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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

THE DATA COMPANY TECHNOLOGIES INC.,
Petitioner,

v.

BRIGHT DATA LTD.,
Patent Owner.

IPR2022-00138
Patent 10,484,510 B2

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

McSHANE, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining All Challenged Claims Unpatentable
Granting Motions to Seal
Granting Motion to Exclude
35 U.S.C. § 318(a); 37 C.F.R. § 42.14; 37 C.F.R. § 42.64

I. INTRODUCTION

We have jurisdiction to hear this *inter partes* review under 35 U.S.C. § 6. This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a). For the reasons discussed herein, we determine that Petitioner has shown by a preponderance of the evidence that challenged claims 1–12 and 15–24 (the "challenged claims") of U.S. Patent No. 10,484,510 B2 (Ex. 1001, "the '510 patent") are unpatentable.

A. Procedural Background

The Data Company Technologies Inc.[1] ("Petitioner") filed a Petition requesting *inter partes* review of claims 1–12 and 15–24 of the '510 patent, along with the supporting Declaration of Dave Levin, Ph.D. Paper 2 ("Pet."); Ex. 1003. Bright Data Ltd. ("Patent Owner") filed a Preliminary Response to the Petition, along with the supporting Declaration of V. Thomas Rhyne, Ph.D. Paper 6; Ex. 2001. On May 11, 2022, pursuant to 35 U.S.C. § 314(a), we instituted *inter partes* review based on the following grounds:

Claims Challenged	35 U.S.C. §[2]	Reference(s)
1, 10, 12, 15–23	102(b)	Plamondon[3]
24	103(a)	Plamondon

[1] Without conceding that these parties are real parties in interest, Petitioner also identifies Avantis Team Technologies Ltd. and Cytronix Ltd. Pet. xiii.
[2] 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, pre-AIA versions of §§ 102 and 103 apply. *See* Ex. 1001, code (60).
[3] U.S. Patent Application Publication US 2008/0228938 A1, published September 18, 2008 (Ex. 1010).

Claims Challenged	35 U.S.C. §[2]	Reference(s)
8, 11	103(a)	Plamondon, RFC 2616[4]
8, 9	103(a)	Plamondon, RFC 1122[5]
2	103(a)	Plamondon, IEEE 802.11-2007[6]
2–5	103(a)	Plamondon, Price[7]
6, 7	103(a)	Plamondon, Kozat[8]

Pet. 2; Paper 12 ("Inst. Dec."), 6–7.

Patent Owner filed a Patent Owner Response ("PO Resp."), along with the Declaration of Tim Williams, Ph.D. Paper 16; Ex. 2044. Petitioner filed a Reply ("Pet. Reply") to the Patent Owner Response. Paper 25. Patent Owner filed a Sur-reply ("PO Sur-reply"). Paper 30.

An oral hearing was conducted on February 10, 2023. A transcript of the hearing is included in the record. Paper 49 ("Tr.").

B. 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")):

[4] Hypertext Transfer Protocol—HTTP/1.1, Network Working Group, RFC 2616, The Internet Society, 1999 (Ex. 1018).
[5] Requirements for Internet Hosts–Communication Layers, Network Working Group, RFC 1122, Internet Engineering Task Force, 1989 (Ex. 1014).
[6] 802.11-2007–IEEE Standard for Information Technology–Telecommunications and Information Exchange Between Systems - Local and Metropolitan Area Networks–Specific Requirements–Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications, IEEE Standards, June 12, 2007 (Ex. 1022).
[7] U. S. Patent Application Publication US 2006/0026304 A1, published February 2, 2006 (Ex. 1023).
[8] U. S. Patent Application Publication US 2009/0055471 A1, published February 26, 2009 (Ex. 1024).

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); and

Luminati Networks Ltd. v. Tefincom S.A., No. 2:19-cv-414 (E.D. Tex.) (pending).

Pet. xiv; Paper 5, 2.

The '510 patent is also before the Board in IPR2020-01358, which has been consolidated with IPR2021-01493. *See* IPR2021-01493, Paper 24. The related '319 patent is before the Board in IPR2020-01358, which has been consolidated with IPR2021-01492. *See* IPR2021-01492, Paper 25. The '319 patent is also at issue in IPR2022-00135. Patent Owner also identifies other district court actions involving the '510 patent and '319 patent. Paper 5, 2.

In addition, Patent Owner identifies *ex parte* reexaminations, Control No. 90/014,875 and Control No. 90/014,876, that have been ordered for the '319 and '510 patents, respectively. Paper 5, 2. Those reexaminations have been stayed. *See* IPR2021-01492, Paper 14; IPR2021-01493, Paper 13.

C. 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 '510 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.

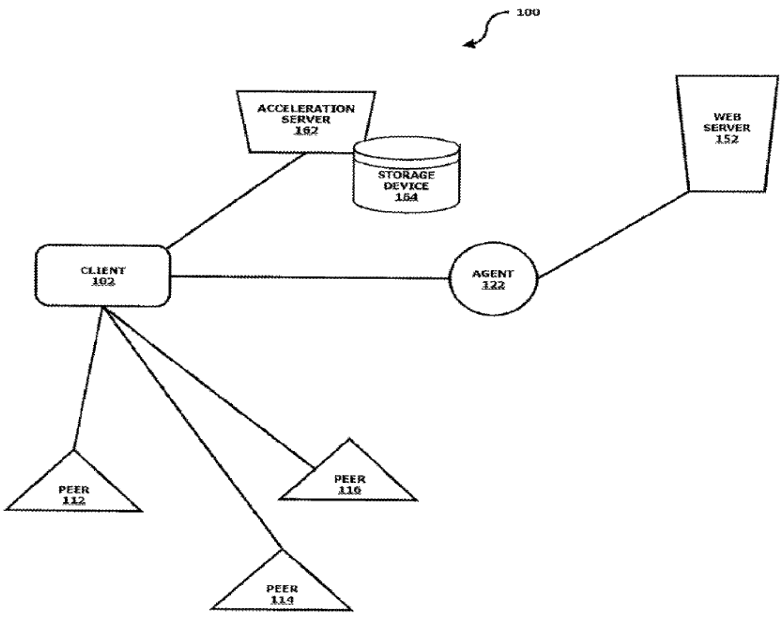


FIG. 3

Figure 3 is a schematic diagram depicting communication network 100 including a number of communication devices. Ex. 1001, 4:56–58. 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 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.

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 for reference purposes.[9]

> 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.

II. ANALYSIS OF PATENTABILITY OF CLAIMS 1–12 and 15–24

A. The Parties' Arguments

In our Decision on Institution, we concluded that the arguments and evidence advanced by Petitioner demonstrated a reasonable likelihood that at least one claim of the '510 patent would have been anticipated or obvious. Inst. Dec. 20–39. Here, we must consider whether Petitioner has established

[9] Petitioner uses letter designations, but appears to present letter designations for steps 1[b]–[d] that are out of sequence. *See* Pet. 21–32. The designations we use herein reflect sequential lettering.

by a preponderance of the evidence that claims 1–12 and 15–24 of the '510 patent would have been anticipated or obvious. 35 U.S.C. § 316(e). We previously instructed Patent Owner that "Patent Owner is cautioned that any arguments not raised in the response may be deemed waived." Paper 13, 9; *see also In re NuVasive, Inc.*, 842 F.3d 1376, 1379–82 (Fed. Cir. 2016) (holding patent owner waived an argument addressed in the preliminary response by not raising the same argument in the patent owner response). Additionally, the Board's Trial Practice Guide states that the Patent Owner Response "should identify all the involved claims that are believed to be patentable and state the basis for that belief." Consolidated Trial Practice Guide (Nov. 2019)[10] ("TPG"), 66.

Patent Owner has chosen not to address certain arguments and evidence advanced by Petitioner to support its unpatentability contentions. In this regard, the record contains persuasive arguments and evidence presented by Petitioner regarding the manner in which the prior art discloses the corresponding limitations of claims 1–12 and 15–24 of the '510 patent and the rationale for combining the asserted references.

B. Level of Ordinary Skill in the Art

Petitioner refers to a Preliminary Response in IPR2020-01358, and states that it adopts Patent Owner's assessment that a person of ordinary skill in the art is "an individual who, as of October 8, 2009 . . . 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

[10] *Available at* https://www.uspto.gov/sites/default/files/documents/tpgnov.pdf?MURL=.

Communications." Pet. 7 (citing Ex. 1008, 19; Ex. 1003 ¶¶ 30–37). Patent Owner submits that a person of ordinary skill in the art should have the qualifications identified by Petitioner and adopts them. PO Resp. 2 (citing Ex. 1003 ¶ 34; Ex. 2044 ¶ 30).

We adopt the assessment offered by the parties as it is consistent with the '510 patent and the prior art before us. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001).

C. 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 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).

1. "client device"

a. Petitioner's Assertions

Petitioner asserts that the district court's construction in *Luminati Networks Ltd. v. Teso LT, UAB*, No. 2:19-cv-395 (E.D. Tex.) ("*Teso*

litigation")[11] should be applied here for the term "client device." Pet. 9. In the district court litigation, the magistrate judge construed "client device" as "communication device that is operating in the role of a client." *Id.*; Ex. 1006, 12. Petitioner points to two claim construction orders in that case—an original order (Ex. 1006) and a supplemental order (Ex. 1009). In those orders, the magistrate judge construed the preamble of claim 1 to be limiting, and also construed the terms "second server" and "client device." Pet. 9. Petitioner also refers to the claim construction order in *Luminati Networks Ltd. v. Code200*, No. 2:19-cv-396 (E.D. Tex.), which concerns patents with the same specification as the '510 patent, where it was found that "the role-based construction applies 'regardless of any additional role the device may serve, including as a server.'" Pet. Reply at 3 (citing Ex. 1082, 13). Petitioner indicates that in the Texas litigations, the constructions were adopted by the district judge. *Id.* (citing Ex. 1074; Ex. 1083). Petitioner also refers to the claim construction order in *Bright Data Ltd. v. NetNut Ltd.*, No. 2:21-cv-225 (E.D. Tex.), where Patent Owner's construction based on "consumer computer" was rejected. *Id.* at 4 (citing Ex. 2013, 10–16).

