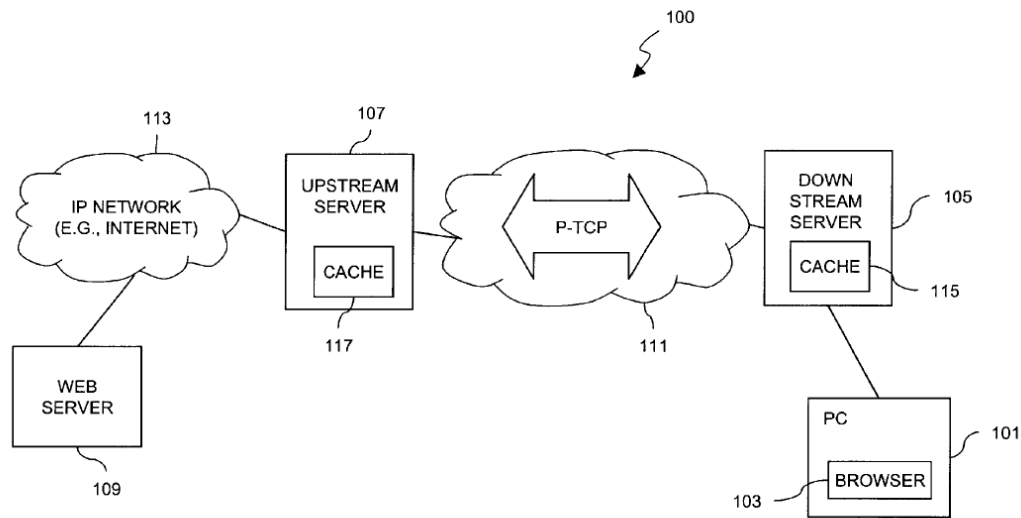
Petitioner contends that claims 1, 6, 10, 15–20, 23, and 24 are anticipated by Border. Pet. 42–53. To support its contentions, Petitioner provides explanations as to how Border discloses each claim limitation. *Id.* Petitioner also relies upon the Teruya Declaration (Ex. 1005) to support its positions. Patent Owner argues that Border does not disclose all the claim limitations. Prelim. Resp. 62–64.

We begin our discussion with a brief summary of Border, and then address the evidence and arguments presented.

1. Border (Ex. 1012)

Border is titled “System and Method of Reading Ahead of Objects for Delivery to an HTTP Proxy Server.” Ex. 1012, code (54). Border describes a system for retrieving web content where “a downstream proxy server receives a URL request message from a web browser,” “[a]n upstream proxy server receives the URL request message from the downstream proxy server” and “selectively forwards the URL request message to a web server and receives the URL content from the web server,” and “[t]he upstream proxy server forwards the URL content to the downstream proxy server.” *Id.* at 3:34–43. An exemplary system employing downstream and upstream proxy servers for accessing a web server is shown in Figure 1, reproduced below:

FIG. 1



As depicted in Brown's Figure 1, user station 101, for example, a personal computer, uses a standard web browser 103. Ex. 1012, 3:55–61. User station 101 is connected to downstream proxy server 105, which communicates over network 111 with upstream proxy server 107. *Id.* at 3:61–66. Proxy servers 105 and 107 are HTTP proxy servers with HTTP caches 115 and 117. *Id.* at 4:8–11. Upstream proxy server 107 is connected to web server 109 through IP network 113, for example, the Internet. *Id.* at 4:5–7. In this system, proxy servers 105 and 107 “act as an intermediary between one or more browsers and many web servers (e.g., server 109).” *Id.* at 4:30–31.

2. Discussion

Referring to Figure 1 of Border, Petitioner maps the recited “first client device” to upstream server 107, the recited “second server” to downstream server 105, the recited “web server” to web server 109, the recited “first content identifier” to the requested URL, and the recited “first content” to the requested web page at the requested URL. Pet. 44.