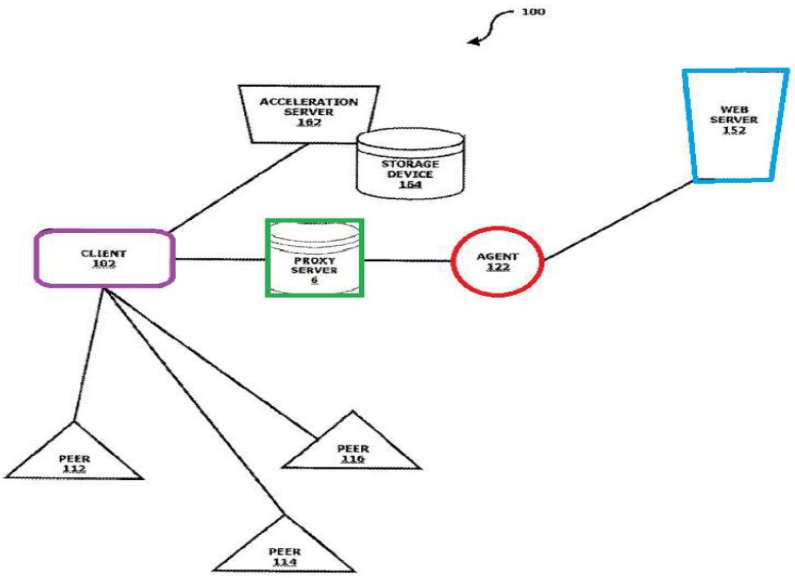
b. Patent Owner's Assertions

Patent Owner asserts that a person of ordinary skill in the art would understand the term "client device" to be a "consumer computer," or alternatively, to be a "consumer communication device." PO Resp. 10 (citing Ex. 2044 ¶ 69). Patent Owner argues that these constructions are consistent with the claim language, Specification, and the prosecution histories. *Id.* Patent Owner contends that a person of ordinary skill in the art

[11] Luminati Networks Ltd. is now Bright Data Ltd.

would understand a client device is a communication device because the Specification states that "each communication device may serve as a client, peer, or agent" which "informs" a person of skill "that client 102, peers 112, 114, 116, and agent 122 are all 'client devices' in the context of the [S]pecification." *Id*. at 10–11 (citing Ex. 2044 ¶ 70; Ex. 1001, 4:46–52, 5:23–31).

Patent Owner alleges that the Specification discloses how a communication device can be configured to be a client, agent, or peer by its disclosure of a requesting client device ↔ proxy server ↔ proxy client device ↔web server architecture. PO Resp. 11 (citing Ex. 1001, 4:46–52, 5:23–31, 9:14–51). Patent Owner alleges that the Specification explains that when executing the fetching method, "the requesting client device may be executing the client module 224 disclosed in FIG. 6, while the proxy client device may be executing the agent module 228 disclosed in FIG. 6." *Id*. Based upon this, Patent Owner contends that a person of ordinary skill in the art "would understand in the context of the '510 [p]atent, a client device is a consumer computer with specific software to operate in accordance with the claims." *Id.* Referring to Figure 6 of the Specification, Patent Owner asserts that a person of ordinary skill in the art would understand that "one 'client device' may be configured to be the requesting client device and another 'client device' may be configured to be the proxy client device." *Id*. at 12 (citing Ex. 2044 ¶ 73). In support, Patent Owner also refers to modified annotated Figure 3, reproduced below, alleging that agent 122 is disclosed as a client device "that is selected, for example, because agent 122 is closest to the web server 152." *Id*. (citing Ex. 2044 ¶¶ 74–75).



Patent Owner alleges that a person of ordinary skill's understanding of requesting client device (purple) ↔ second server (green) ↔ first client device (red) ↔ web server (blue) would correspond to client 102 ↔ second server 6 ↔ agent 122 ↔ web server 152, shown in Patent Owner's version of modified annotated Figure 3 of the '510 patent, above, which presents a schematic diagram of the network. PO Resp. 7–8.

Patent Owner further asserts that in light of the Specification, "a client device would be understood to be, more specifically, a consumer computer like a laptop, desktop, tablet, or smartphone." PO Resp. 12 (citing Ex. 2044 ¶ 76 (citing Ex. 1001 at 2:47–49 ("In the network 50, files are stored on computers of consumers, referred to herein as client devices." (emphasis omitted)))).

Patent Owner argues that the district court's rejection of its proposed construction of a "client device" as "consumer computer" is wrong for three reasons. PO Resp. 12–14. First, Patent Owner asserts that, although the district court found that there was no express lexicography in the Specification, the Specification states that "computers of consumers" are

"referred to herein as client devices." *Id*. at 13 (citing Ex. 2044 ¶ 76; Ex. 1001, 2:47–49). Patent Owner further asserts that a person of ordinary skill in the art would have understood that a consumer device is distinguished from a commercial device and that a consumer device is not a dedicated proxy server. *Id*. (citing Ex. 2044 ¶ 76). Second, Patent Owner disagrees with the district court's finding that in the Specification the term "consumer" refers to the consumer of content, as opposed to a broadcaster of content. *Id*. (citing Ex. 1006, 11). Rather, Patent Owner argues, the common understanding of "consumer" as "a person who buys goods or services for their own use" is not a deviation from the use of the term in the Specification, and personal use is often distinguished from commercial use. *Id*. at 13–14 (citing Ex. 2015; Ex. 2016; 15 U.S.C. § 6809(9); 12 C.F.R. § 332.3(e)(1)). Third, Patent Owner disagrees with the district court's finding that the term "consumer" does not appear to be used in connection with the claimed invention, contending that the Specification refers to "computers of consumers," and there were statements made during the prosecution of grandfather application to the '510 patent that refer to this issue. *Id*. at 14 (citing Ex. 2044 ¶ 76; Ex. 1001, 2:47–49; Ex. 1072, 624).

Patent Owner contends that in the '510 patent, "a client device is not a server." PO Resp. 14. Patent Owner disagrees with the district court's view that there was insufficient support for including a negative limitation in the construction that a client device is unable to act as a server in all cases. *Id*. at 14–15 (citing Ex. 1006, 12). According to Patent Owner, a person of ordinary skill in the art would have understood that a client device is not a server in the context of the patent, and the MPEP does not require that a negative limitation be recited verbatim in the Specification. *Id*. at 15 (citing, *inter alia*, Ex. 2044 ¶ 62). Patent Owner argues that the Specification

describes the shortcomings of using a proxy server as an intermediary, and therefore provides a reason to exclude a client device encompassing a proxy server. *Id*. (citing Ex. 1001, 2:27–35; Ex. 1006, 12; Ex. 2044 ¶ 83).

Patent Owner asserts that, in view of the recited architecture of the '510 patent claims that distinguishes between client devices and servers, the use of three interchangeable devices in a pathway would not disclose that architecture. PO Resp. 15–16 (citing Ex. 2044 ¶ 78). Patent Owner also argues that the recited architecture in the '510 patent claims, that is, a second server ↔ first client device ↔ web server architecture, also distinguishes the use of a client device, rather than a proxy server, as an intermediary, and that this distinction is consistent with an *Alice* order in the *Teso* litigation. *Id*. at 16 (citing Ex. 2044 ¶ 79; Ex. 2007, 8–9); PO Sur-reply 2. Patent Owner further contends that the district court "repeatedly acknowledged that a client device is not a merely general-purpose computer." PO Resp. 16 (citing Ex. 2013, 14–15; Ex. 2044 ¶ 78).

Patent Owner argues that a person of ordinary skill in the art would have understood "that a client device is typically portable and easily moved, like, for example, a laptop, desktop, tablet or smartphone." PO Resp. 16 (citing Ex. 2044 ¶ 80). Patent Owner contends that a person of ordinary skill in the art would be informed by statements made during prosecution that a client device is not a dedicated network device, which typically uses a single or relatively few connections, and is resource limited (e.g., bandwidth and storage), unlike a server. *Id*. at 16–17. Patent Owner also argues that a person of skill would have understood that a client device typically is understood "(a) to be regularly switched off and taken offline; (b) to be capable of processing only a limited number of requests at any given time . . . and/or (c) to have lesser fault tolerance, lesser reliability, and lesser

scalability, prioritizing value to users over system costs." *Id.* at 17 (citing Ex. 2044 ¶ 81). Patent Owner asserts that a person of ordinary skill's understanding of "client" would have been consistent with its plain and ordinary meaning, which is "an application that runs on a personal computer or workstation and relies on a server to perform some operations." *Id.* (citing Ex. 2044 ¶ 82; Ex. 2017; Ex. 2045). Patent Owner contends that a person of ordinary skill would have understood that there are structural differences between client devices and servers. *Id.* (citing Ex. 2044 ¶ 84).

Patent Owner also contends that, upon reviewing Figures 1 and 3 of the Specification, a person of ordinary skill in the art would have understood that proxy server 6 must be structurally different from agent 122 and that "a server is not a client device and that a client device is not a server." PO Resp. 18 (citing Ex. 2044 ¶ 85). Patent Owner argues that "Petitioner's expert agreed that server 6 of Figure 1 and agent 122 of Figure 3 would be operating in the same roles at a given point in time," so under the Board's preliminary constructions "Figure 3 collapses onto Figure 1" and fails to account for structural differences between a proxy server and a client device. *Id.* (emphases omitted). Patent Owner points to Petitioner's expert's agreement that in Figure 1, client devices 14 and 16 are operating in the role of a client and web server 32 is operating in the role of a server under the Board's preliminary constructions. *Id.* at 19 (citing Ex. 2044 ¶ 87; Ex. 2010, 51:3–9, 51:11–20, 53:17–21, 53:22–54:3, 54:4–10, 54:23–55:5). Patent Owner also asserts that Petitioner's expert agrees that in Figure 3, client 102 is operating in the role of a client and web server 152 is operating in the role of a server under the Board's preliminary constructions. *Id.* at 20 (citing Ex.

2044 ¶ 92; Ex. 2010, 56:8– 12, 56:13–18, 57:8–14, 57:15–18, 57:19–25, 58:15–20).

Patent Owner additionally refers to the prosecution history of U.S. Patent No. 10,069,936 ("the '936 patent), the grandparent of the '510 patent. PO Resp. 23. Patent Owner argues that this prosecution history "clearly distinguishes client devices from servers." *Id*. (citing Ex. 2044 ¶ 99). Patent Owner asserts that during prosecution, the applicant amended the claims to "specify that the 'devices' being used as intermediaries are 'clients' in contrast to the teachings of Garcia," which was a reference used by the examiner to reject the then-pending claims. *Id*. (citing Ex. 1072, 304, 349). Patent Owner points to the applicant's statement that "the 'device' was equated in the Garcia reference to the cache server 306, which is clearly a dedicated device and performs a server functionality," and further that "[t]he Garcia reference is silent, and actually teaches away from identifying and using another client device for supporting a content request by a specific client." *Id*. (citing 1072, 349 (emphasis omitted)). Patent Owner also refers to the applicant's statement that "[c]lient devices, such as client 105 in the Garcia reference, are end-units that request information from servers, use client-related software . . . and are typically consumer owned and operated." *Id*. at 24 (citing Ex. 1072, 624 (emphasis omitted)). Additionally, Patent Owner refers to the examiner's statement that "the limitations of the independent claims, within its environment, is allowable subject matter over the prior art, in light of the specification," contending that "[t]he examiner's acknowledgement of the 'environment' . . . shows that the examiner appreciated the unique architecture disclosed in the specification and the

novel use of a proxy client device within that architecture." *Id*. at 25 (citing Ex. 1072, 741 (emphasis omitted); Ex. 2044 ¶ 104).

Patent Owner also refers to the prosecution history of the '319 patent, which is the parent of the '510 patent, asserting that it shows that servers and client devices are not interchangeable. PO Resp. 25 (citing Ex. 2044 ¶ 106). In that prosecution, the applicant contended that "the claims involve specific networking of physical elements such as servers and clients, connected via various networks forming a specific structure and relationships, which are physical apparatuses, and are NO[T] a 'generic computer' as stated in the Action." *Id*. (citing Ex. 1073, 163). Patent Owner further cites the applicant's statement that "the conventional arrangement involves fetching data by a client device from a server device, while the claims disclose a server receiving information from another server via a client device." *Id*. at 26 (citing Ex. 1073, 163–164). Patent Owner also refers to the prosecution history of the '510 patent, arguing that the examiner acknowledged the "environment" of the claimed method, which "shows that the examiner appreciated the unique architecture disclosed . . . and the novel use of a proxy client device within that architecture." *Id*. at 27 (citing Ex. 1002, 519; Ex. 2044 ¶ 109).

c. Analysis

For the reasons discussed below, we determine that the evidence of record supports the district court's construction of the term "client device" as a "communication device that is operating in the role of a client" that we adopted in out Institution Decision and continue to apply here. Conversely, we find that the evidence does not support Patent Owner's view that a "client device" is a "consumer computer," or alternatively, a "consumer

communication device," where the "client device" cannot be a server. *See* PO Resp. 10–27.

i. Claim Language

Under *Phillips*, we begin with the language of the claims themselves. *See Phillips*, 415 F.3d at 1314. In claim 1, the steps of the claims are performed by a "first client device." In step 1[b], the first client device, "send[s], to the web server over the Internet, the first content identifier," which serves to request content from the web server. *See* Ex. 1001, 19:24–25. In step 1[b], the first client device is acting as a client in requesting content. In step 1[d], the first client device "send[s] the received first content, to the second server." *See id*. at 19:29–30. In step 1[d], the first client device is acting as a server to forward content.

The parties address the issue that the "first client device" acts in differing roles in claim 1. Petitioner asserts that the claim's required functionality is consistent with the district court's determinations on the role-based nature of the term. Pet. Reply 10 (citing Ex. 1082, 13). Patent Owner agrees that if the role-based construction were adopted, in its modified Figure 3, "agent 122 would be (i) operating in the role of a server when receiving requests from client device 102 and (ii) operating in the role of a client when sending requests to web server 1522," with Petitioner's expert agreeing to the same. PO Resp. 20–21 (citing Ex. 2010, 56:19–25; 57:1–7).

One of Patent Owner's experts, Dr. Rhyne, who provided a declaration in this proceeding (Ex. 2001), also provided testimony in the *Teso* litigation that is consistent with the role-based nature of claim terms as set forth in the claim language (Ex. 1108). In the *Teso* litigation, Dr. Rhyne testified that the steps required by claim 1 of the '510 patent are illustrated

by an annotated Figure 3 of the patent, reproduced below, which shows client 102 acting in the role of the claimed "second server," and agent 122 acting in the role of "first client server" as follows:

> 11. To illustrate the steps required by independent claim 1 of the '319 and '510 Patents, in light of the claim language and the above disclosures from the common specification, the "client 102" of Figure 3 is an example of the "second server" of the claims, with the numbered arrows corresponding with the bracketed letters identifying the elements of the claims as shown in the annotated table following the figure. (I note that the step identified as "A" is the only [] claimed element in the '510 patent.).

Ex. 1008 ¶ 11.

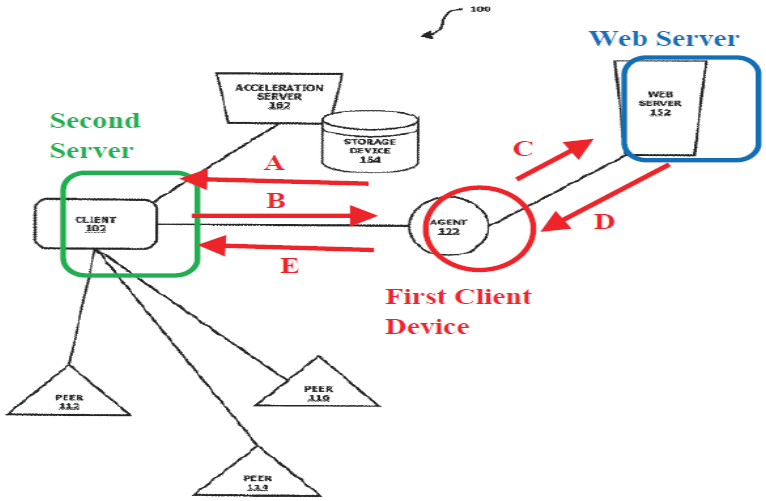


FIG. 3

'319 Patent	'510 Patent
1. A method for use with a **first client device**, for use with a **first server** that comprises a **web server** that is a Hypertext Transfer Protocol (HTTP) server that responds to HTTP requests, the first server stores a first content identified by a first content identifier, and for use with a **second server**, the method by the **first client device** comprising: [B] receiving, from the **second server**, the first content identifier; [C] sending, to the **first server** over the Internet, a Hypertext Transfer Protocol (HTTP) request that comprises the first content identifier;	1. 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**; [C] sending, to the **web server** over an Internet, the first content identifier; [D] receiving, the first content from the **web server** over the Internet in response to the sending of the first content identifier; and

'319 Patent	'510 Patent
[D] receiving, the first content from the first server over the Internet in response to the sending of the first content identifier; and [E] sending, the first content by the first client device to the second server, in response to the receiving of the first content identifier.	[E] sending the received first content, to the second server over the established TCP connection, [B] in response to the receiving of the first content identifier.

Id. As shown in the above testimony, annotated Figure 3 of the '510 patent, and claim chart, Dr. Rhyne equates the claimed "first client device" (shown in red) to agent 122, which sends the first content identifier to the web server (arrow C), receives content requested from the web server (arrow D), and sends that content to client 102 (the second server) (arrow E). Thus, under this understanding, the "first client device" (agent 122) is acting as a client when it sends the first content identifier to the web server and receives content in response, and is acting as a server when it sends content to client 102. This reflects a role-based interpretation of the claim terms; different terms are defined by their function.

Patent Owner argues that Dr. Rhyne's testimony has been mischaracterized and taken out of context, and that the associated briefing and Dr. Rhyne's testimony were only intended "to illustrate the steps" of the patent. PO Resp. 8–9; PO Sur-reply 16 n.7.[12] We find that Dr. Rhyne's cited testimony speaks for itself and is consistent with the role-based nature of the "first client device" and "second server" claim terms.

The district court found that the interpretation of the term "client device" should be consistent with its role and claimed functionality, and we agree. More particularly, the district court indicated that the function of a

[12] We recognize that Dr. Rhyne modified his testimony in his Preliminary Response Declaration to testify that both client 102 and agent 122 are both client devices. Ex 2001 ¶¶ 44, 46. We address the issue of two devices acting as client devices below in the discussion on modified Figure 3 in the discussion of Dr. Williams's testimony.

component serves to define the term. Ex. 1009, 7–10. For instance, the district court found that, under the steps of claim 1, the "client device" operates as an intermediary to perform steps including "sending, to [a] web server over an Internet, the first content identifier" to request content and also to "send[] the received first content." Ex. 1006, 3–4. Consistent with the claim language, the district court recognized 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.'" *Id*. at 10 (emphasis omitted). That is, although the district court determined that a single component could not simultaneously serve more than one function at any particular time, components could operate in different roles, such as the claimed "client device." *Id*. For related patents that share substantially identical specifications to that of the '510 patent, the district court similarly found that "the role-based construction applies 'regardless of any additional role the device may serve, including as a server.'" Ex. 1082, 13. We agree with the district court's construction of "client device" as "a device that is operating in the role of a client" because this interpretation is consistent with the limitations of the claims. *See* Ex. 1009, 10.

We note that Patent Owner's argument that a client device is not a server (PO Resp. 14) is not supported by the claim language, which describes a "client device" that acts as a client to request content from the web server as well as a server to forward content under the method claims. We discuss this issue further below in more detail.

ii. Specification

The district court's interpretation of the term "client device," adopted here, is also consistent with the '510 patent Specification. The

Specification, when describing the "multiple communication devices" depicted in Figure 3, states that the same components may assume different roles:

> *Due to the functionality provided by software stored within each communication device*, which may be the same in each communication device, *each communication device may serve as a client, peer, or agent*, depending upon the requirements of the network.