For limitation 1[a], Petitioner asserts that a persistent TCP connection is established between upstream server 107 and downstream server 105 in Border. Pet. 45 (citing Ex. 1012, 7:51–58; Ex. 1005 ¶ 1005). Petitioner asserts that downstream server 105 is the “second server” because “it accepts a connection from web browser 103 and sends back a response to web browser 103’s GET request.” *Id.* Petitioner also contends that “upstream server 107 acts in the role of a ‘client,’ as commonly understood, because it requests a service of another computer system by requesting web content at a URL from a web server.” *Id.*

For limitation 1[b], Petitioner contends that Figure 2 of Borders depicts upstream server 107 issuing a GET request to web server 109, and the request is for a URL. Pet. 46 (citing Ex. 1012, 5:32–35, Fig. 2). For limitation 1[c], Petitioner argues that, in response to the upstream server 107 request, “the web server 109 transmits the requested HTML page to the upstream server.” *Id.* at 47 (citing Ex. 1012, Fig. 2). Petitioner contends that, based on this disclosure, “Border teaches the first client device receiving the first content (the web page at the requested URL) from the web server in response to sending the first content identifier (the requested URL).” *Id.*

For limitation 1[d], Petitioner contends that in Border, “[a]fter receiving the web page from web server 109, upstream server 107 ‘forwards the HTML page to the downstream server 105’” as shown in Figure 2. Pet. 48. More specifically, Petitioner contends that “[d]ownstream server 105 then forwards the first content to web browser 103, in response to web browser 103’s original GET request, in accordance with the second server’s role as a ‘server.’” *Id.* Petitioner asserts that “the same persistent TCP

connection exists between upstream server 107 and downstream server 105,” and communications go through this connection. *Id.* (citing Ex. 1005 ¶¶ 160–162).

At this juncture, we determine that Petitioner has provided sufficient evidence that Border discloses the preamble of claim 1 and limitations 1[a]–1[d].

Patent Owner’s arguments regarding Border are similar to those directed to Crowds. First, Patent Owner argues that Border does not disclose the use of a “first client device” because under the Court’s claim construction, a “client device” is a “communication device that is operating in the role of a client,” and Border’s server is not a type of communication device. Prelim. Resp. 62. Second, Patent Owner argues that “NetNut fails to distinguish or otherwise explain any differences between server 105 and server 107.” *Id.* Third, Patent Owner asserts that “NetNut fails to sufficiently explain why server 107, and not server 105, is to be understood as a client device.” *Id.* at 63. Fourth, Patent Owner argues that “NetNut fails to address whether the servers 105, 107 simultaneously operate in different roles.” *Id.*

As we discussed for Crowds, we do not find these argument persuasive under the claim construction adopted here, discussed *supra* Section IV.B. Under Petitioner’s analysis, the different components of Border perform different functions that conform with a “client device” which operates in the role of a client and a “second server” that operates as a server. Additionally, we find that Petitioner has provided sufficient explanation and support for the different functions and roles of Border’s elements as identified in the Petition under the claim construction adopted.

Patent Owner additionally argues that “Border is not directed to addressing the problem of initiator deniability or anonymity,” with a fixed architecture with upstream and downstream proxies “that selectively request URL content and embedded objects to the extent the requested information is not already stored in the caches of those servers for the purpose of reducing response time.” Prelim. Resp. 63. We do not find this argument persuasive because Border discloses that its proxies act to maintain anonymity. For instance, in Border, “HTTP proxy server 105 and 107 acts as [] intermediar[ies]” where a “web browser 103 requests a URL from the proxy server (e.g., 105) which in turn ‘gets’ the URL from the addressed web server 109.” Ex. 1012, 4:29–34.

For claims 6, 10, 15–20, 23, and 24, Petitioner provides evidence and argument that each of these claims is anticipated by Border. Pet. 49–53. We find this evidence and argument is sufficient at this juncture. *Id.* Patent Owner presents no additional arguments directed to these claims. *See generally* Prelim. Resp.

Accordingly, we are persuaded that Petitioner has demonstrated a reasonable likelihood that it would prevail in showing that claims 1, 6, 10, 15–20, 23, and 24 are anticipated by Border.

G. Obviousness of Claims 1, 6, 8–11, 13, 15–20, and 22–24 Over Border and RFC2616

Petitioner states that Border discloses a system for retrieving web content, and that “HTTP is an application level protocol that is employed for information transfer over the Web.” Pet. 53 (citing Ex. 1012, 7:26–29.) Petitioner argues that “Border expressly incorporates RFC 2616,” and a person of ordinary skill in the art would have been motivated to combine

Border with general internet knowledge and the disclosures of RFC2616. *Id.* at 53–54.

We have considered the evidence and argument presented by Petitioner for these claims and find it to be sufficient at this juncture. Pet. 53–57. Patent Owner presents no additional arguments beyond those directed to Border, which we do not find persuasive for the reasons discussed above. *See* Prelim. Resp. 62–64.