Ex. 1001, 4:47–52 (emphases added). Accordingly, the Specification states that the components identified in Figure 3 may perform different functions based on their stored software. *Id*. Further, as Petitioner asserts, a communication device includes memory 210, which stores software 212 with accelerator application 220, which includes client, peer and agent modules. Pet. Reply 11 (citing Ex. 1001, 5:60–6:42, 9:21–27, Fig. 4, Fig. 6). The Specification explains that "each of the [software modules] comes into play *according to the specific role that the communication device 200 is partaking* in the communication network 100 *at a given time*." Ex. 1001, 9:21–26 (emphasis added). The Specification thus supports the role-based function of the network components, with components operating in different roles at different times, which is consistent with the claim language.

In opposition, Patent Owner argues that a person of ordinary skill in the art, when considering Figure 6 and associated text, would understand that "one 'client device' may be configured to be the *requesting client device* and another 'client device' may be configured to be the *proxy client device*." PO Resp. 12 (citing Ex. 2044 ¶ 73) (emphases added). In further support, Patent Owner refers to its modified annotated Figure 3, reproduced *supra* Section II.C.1.b, and asserts that a person of ordinary skill in the art would

understand that client 102 (in purple) corresponds to the requesting client device client and agent 122 (in red) corresponds to the proxy client device. *Id*. (citing Ex. 2044 ¶¶ 74–75). Patent Owner contends that "[a]gent 122 is disclosed as a "client device" (as opposed to a server) that is selected, for example, because agent 122 is closest to the web server 152." *Id*. (citing Ex. 2044 ¶ 75 (citing Ex. 1001, 5:27–36)).

We do not find that the evidence of record supports Patent Owner's assertions on this issue. Dr. Williams's testimony, and Patent Owner's arguments, are based upon a modified version of Figure 3, which inserts "proxy server 6" between "client device" and "agent." This configuration is not shown in any figure in the '510 patent or disclosed in the Specification. Ex. 2044 ¶ 64; Ex. 1081, 16:12–23. Dr. Williams testifies that a person of ordinary skill in the art "would understand that proxy server 6 of Figure 1 *could be* inserted between client 102 and agent 122 of Figure 3." Ex. 2044 ¶ 64 (emphasis added). Dr. Williams combines the "proxy server 6" of the prior art shown in Figure 1 and the invention of Figure 3. Ex. 1001, 2:11–21, 2:27–35, 4:43–46. But Dr. Williams provides no explanation or a rationale to combine the prior art with an embodiment of the invention. Further, Dr. Williams testifies that different "client devices," i.e., a "requesting client device" and a "proxy client device" are disclosed, but we do not discern that these characterizations are disclosed in the Specification. In view of the lack of support, we afford little weight to Dr. Williams's testimony on this issue.

Thus, in view of the '510 patent Specification's disclosures, we do not agree that it discloses the architecture of a requesting client device ↔ proxy server ↔ proxy client device ↔ web server in the first place, as Patent Owner asserts. *See* PO Resp. 11 (citing Ex. 1001, 4:46–52, 5:23–31, 9:14–

51). Moreover, we do not agree that Patent Owner's argument based upon "architecture" should govern the construction of "client device" in light of the claim language and the Specification's disclosures demonstrating that communications devices may serve in different roles due to the functionality provided by software stored within each communication device, which come into play depending on the specific role that the communication device takes at a given time. *See* Ex. 1001, 4:48–52, 9:21–26. The district court agreed, finding 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. 1009, 10 (emphasis omitted).

Patent Owner also argues that the district court's findings in the *Alice* order in the *Teso* litigation (Ex. 2007) are consistent with its understanding of the architecture required by the claims of the '510 patent and its "novel" use of a client device as an intermediary. PO Resp. 16 (citing Ex. 2007, 8–9; Ex. 2044 ¶ 79); *see also* PO Resp. 22. We do not find that the district court's *Alice* order alters or modifies the claim construction the court adopted there, and that we adopted here. The *Alice* order addressed patent eligibility, not claim construction. *See* Ex. 2007. Moreover, the district court's *Alice* order acknowledged the court's prior claim construction, that is, the construction of the term "client device" as "communication device that is operating in the role of a client," and did not modify that construction. *Id*. at 5. Further, after the *Alice* order issued, in February, 2021, the district court consistently maintained its claim constructions (Ex. 1009, 2013), and

the district judge formally adopted the magistrate judge's constructions without modifications (Ex. 1074, 1083).

Patent Owner argues that in the '510 patent, "a client device is not a server." PO Resp. 14. We do not agree. As discussed above, we discern no limitation in the intrinsic record that a client device could not operate as a server. To the contrary, as also discussed above, the claim language provides that the first client device acts as a client in step 1[b] to request content, and acts as a server in step 1[d] to forward content. Dr. Rhyne agrees that the claim language conforms to this functionality, as discussed above. This is also consistent with the district court's view that Patent Owner's argument "that a client device is specifically not a server—is not supported by the specification." Ex. 1006, 11. The district court refers to the Specification's disclosure that a "communication device" may act as a client, peer, or agent. *Id*. at 12 (citing related '319 patent, 4:48–49). The district court also found, and we agree, that although the patent does not list "servers" in "communication devices," "that is not sufficient to construe 'client device' as unable to act as a server in all cases," in view of the case law that negative claim limitations are "supported when the specification describes a reason to exclude the relevant limitation." *Id*. (citing *Santarus, Inc. v. Par Pharm., Inc*., 694 F.3d 1344, 1351 (Fed. Cir. 2012)). The district court found that there was no support for Patent Owner's exclusion of servers in the construction of "client device" in the '510 or '319 patents. *Id*.

Here, Patent Owner further argues that a person of ordinary skill would understand that a client device is not a server—there are descriptions of communications devices having client, peer, and agent modules, but no server module; and the MPEP "does not require that the negative limitation be recited verbatim in the specification." PO Resp. 15 (citing Ex. 2044

¶ 62). We believe Patent Owner's reference is intended to refer to MPEP § 2173.05(i). This MPEP Section states that any negative limitation "must have basis in the original disclosure," and "[t]he mere absence of a positive recitation is not basis for an exclusion." MPEP § 2173.05(i). Patent Owner does not identify any disclosure in the Specification that states that a client device cannot be a server. Moreover, we note that under Dr. Rhyne's analysis in the *Teso* litigation, the claimed "first client device," which may act as a server in claim 1, is identified as "Agent 122" of Figure 3. Ex. 1108 ¶ 11. As discussed, the Specification provides support that an agent can act in different roles with software modules allowing different functions. Ex. 1001, 4:48–52.

Patent Owner also argues that proxy server 6 of Figure 1 must be structurally different from agent 122 of Figure 3. PO Resp. 18. Patent Owner asserts that Petitioner's expert agrees that these devices would be operating in the same roles at a given point in time. *Id*. Patent Owner asserts that a server is not a client device and the structural differences should be accounted for in claim construction in order preserve claim validity. *Id*. (citing *Tate Access Floors, Inc. v. Interface Architectural Res., Inc.*, 279 F.3d 1357, 1367 (Fed. Cir. 2002)). We do not agree with this assertion. The Federal Circuit has held that claims should be construed to preserve validity only when "the court concludes, after applying all the available tools of claim construction, that the claim is still ambiguous." *Phillips*, 415 F.3d at 1327. And a claim construction cannot be adopted "that is at odds with the clear language of the claim and the written description." *Rhine v. Casio, Inc.*, 183 F.3d 1342, 1345 (Fed. Cir. 1999). We do not find that this is a circumstance where the claim term interpretation is ambiguous in view of the evidence of record based on the

claim language and the written description, as discussed above. Thus, we do not adopt an alternative construction only to preserve the validity of claim 1.

Accordingly, we agree with the district court's finding that "the client device is defined by the role of the communication device as a client rather than by the components of the device and regardless of any additional role the device may serve, including as a server." Ex. 1082, 13. Petitioner also points to buttressing evidence in RPC 2616, which defines a "server" as an "application program that accepts connections in order to service requests by sending back responses," where "[a]ny given program may be capable of being both a client and a server; our use of these terms refers only to the role being performed by the program for a particular connection." Pet. Reply 11 (citing Ex. 1018, 9 (emphases omitted)). We agree with Petitioner that RPC 2616 serves as intrinsic evidence because it is cited in the '510 patent in its discussion on the operation of the agent, client, or peer. Ex. 1001, 16:12–28; *see V-Formation v. Benetton Group & Rollerblade, Inc.*, 401 F.3d 1307, 1311 (Fed. Cir. 2005). Accordingly, we determine that the weight of the evidence supports the conclusion that a "client device" as recited in the claims of the '510 patent may act as a server as well as a client.

Patent Owner also contends that under Petitioner's assertions "any device that operates in the role of a client is a 'client device' and any device that operates in the role of a server is a 'server.'" PO Sur-reply 1 (emphases omitted). Patent Owner argues that if there is no any exclusivity in roles, "there is no difference between Petitioner's constructions for 'client device' and 'server.'" *Id*. We disagree. As discussed, the claim language and Specification support that specific devices may operate to perform different functions and roles. Nevertheless, the device must be capable of performing the roles required by the claim limitations. The district court considered the

issue of whether one component could *simultaneously* serve as more than one of: the client device, the first server/second server, and the web server. Ex. 1082, 14. The district found that it could not because the components were separately recited, which indicated a distinction between the components. *Id*. at 14–15. The district court further characterized Patent Owner's argument as asserting that Petitioner was seeking "to treat client devices and servers interchangeably" as "general user computers," but the court explained that this was "an oversimplification of the issue" because Petitioner was not seeking to "reduc[e] the recited server ↔ client device ↔ web server architecture . . . and the recited client device ↔ server ↔ web server architecture . . . *as an indistinguishable computer ↔ computer ↔ computer architecture*." Ex. 1009, 10 (emphasis added). Rather, the district court determined, and we agree, 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.'" *Id*. (emphasis omitted).

Additionally, Patent Owner argues that a "client device" is a "consumer computer" because the Specification states that "computers of consumers" are "referred to herein as client devices." PO Resp. 13 (citing Ex. 2044 ¶ 76; Ex. 1001, 2:47–49). Our view is that the Patent Owner takes the Specification's disclosure out of context. The "computers of consumers" discussed are computers used in the prior art peer-to-peer filing sharing system known as BitTorrent. Ex. 1001, 2:43–49. The Specification identifies "client devices 60," but this designation is used only in the prior art peer-to-peer filing sharing system, which is distinguished from the invention. *See id*. at 2:43–3:12, 4:3–4, Fig. 2. The district court agreed, finding that "[n]otably, 'consumer' does not appear in connection with the

description of the claimed inventions." Ex. 1006, 11 (emphasis omitted). We also agree with the district court's finding that the Specification discloses that "'consumer' simply means a consumer of content, as opposed to a broadcaster of that content," which is contrary to Patent Owner's argument that the client device should be a consumer device for personal use. Ex. 1006, 11; *see also* Ex. 1001, 1:55–59, 1:61–62; PO Resp. 13.