On this record, we are persuaded that Petitioner has demonstrated a reasonable likelihood of prevailing on its assertion that claims 1, 6, 8–11, 13, 15–20, and 22–24 would have been obvious over Border and RFC 2616.

H. Anticipation of Claims 1, 6–8, 13, 15, 16, and 18–24 By MorphMix

Petitioner contends that claims 1, 6–8, 13, 15, 16, and 18–24 are anticipated by MorphMix. Pet. 58–53. To support its contentions, Petitioner provides explanations as to how Border discloses each claim limitation. *Id.* Petitioner also relies upon the Teruya Declaration (Ex. 1005) to support its positions. Patent Owner argues that MorphMix does not disclose all the claim limitations. Prelim. Resp. 62–70.

We begin our discussion with a brief summary of MorphMix, and then address the evidence and arguments presented.

1. MorphMix (Ex. 1008)

MorphMix is a doctoral thesis that identifies the lack of anonymity on the Internet as a problem that “limits the privacy protection of Internet users.” Ex. 1008, Abstract. MorphMix is focused on “achieving anonymous Internet access for low-latency applications such as web browsing.” *Id.* MorphMix describes “a peer-to-peer-based mix network” where “[e]very node joining the system can itself establish circuits via other nodes to access

a server anonymously, but can also be part of circuits established by other nodes and relay data for them at the same time.” *Id.* at 98. An exemplary system is illustrated in Figure 5.1, reproduced below:

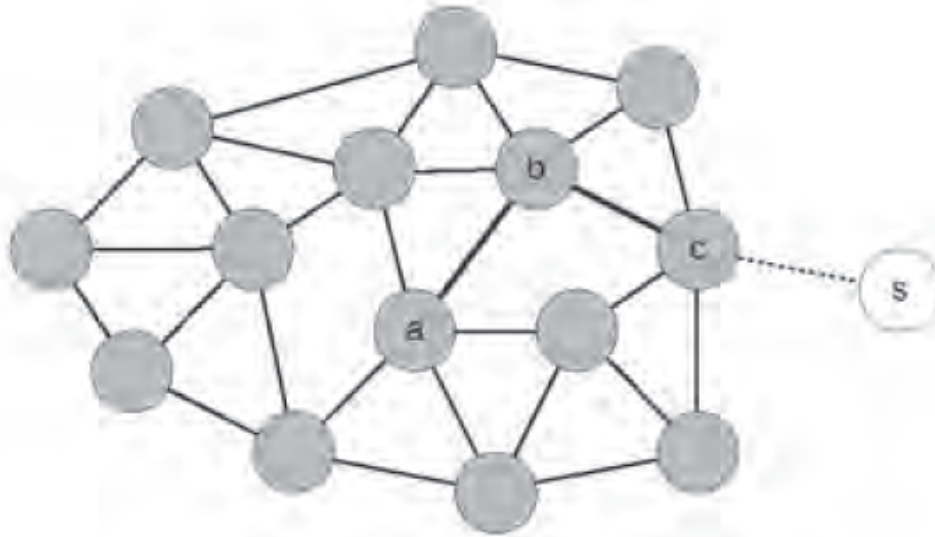


Figure 5.1: *Basic idea of MorphMix.*

As depicted in Figure 5.1 of MorphMix, participating nodes have a virtual link to one or more other nodes at any time, which “means that (1) there is a TCP connection between the two nodes and (2) they share a symmetric key that is only known to these two nodes.” Ex. 1008, 99. In Figure 5.1, node *a* has five neighbors with which it has established virtual links. *Id.* In the example shown, “node *a* has established an anonymous tunnel via *b* and *c*.” *Id.* “Within an anonymous tunnel, anonymous connections can be set up to anonymously communicate with a server.” *Id.* at 100.

2. Discussion

In its assertions directed to claim 1, Petitioner identifies the recited “first client device” as the last node (*c*) of MorphMix, the recited “second

server” as intermediate node (b), the recited “first server” as servers, the recited “first content identifier” as the application data (or the requested URL it contains), and the recited “first content” as the requested web page at the requested URL. Pet. 59–60.

For limitation 1[a], Petitioner contends that a TCP connection is established between nodes, and node (c) acts as a first client device and intermediate node (b) acts as a second server. Pet. 60–61. For limitation 1[b], Petitioner asserts that node (c) sends the application data and/or the URL within the application data to the first server, as shown in Figure 5.4. *Id.* at 62. For limitation 1[c], Petitioner contends that the last node in the path, node (c), receives the “first content,” such as the web page, where MorphMix “[s]end[s] data back from the server to the client works exactly in the opposite way” as the information is sent to the server. *Id.* at 63 (citing Ex. 1008, 105). Accordingly, in MorphMix, Petitioner argues, the first client device (the last node before the target web server) receives the requested first content for sending back down the path to the requesting user. *Id.* For limitation 1[d], Petitioner contends that “[t]he first client device (node c) sends the first content (or web page content) back to the second server (node b, the prior node in the path).” *Id.*

At this juncture, we determine that Petitioner has provided sufficient evidence that MorphMix discloses the preamble of claim 1 and limitations 1[a]–1[d].

Patent Owner’s arguments on MorphMix are similar to those directed to Crowds. First, Patent Owner argues that Petitioner “arbitrarily calls MorphMix’s node (b) a server and node (c) a client device, in contradiction with the Court’s claim constructions,” where the nodes are identical,

interchangeable, and have identical overall roles. Prelim. Resp. 64. Second, Patent Owner argues that “MorphMix does not disclose configuring user computers to operate as servers.” *Id.* at 65. Third, Patent Owner asserts that Petitioner “fails to address whether the nodes simultaneously operate in different roles, contrary to the Court’s claim constructions.” *Id.*

As we discussed for Crowds, we do not find these argument persuasive under the claim construction adopted here, discussed *supra* Section IV.B. Under Petitioner’s analysis the different components of MorphMix perform different functions that conform with a “client device” which operates in the role of a client and a “second server” that operates as a server. Additionally, we find that Petitioner has sufficiently provided sufficient explanation and support for the different functions and roles of MorphMix’s elements as mapped under the adopted claim constructions.

Patent Owner additionally argues that “the architecture and configuration of MorphMix suffers from a number of problems.” Prelim. Resp. 65. For example, Patent Owner argues that MorphMix has deficiencies such as the potential for “free riding,” poor performance and increased latency, and the potential for a tunnel failing if a node fails. *Id.* at 65–66. We are not persuaded by these arguments because they do not undermine the Petition’s showing that the reference sufficiently discloses the claim limitations.

For claims 6–8, 13, 15, 16, and 18–24, Petitioner provides evidence and argument that each of these claims is anticipated by MorphMix. Pet. 64–70. We find this evidence and argument is sufficient at this juncture. *Id.* Patent Owner presents no additional arguments directed to these claims. *See generally* Prelim. Resp.

Accordingly, we are persuaded that Petitioner has demonstrated a reasonable likelihood that it would prevail in showing that claims 1, 6–8, 13, 15, 16, and 18–24 are anticipated by MorphMix.

I. Obviousness of Claims 1, 2, 6–11, 13, 15, 16, and 18–24 Over MorphMix and RFC2616

Petitioner asserts that if the challenged claims are not anticipated by MorphMix, they would be obvious over the combination of MorphMix and RFC2616. Pet. 70. Petitioner relies on the rationale provided for combining Crowds and RFC 2616 for the combination of RFC2616 with MorphMix.

Id. Petitioner provides evidence and argument for the obviousness of claims 1, 2, 6–11, 13, 15, 16, and 18–24 over the combination of references. *Id.* at 71–75.

We have considered the evidence and argument presented and find it to be sufficient at this juncture. Pet. 70–75. Patent Owner presents no additional arguments beyond those directed to MorphMix, which we do not find persuasive for the reasons discussed above. *See* Prelim. Resp. 64–66.

On this record, we are persuaded that Petitioner has demonstrated a reasonable likelihood of prevailing on its assertion that claims 1, 2, 6–11, 13, 15, 16, and 18–24 would have been obvious over MorphMix and RFC 2616.

V. CONCLUSION

For the foregoing reasons, we have determined that there is a reasonable likelihood that the Petitioner would prevail with respect to at least one of the claims challenged in the Petition. We therefore institute trial as to all challenged claims on all grounds stated in the Petition.

VI. ORDER

Upon consideration of the record before us, it is:

ORDERED that *inter partes* review of claims 1, 2, 6–11, 13, and 15–24 of the '510 patent is instituted on all grounds in the Petition;

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

IPR2021-01493
Patent 10,484,510 B2

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