Patent Owner additionally asserts that a person of ordinary skill would have understood that a client device is portable and would be regularly switched off and taken offline, would be capable of processing only a limited number of requests at any given time, and would have lesser fault tolerance. PO Resp. 16–17. Patent Owner contends that a person of ordinary skill in the art would have understood that a consumer device is distinguished from a commercial device and that a consumer device is not a dedicated proxy server. *Id*. at 13 (citing Ex. 2044 ¶ 76). Dr. Williams testifies that his understanding is based on the Specification, statements made during prosecution, and by comparison with a server. Ex. 2044 ¶¶ 76, 80–81. We discuss the prosecution history below, but notably Dr. Williams does not identify any portions of the Specification that support the alleged structure and nature of the client device, except for the discussion related to prior art BitTorrent peer-to-peer system, which we do not find applicable for the reasons discussed above. *Id*.

Accordingly, we find that the '510 patent Specification's disclosures support the interpretation of the term "client device" as a "communication device that is operating in the role of a client."

iii. Prosecution History

Patent Owner argues that the prosecution history of the '510 patent, its parent (the '319 patent), and its grandparent (U.S. Patent No. 10,069,936

("the '936 patent")), support the conclusion that the claimed "client device" should be distinguished from a server. PO Resp. 22–27.

Patent Owner points to statements in the prosecution history of the grandparent '936 patent concerning the Garcia prior art reference that was used as the basis of an examiner rejection. PO Resp. 23 (citing Ex. 1072, 304, 349). More specifically, Patent Owner asserts that the applicant argued that "the 'device' was equated in the Garcia reference to the cache server 306, which is clearly a dedicated device and performs a server functionality . . . and actually teaches away from identifying and using another client device for supporting a content request by a specific client." *Id*. (citing Ex. 1072, 349 (emphasis omitted)). Patent Owner refers to an examiner's response stating that Garcia "fails to teach a group of clients for data communication between the web server and a requesting client via . . . clients selected from the group and [] the selected client receiving the content from the web server and [] the requesting client receiving content from the selected client." *Id*. at 23–24 (citing Ex. 1072, 594). Patent Owner contends that this statement shows that "the examiner recognized a server cannot be equated to a client device." *Id*. at 24 (citing Ex. 2044 ¶ 100). Patent Owner also refers to statements made by the applicant distinguishing Garcia, including that in the reference client devices "are typically consumer owned and operated." *Id*. at 24 (citing Ex. 1072, 624–625; Ex. 2044 ¶ 103) (emphasis omitted). Patent Owner asserts that in the Notice of Allowance, the examiner stated that "the limitations of the independent claims, **within its environment**, is allowable subject matter over the prior art." *Id*. at 25 (citing Ex. 1072, 741).

The claims that were under consideration in the '936 patent prosecution were significantly different than the claims at issue here. The

claims originally recited "devices," which were then amended to "clients." Ex. 1072, 349. Moreover, a "client device" is not recited in the claims that were under examination; rather, the claims recited either a "device" or separate "requesting client" and "client." *See id*. at 339–348. Similarly, the issued claims in the '936 patent recite "requesting client" and a separate "client" and the issued claims have multiple steps that differ from those of the '510 patent. *See*, *e.g.*, Ex. 2012, 19:16–52. Given these differences, we discount the significance of statements made during the patentability assessment of the '936 patent prosecution to the assessment of claim construction for the '510 patent.[13] Further, considering the varying terms used, we do not find that the applicant's statements during prosecution on patentability regarding a recited "device" or "client" are sufficient to act as a disclaimer of the scope of the "client device" term used in the claims here. *See* Ex. 1072, 349, 624–625; *In re Am. Acad. Of Sci. Tech Ctr.*, 367 F.3d 1359, 1365 (Fed. Cir. 2004); *Epistar Corp. v. ITC*, 566 F.3d 1321, 1335 (Fed. Cir. 2009) (disavowal of claim scope by a patentee requires "expressions of manifest exclusion or restriction."). Also, the examiner's statements do not reflect an understanding of any disavowal of the scope of any claim terms. *See* Ex. 1072, 741.

Additionally, as discussed above, the '510 patent's claim language and Specification clearly support a role-based interpretation of the term "client device." In contrast, the '936 patent prosecution is for a grandfather of the '510 patent and also involved evolving claim term amendments. *See Telcordia Technologies, Inc. v. Cisco Systems, Inc.*, 612 F.3d 1365, 1375

[13] We note that although the examiner found that Garcia alone did not teach some steps of the claim, the examiner nonetheless found that Garcia alone taught a "client" for many of the limitations. Ex. 1072, 314, 593–594.

(Fed. Cir. 2010) ("[P]rosecution history comments cannot trump the plain language of the claims and the direct teaching of the specification."). For this reason, we find the '969 prosecution history to be less pertinent to the construction of the '510 patent claims than the claim language and Specification of the '510 patent itself. As the Federal Circuit has explained, the prosecution history represents an ongoing negotiation between the PTO and the applicant, rather than the final product of that negotiation, it often lacks the clarity of the specification and thus is less useful for claim construction purposes. *See Inverness Med. Switz. GmbH v. Warner Lambert Co.*, 309 F.3d 1373, 1380–82 (Fed. Cir. 2002) (the ambiguity of the prosecution history made it less relevant to claim construction); *Phillips*, 415 F.3d at 1317. This is particularly true here, where the prosecution history at issue involves a grandfather application with different claims having different claim language from the patent and claims under review.

Patent Owner also presents arguments based on the prosecution history of the '319 patent, which is a parent to the '510 patent. PO Resp. 25–26. Patent Owner refers to applicant's argument that "the claims involve specific networking of physical elements such as servers and clients, connected via various networks forming a specific structure and relationships, which are physical apparatuses, and are NO[T] a 'generic computer' as stated in the Action." *Id*. at 25 (citing Ex. 1073, 163). Patent Owner also cites the applicant's assertion that "the Examiner does not sufficiently establish that the 'ordered combination' of the recited elements also fails to 'transform the nature of the claim' into a patent-eligible application." *Id*. at 25–26 (citing Ex. 1073, 163). Patent Owner further cites to the examiner's statement in the Notice of Allowance that "the limitations of the independent claims, within its environment, is allowable subject

matter over the prior art, in light of the specification." *Id*. at 26 (citing Ex. 1073, 653).

Patent Owner's arguments based on the '319 patent prosecution concern patent eligibility, not claim construction. Based on our review of this prosecution history, we find that the applicant's statement addressed specific issues relating to patent eligibility, such as whether the claim recited the use of generic computers and functions for purpose of eligibility under 35 U.S.C. § 101, and that the applicant made no statement that indicated disclaimer of the scope of the claim term "client device." *See* Ex. 1073, 163–164.

Patent Owner additionally refers to the prosecution history of the '510 patent and the examiner's statement that the "environment" of the claimed methods supported patentability. PO Resp. 27. We do not discern that there is any disavowal of claim scope by the applicant in the prosecution of the '510 patent, nor does the examiner indicate an understanding of any disclaimer.

iv. Conclusion

Based on evidence of record, we maintain our construction of the term "client device" as a "communication device that is operating in the role of a client."

2. "*second server*"

The district court construed the term "second server" as a "server that is not the client device," and the defendant in the litigation requested clarification that the term is "a device that is operating in the role of a server and that is not the first client device." Ex. 1006, 14; Ex. 1009, 8. The district court determined that "the clarifications Defendants seek are not

inconsistent with the Court's previous findings about the nature of the . . . second server." Ex. 1009, 11.

Petitioner proposes the adoption of the district court's construction of the term, with the clarification. Pet. 9. Patent Owner appears to propose that a server is not a client device, and, more specifically, that the server is structurally different than the client device. PO Resp. 28.

Patent Owner's arguments, in the most part, repeat those presented for the "client device." *See* PO Resp. 27–31. That is, Patent Owner argues that: 1) the recited architecture of the claims is not satisfied by a generic computer ↔ computer ↔ computer architecture; 2) the claim language, specification, and prosecution histories distinguish client devices and servers; 3) a server is structurally different from a client device; and 4) a server is not a consumer computer and would be a commercial device with certain operational properties. *Id*.

We continue to agree with the district court's interpretation of the claim term, which we have adopted, because it is consistent with the evidence in the record. Of note, the construction requires that the "second server" be a "server," with the court agreeing that it is "a device that is operating in the role of a server." Ex. 1006, 14; Ex. 1009, 8. This construction is consistent with the role-based interpretation of the claim components, which we discuss *supra* Section II.C.1. That is, the "second server" operates in the "role of a server," but it does not have structural requirements, as Patent Owner argues, short being able to function in the role of a server. We also agree with the district court's cabining of the "second server" construction to exclude the "first client server." Claim 1 recites that it is the "first client device" that "send[s] the received first

content, to the second server" in limitation 1[d], so the "second server" has to be a separate component.

We have addressed the majority of Patent Owner's arguments *supra* Section II.C.1 that concern alleged required architecture, structural requirements, and the assertion that a "client device" cannot be a server. Additionally, Patent Owner argues that in the *NetNut* litigation, the district court stated that it "hereby expressly rejects Defendant's proposal of referring generically to 'a device,'" and that the server "is not the client device," so client devices and servers are distinguished. PO Resp. 27–28 (citing Ex. 2013, 20, 23). We do not agree with this argument because, in context, the district court there only indicated that the use of the term "device" was too generic with regard to the term "server," which we take to mean that the server had to be capable of acting in the role of a server, and that a device could not "act as a server and as a client simultaneously." Ex. 2013, 20–21. Patent Owner also argues that the district court indicated that a "server" is not a communication device. PO Resp. 28 (citing Ex. 1009, 10). However, the district court found, and we agree, that "a component can be *configured* to operate in different roles," so long as it does not serve in different roles simultaneously, and although the Specification does "not include servers as a type of 'communication device,' that is not sufficient to construe 'client device' as unable to act as a server in all cases." Ex. 1009, 10. Additionally, in view of the role-based construction for the components, we reject Patent Owner's other arguments on required structure and characteristics of a server. PO Resp. 29–30.

3. Other Terms

We determine that we need not expressly construe any other claim terms to resolve the parties' disputes. *See Realtime Data, LLC v. Iancu*, 912

F.3d 1368, 1375 (Fed. Cir. 2019) ("The Board is required to construe 'only those 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))).

D. 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 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 obviousness or nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

E. Anticipation of Claims 1, 10, 12, and 15–23 By Plamondon

Petitioner contends that claims 1, 10, 12, and 15–23 are unpatentable under 35 U.S.C. § 102 because they are anticipated by Plamondon. Pet. 16–43. Patent Owner argues that Plamondon does not disclose all the limitations of the claims. PO Resp. 34–50.

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

1. Plamondon (Ex. 1010)

Plamondon is directed to accelerating and optimizing network traffic, such as HTTP-based network traffic. Ex. 1010, code (57). Plamondon discloses techniques in the areas of proxy caching, protocol acceleration, domain name resolution acceleration, and compression improvements. *Id.* The acceleration and optimization techniques discussed in Plamondon "may be deployed on the client as a client agent or as part of a browser, as well as on any type and form of intermediary device, such as an appliance, proxying device or any type of interception caching and/or proxying device." *Id.* Figure 1A, reproduced below, is a block diagram of a network environment for a client to access a server via network optimization appliances. *Id.* ¶ 142.

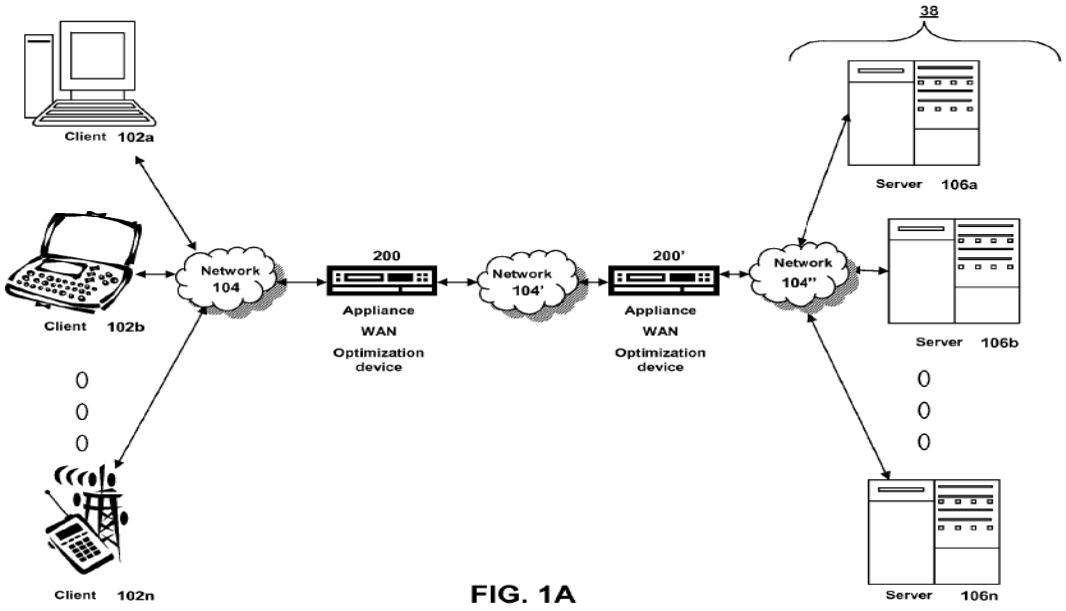


FIG. 1A

As shown in Figure 1A of Plamondon, above, the network environment has one or more clients 102*a*–102*n* in communication with one or more servers 106*a*–106*n* via networks, where the communication of client 102 with the server 106 is via network optimization appliances, which are generally referred to as appliance 200. Ex. 1010 ¶ 202. Network 104 can be a local area network (LAN) or a wide area network (WAN), such as the Internet or the World Wide Web. *Id.* ¶ 203.

2. Discussion

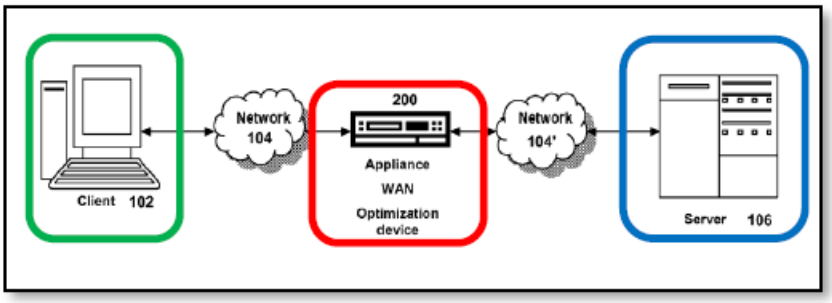
a. Claim 1

The Petition asserts that Plamondon discloses all the limitations of claim 1. Pet. 21–32. Below we consider the claim 1 limitations in turn.

i. Limitations of the Preamble

Petitioner provides an annotated version of Figure 1C of Plamondon, a block diagram of the network, reproduced below. Pet. 18.

Plamondon, Fig. 1C
(color added by Petitioner)



Petitioner asserts that Plamondon teaches the preamble limitations[14] where Plamondon's appliance 200 (shown in red) is the claimed "first client device" and is in a communication path between client device 102, a "second server" (shown in green), and server 106, which is the claimed "web server" (shown in blue), as shown in annotated Figure 1C above. Pet. 18, 21 (citing Ex. 1010, Figs. 1A–1C, ¶¶ 48, 52, 77, 421, 672). Petitioner contends that when appliance 200 requests objects from server 106 on behalf of client 102, or forwards client 102's request to server 106, appliance 200 acts "in the role of a client" under the district court's construction of "first client device." *Id.* (citing Ex. 1002 ¶¶ 165–166; Ex. 1010 ¶¶ 48–52, 444–451, Figs. 6A–6B). Petitioner contends that Plamondon discloses that client 102 transmits an HTTP request to server 106 and "[i]n response to the request, the server transmits an HTTP response." *Id.* at 22 (citing Ex. 1010 ¶ 598).

[14] The preamble provides antecedent basis for the terms "first client device" and "web server," among others. We determine that the preamble is limiting. *See* Ex. 1006, 9 (parties agree preambles of claims in related patents are limiting).

Petitioner asserts that appliance 200 "is a device for accelerating, optimizing or otherwise improving the performance…of any type and form of network traffic." Pet. 17 (citing Ex. 1010 ¶ 206). Petitioner contends that appliance 200 does this by "[a]cting 'as a proxy between a client requesting objects [e.g., web pages] and an object server responding to client requests.'" *Id.* (citing Ex. 1010 ¶ 48); *see also* Ex. 1003 ¶¶ 153–155. Petitioner argues that appliance 200 also "[r]etriev[es] from servers, and cach[es] (i.e., stor[es]), objects that it can serve to a client in response to the client's request." *Id.* (citing Ex. 1010 ¶¶ 48–53, 442–453). Petitioner asserts that Plamondon discloses that "client 102, server 106, and appliance 200 . . . may be deployed as . . . any type and form of computing device," which is also identified generically as "computing device 100." *Id.* at 18 (citing Ex. 1010 ¶ 229) (emphasis omitted). Further, Petitioner argues that Plamondon discloses that "computing device 100 [and thus each client 102, server 106, and appliance 200] can be any . . . desktop computer, laptop or notebook computer, server, handheld computer, mobile telephone . . . or other form of computing or telecommunications device." *Id.* (citing Ex. 1010 ¶ 238; Ex. 1003 ¶¶ 156–158) (emphasis omitted).

Patent Owner presents arguments that Plamondon does not disclose the required architecture of claim 1 and additionally argues that client 102 and appliance 200 of Plamondon do not serve to disclose the claimed elements. *See* PO Resp. 37–44; PO Sur-reply 19. We address the architecture issue here and we address the arguments on the client 102 and appliance 200 below in the discussion of the claimed steps.

On the architecture issue, Patent Owner argues that Petitioner appears to agree with Patent Owner's proposed architecture of requesting client device ↔ second server ↔ first client device ↔ web server. PO Resp. 38

(citing Pet. 19; Ex. 2044 ¶ 159). Patent Owner does not explain its argument, which is directed to a description of *Plamondon's* architecture and is, therefore, is not relevant to how the claims of the '510 patent are construed nor to the issue of Plamondon's anticipation of the claims.

Patent Owner also argues that Plamondon's disclosures are directed to a corporate network environment, and Plamondon does not teach hiding the identity of client 102 from server 106. PO Resp. 38 (citing Ex. 2044 ¶ 160). Patent Owner contends that "Plamondon does not teach a network with millions of appliances." *Id*. at 39. We do not find that these arguments undermine Petitioner's showing because they are directed to limitations that do not appear in the claims.

We have reviewed the evidence and argument and on this record we determine that Petitioner has demonstrated that Plamondon discloses the limitations of the preamble of claim 1.

ii. Limitation 1[a]

Petitioner asserts that limitation 1[a] is disclosed by Plamondon's client 102, which can be any server. Pet. 23 (citing Ex. 1010 ¶ 238). For support, Petitioner relies upon Plamondon's disclosure that the client "has the capacity to function as both a client node seeking access to applications on a server and as an application server providing access to hosted applications for other clients." *Id*. (citing Ex. 1010 ¶ 210, *also* citing *id.* ¶¶ 285, 443; Ex. 1003 ¶¶ 40–43, 184–185 (emphasis omitted)). Petitioner asserts that the appliance 200 (the claimed first client device) participates in creating a TCP connection with client 102 via network stack 267. *Id*. at 24. Petitioner refers to Plamondon's disclosure that "[i]n one embodiment, the appliance 200 provides for or maintains a transport layer connection between a client 102 and server 106 using a single network stack 267." *Id*.

(citing Ex. 1010 ¶ 256, *also id*. ¶¶ 252–256, 270, 275, 350; Ex. 1003 ¶¶ 187–193).

Patent Owner argues that Plamondon does not disclose the claimed step because the cited portions of Plamondon that relate to establishing a TCP connection describe the hardware for establishing a connection, but this does not address the context, which is client 102 sending a request for content. PO Resp. 34; *see also id*. at 40. Patent Owner asserts that "[i]n the context of sending a request for content, client 102 is operating in the role of a client." *Id*. at 35. Patent Owner contends that "[c]lient 102 never changes roles in the architecture actually disclosed in Plamondon" and so "under the role-based constructions, client 102 cannot correspond to the 'second server.'" *Id*. (citing Ex. 2044 ¶ 151). Patent Owner additionally argues that "[a]t that same point in time, appliance 200 is operating in the role of a server." *Id*. at 36 (citing Ex. 2044 ¶ 152). Patent Owner contends that Petitioner's expert agrees with this. *Id*. (citing Ex. 2010, 61:17–25). Patent Owner argues that a person of ordinary skill in the art would understand that "an application server normally hosts applications that can be remotely accessed and executed by a requesting client," and a person of ordinary skill in the art "would understand that an application server is different from a proxy server." *Id*. at 40–41 (citing Ex. 2044 ¶¶ 166–167).

Patent Owner also argues that Plamondon does not disclose the claim 1 limitations "as arranged in the claim" and a person of ordinary skill in the art "would not envisage" the invention of the claim. PO Resp. 39. Patent Owner refers to Petitioner's assertion that "computing device 100 [and thus each client 102, server 106, and appliance 200] can be <u>any</u> . . . desktop computer, laptop or notebook computer, server, handheld computer, mobile telephone . . . or other form of computing or telecommunications device,"

and argues that this does not inform a person of ordinary skill in the art that client 101 corresponds to the "second server" of the claims. *Id*. at 41–42 (citing Pet. 18; Ex. 2044 ¶ 168). Patent Owner asserts that the cited portion of Plamondon "recites a long list of different network components" and this does not inform a person of ordinary skill in the art of the specific architecture in which the method claims operate. *Id*. at 42 (citing Ex. 2044 ¶ 169). Patent Owner contends that a person of skill "would not pick and choose to make client 102 a server" and combine it with the appliance 200 "client device," and there is no guidance to do so. *Id*. Patent Owner argues that "Petitioner contends client 102, appliance 200, and server 106 are interchangeable network components and it doesn't matter which is which" and that is "opposite to the disclosure of the '510 patent." *Id*. at 43 (citing Ex. 2044 ¶ 171). Patent Owner also asserts that Petitioner, absent motivation, is modifying "1) client 102 by a selecting a 'server' from the list of possible components and (2) appliance 200 by selecting a 'client device' from the list of possible components." PO Sur-reply 19 (citing Pet. Reply 21–22). Patent Owner also asserts that Petitioner's expert testimony lacks detail on network architecture and is biased by hindsight. PO Resp. 45 (citing Ex. 1003 ¶ 158; Ex. 2010, 103:5–8, 107:10–12, 109:3–11, 127:22–25; Ex. 2044 ¶ 171).

Many of Patent Owner's arguments are based on the premise that a component has to operate exclusively in a single role in order to disclose a claim element. We are not persuaded by these contentions because we have not adopted Patent Owner's proposed claim constructions.

As discussed, *supra* Section II.C.1, we have adopted the district court's role-based construction, where "client device" is construed as a "communication device that is operating in the role of a client." This

construction is based upon, *inter alia*, claim 1's language where in step 1[b], the "first client device" is acting as a client in requesting content and in step 1[d], the "first client device" is acting as a server to forward content. That is, a "first client device" may switch roles and perform different roles with different functions at different times, but still is a "first client device." Here, Petitioner asserts that Plamondon's client 102 is the "second server" because the reference explicitly states that client 102 can be "any . . . server" and it can function as an application server for other clients. Pet. 23 (citing Ex. 1010 ¶¶ 210, 238). We agree. As Petitioner contends, Plamondon discloses that computing device 100 can be any server, where client 102 can be any type of a computing device and can be a server. Ex. 1010 ¶¶ 229, 238. Additionally, Plamondon discloses that client 102 serves a role as an application server providing access to applications for other clients. *Id.* ¶ 210. That an application server may be different than a proxy server does not mean that it does not function as a server. *See* PO Resp. 40–41.

Contrary to Patent Owner's arguments, there is no issue with client 102 acting in the role of a client when a TCP connection is established between client 102 (second server) and appliance 200 (the claimed first client device). As discussed in the claim construction section above, although a component may not simultaneously serve more than one function at any particular time, components can operate in different roles. That is, a component does not have to exclusively operate in only a single role—it may operate in different roles at different times. Dr. Levin's cross-examination testimony (Ex. 2010, 61:15–25) reflects that client 102 acts in a certain role "at particular . . . times" and at another time it may act in different role, which is consistent with the role-based claim interpretation.

The same issue applies to Patent Owner's argument that, when the TCP connection is established, "appliance 200 is operating in the role of a server." PO Resp. 36. Appliance 200 does not have to act exclusively in the role of a client.

We also do not agree with Patent Owner's argument that a person of ordinary skill in the art "would not envisage" Plamondon's components as arranged in claim 1. As discussed above, Plamondon explicitly discloses the configuration as shown in annotated Figure 1C, reproduced above. *See* Pet. 16–20; Ex. 1010, Fig. 1C. Dr. Levin provides supporting testimony. Ex. 1003 ¶¶ 153–180. We do not agree that Petitioner's expert testimony reflects hindsight because it is based on roles of Plamondon's components in the configuration that is disclosed in Figure 1C. *See id.* As discussed, Plamondon explicitly discloses that client 102, as a computing device, may be a server, and functions as application server for other clients. Ex. 1010 ¶¶ 210, 238. We find that Plamondon's disclosures support Petitioner's contention that appliance 200 acts as the claimed "first client device" and server 106 acts as the claimed "web server," which we discuss below. As such, Petitioner demonstrates that Plamondon discloses the components "as arranged in the claim" in accordance with Figure 1C. We do not agree with Patent Owner that relying on component in a configuration that is explicitly disclosed represents a "modification." *See* PO Sur-reply 19.

Patent Owner's arguments as to why a person of ordinary skill "would not 'at once envisage'" the claimed components from Plamondon's disclosure appear to center on Plamondon's listing of "desktop computer, laptop or notebook computer, server, handheld computer, mobile telephone . . . or other form of computing or telecommunications device" as communication devices, such as client 102. PO Resp. 41–42; PO Sur-

reply 19–20; *see also* Pet. 18; Ex. 1010 ¶ 238. However, this is not a situation where one of ordinary skill in the art would have to envisage a "server"—a "server" is expressly disclosed in Plamondon's listing of possible communication devices. *See In re Petering*, 301 F.2d 676, 682 (CCPA 1962). Moreover, Plamondon discloses that client 102 functions as an application server. Ex. 1010 ¶ 210. Accordingly, we do not find that Patent Owner's arguments rebut Petitioner's showing of Plamondon's disclosure of limitation 1[a].

We have reviewed the evidence and argument and on this record we determine that Petitioner has demonstrated that Plamondon discloses limitation 1[a].

iii. Limitation 1[b]

For limitation 1[b], Petitioner argues that in Plamondon, appliance 200 connects to server 106, which is the claimed "web server," via network 104 or 104', which is the Internet. Pet. 25 (citing Ex. 1010 ¶¶ 13, 203, Figs. 1A–1C, 6A–6B; Ex. 1003 ¶¶ 144–152, 195). Petitioner refers to Plamondon's parallel revalidation technique, where "the appliance 200 identifies, parses, extracts or otherwise determines a name or identifier of the object of the request, such as the uniform resource locator." *Id*. (citing Ex. 1010 ¶¶ 446, 12). Petitioner further refers to Plamondon's Figures 6A and 6B, wherein "the appliance transmits a request for a status [of] the object from an originating server." *Id*. at 26–27 (citing Ex. 1010 ¶¶ 444, 488, Figs. 6A–6B; Ex. 1003 ¶¶ 166, 172, 198).

Petitioner asserts, and we agree, that Plamondon's appliance 200 acts as the claimed "first client device." Appliance 200 is described as being on any form of computing device such as "computing device 100," and "computing device 100 can be any workstation, desktop computer, laptop or

notebook computer, server, handheld computer, mobile telephone, [or] smart phone." *See* Ex. 1010 ¶¶ 229, 238. Plamondon discloses that appliance 200 operates in the role of a client by sending a first content identifier by requesting objects by URL from server 106 (web server) based on HTTP requests from client 102 (second server). *Id.*, Figs. 6A–6B, ¶¶ 444, 488.

Patent Owner argues that a person of ordinary skill in the art would understand that Plamondon's appliance 200 is a corporation server, and a person of ordinary skill in the art would not understand it to be a client device. PO Resp. 44 (citing Ex. 2044 ¶ 175; Ex. 1010 ¶ 206). Patent Owner asserts that Plamondon's disclosures do not provide "sufficient specificity" that a person of ordinary skill in the art would envisage the architecture in which the claimed methods of the '510 patent operate. *Id.* (citing Ex. 2044 ¶ 176). Patent Owner contends that appliance 200 operates in the role of a server and cannot correspond to the "first client device," and that Petitioner's expert agreed with this position. *Id.* at 36 (citing Ex. 2010, 61:17–25; Ex. 2044 ¶ 153).

We have addressed Patent Owner's arguments on the specificity of Plamondon's disclosures in the discussion on limitation 1[a], and we do not agree with them for similar reasons for this limitation. As to Patent Owner's assertions that Plamondon's appliance 200 would not be understood to be a client device, we do not agree. Under the claim construction we have adopted, Plamondon's appliance operates in the role of a client by requesting content. Additionally, Patent Owner's argument that appliance 200 acts as a server and cannot be a "first client device" hinges on whether a device has to operate in an exclusive role, an argument we do not accept. *See supra*, Section II.E.2.a.ii. Although appliance 200 may operate in the role of a

server as in limitation 1[d], it may also operate in the role of a client device, based on the same rationale discussed. *Id.*

We have reviewed the evidence and argument, and on this record, we determine that Petitioner has demonstrated that Plamondon discloses limitation 1[b].

iv. Limitation 1[c]

For limitation 1[c], Petitioner contends that in Plamondon's parallel revalidation of a cached object, appliance 200 receives updated content from server 106, the web server, in response to sending the URL identifying the requested content, and appliance 200 receives a status of the object or an updated copy of the object from the server at step 625 in response to the request at step 620. Pet. 28 (citing Ex. 1010 ¶¶ 442, 444, 449–451, Figs. 6A–6B). Petitioner refers to Plamondon's Figure 6A and the receipt of an updated version of an object by appliance 200 for the disclosure of this limitation. *Id*. at 29.

Patent Owner does not present any arguments specific to this limitation. *See generally* PO Resp.; PO Sur-reply.

We have reviewed the evidence and argument, and on this record, we determine that Petitioner has demonstrated that Plamondon discloses limitation 1[c].

v. Limitation 1[d]

For limitation 1[d], Petitioner asserts that after appliance 200 receives the URL identifying requested content, Plamondon's parallel revalidation includes appliance 200 sending the requested content to client device 102 in response to receiving the client's request, which included the first content identifier (URL). Pet. 30. Petitioner also asserts that Plamondon's disclosures include circumstances in which appliance 200 sends requested

content to client 102 after receiving it from server 106. *Id*. at 32 (citing Ex. 1010 ¶¶ 451, 436–438).

Patent Owner asserts that Plamondon does not disclose that the "first client device" sends the first received content to "second server" as recited in claim 1. PO Resp. 36 (citing Ex. 2044 ¶ 155). Patent Owner argues that at this point in time appliance 200 is operating in the role of a server, not a client, and that Petitioner's expert agreed with this position. *Id*. at 36–37 (citing Ex. 2044 ¶ 155; Ex. 2010, 63:20–64:2). Patent Owner also argues that client 102 is operating in the role of a client, not a server, at the same time. *Id*. at 37 (citing Ex. 2044 ¶ 156). These arguments are based on the premise that a device has to exclusively act in a certain role, and that role cannot vary at during different time. For the reasons discussed for limitation 1[a] and 1[b], we do not agree with Patent Owner's arguments.

We have reviewed the evidence and argument, and on this record, we determine that Petitioner has demonstrated that Plamondon discloses limitation 1[d].

vi. Conclusion

We note that Patent Owner has presented evidence of secondary considerations. *See* PO Resp. 54–70. Evidence of secondary considerations is not pertinent to an anticipation rejection under 35 U.S.C. § 102. *See In re Malagari*, 499 F.2d 1297, 1302 (CCPA 1974).

Accordingly, having considered the arguments and evidence, we determine that Petitioner has shown by a preponderance of the evidence that Plamondon anticipates claim 1 of the '510 patent.

b. Claim 10

Claim 10 recites "[t]he method according to claim 1, further comprising determining, by the first client device, that the received first content, is valid." Ex. 1001, 20:10–12. Dr. Levin testifies that "Plamondon includes a heavy focus on validating content stored in the cache of appliance 200 ('first client device')." Ex. 1003 ¶ 217. Petitioner asserts, with Dr. Levin's supporting testimony, that Plamondon discloses validating content stored in a cache of appliance 200, which is the first client device. Pet. 32. Petitioner argues that Plamondon discloses that "the method includes receiving a request for an object from a requester . . . [and] determining (i) that the object exists in the local cache and (ii) that a status identifier associated with the object indicates that the object is valid." *Id*. at 32–33 (citing Ex. 1010 ¶ 43; *see also id*. ¶¶ 48, 450–451; Ex. 1003 ¶¶ 216–218) (emphasis omitted). Petitioner also asserts that claim 10 does not limit when the validity determination is performed. *Id*. at 32.

Patent Owner argues that paragraphs 43 and 48 of Plamondon are vague, Petitioner mischaracterizes them, and they do not inform a person of ordinary skill in the art that appliance 200 performs the limitations of claim 10. PO Resp. 46 (citing Ex. 2044 ¶ 180). Patent Owner asserts that Petitioner mischaracterizes paragraphs 450 and 451 of Plamondon, arguing that in the view of a person of ordinary skill in the art it is the server 106, and not appliance 200, that determines the validity of the "first content." *Id*. at 46–47 (citing Ex. 2044 ¶¶ 181, 183). Patent Owner refers to the cited second request, but this does "not disclose appliance 200 determining the validity of the first content received **in response to the first request**." *Id*. at 47 (citing Ex. 1010 ¶ 451; Ex. 2044 ¶ 184).

In a section titled "F. Systems and Methods of Performing Parallel Revalidation of Cached Objects," Plamondon discloses that "while revalidating the cached object in parallel to serving the cached object to a first request[] for the object from the same client 102," "the appliance 200 performs a second revalidation of step 620 in response to the second request." Ex. 1010 ¶ 451. Here, appliance 200 ("first client device") is performing a "second revalidation" of the object ("first content"). Contrary to Patent Owner's arguments, we do not find that the revalidation is done in response to a second request is of any moment. We agree with Petitioner that claim 10 does not limit when the validity determination is performed and it does not have to be in response to a "first request." Pet. 32; Pet. Reply 23; Ex. 1003 ¶ 217. Thus, we do not find that Patent Owner's arguments undermine Petitioner's showing that Plamondon discloses the limitations of claim 10.

Accordingly, having considered the arguments and evidence, we determine that Petitioner has shown by a preponderance of the evidence that Plamondon anticipates claim 10 of the '510 patent.

c. Claim 12

Claim 12 depends from claim 10, further reciting: "sending, a message over the Internet in response to the determining that the received first content, is not valid; and receiving, over the Internet in response to the sending of the message, from the second server or from a second client device selected from a plurality of client devices, the first content." Ex. 1001, 20:17–25. Petitioner asserts that in Plamondon's parallel revalidation method, appliance 200 transmits a message to web server 106 after determining that "the remaining period of the expiration of the cached

object exceeds a predetermined threshold." Pet. 33 (citing Ex. 1010 ¶¶ 451, 449–450). Petitioner contends that selected second appliance 200' is the "second client device." *Id*. at 34 (citing Ex. 1010 ¶¶ 229, 238, 452). Petitioner argues that the "selecting appliance 200' from a plurality of client devices" is performed by Plamondon's prefetcher 904 sending requests to second appliance 200' "because the cache management system indexes appliance 200' as maintaining the object." *Id*. (citing Ex. 1010 ¶ 446). In support, Dr. Levin testifies that "Plamondon's prefetcher 904 knows to send requests to second appliance 200' because the cache management system indexes appliance 200' as maintaining the object," where Plamondon discloses that "the cache 232 is located on another device 100, such as an appliance 200'." Ex. 1003 ¶ 226 (emphasis omitted). Petitioner contends that "[i]n response to the content request at step 1030, at step 1035 appliance 200 receives the content from appliance 200'." *Id*. at 34–35 (citing Ex. 1010 ¶¶ 446, 542, Figs. 10A–10B; Ex. 1003 ¶¶ 225–228).

Patent Owner repeats the arguments relating to claim 10, that we do not find persuasive for the reasons discussed above. PO Resp. 49. Patent Owner further argues that, under Petitioner's assertions, when appliance 200 receives the content from appliance 200', appliance 200' is operating in the role of a server and not a client. *Id*. This argument is premised on an alleged requirement that a component has to exclusively operate in only a single role, but as discussed *supra* Section II.E.2.a.iii, a component does not have to exclusively operate in one role under the claim construction adopted.

Patent Owner also argues that "Plamondon does not disclose purposeful selecting of appliance 200' from a plurality of client devices" because "any alleged message sent by appliance 200 must necessarily pass through appliance 200'." PO Resp. 49–50 (citing Ex. 1010, Fig. 1A;

Ex. 2044 ¶¶ 194–195; Ex. 2010, 95:20–96:4). Dr. Williams testifies that Plamondon "does not disclose that a request from client 102 is sent to appliance 200' instead of appliance 200" so "client 102 is not bypassing appliance 200 in favor of appliance 200'." Ex. 2044 ¶ 195. Patent Owner argues that "even if a message is sent to appliance 200', that does not qualify as selecting appliance 200' from a plurality of client devices, because the message is actually sent to both appliances 200, 200'." PO Sur-reply 25. We do not agree with these arguments. In paragraph 446 of Plamondon, it discloses that "the appliance 200 determines [whether] the object identified by the request is stored in a cache," but the cache may be "located *on another device 100, such as appliance 200*"' and "the appliance 200 may transmit a message or request to a cache manager on the appliance *or another device 100* to determine if the object exists or is located in the cache." Ex. 1010 ¶ 446 (emphases added). Patent Owner's argument is based on the view that because a message is sent to appliance 200 this negates that appliance 200' is selected. Nevertheless, even if a request is first sent to appliance 200, a message is also sent to appliance 200' to select it. *See* Pet. Reply 24. Thus, we do not find that Patent Owner's arguments undermine Petitioner's showing that Plamondon discloses the limitations of claim 12.

Accordingly, having considered the arguments and evidence, we determine that Petitioner has shown by a preponderance of the evidence that Plamondon anticipates claim 12 of the '510 patent.

d. Claims 15–23

Claims 15–23 depend from claim 1 and further recites additional limitations. Ex. 1001, 20:41–21:1– 11.

Claim 15 recites "[t]he method according to claim 1, further comprising receiving, by the first client device from the second server over the established TCP connection, the first content identifier." Petitioner argues that "Plamondon describes appliance 200 requesting objects by URL from the server 106 ("first server") based on the HTTP requests that it intercepts from client 102." Pet. 35. Petitioner refers to Plamondon's disclosure that "the appliance 200 identifies, parses, extracts or otherwise determines a name or identifier of the object of the request, such as the uniform resource locator of the request" and in the communication "appliance 200 receives the URL (first content identifier) from client 102 [which] takes place over the established TCP connection." *Id*. (citing Ex. 1010 ¶¶ 442–453; Ex. 1003 ¶¶ 230–232).

Claim 16 recites "[t]he method according to claim 1, wherein the sending of the first content identifier to the web server over the Internet comprises sending a Hypertext Transfer Protocol (HTTP) request that comprises the first content identifier." Petitioner asserts that in Plamondon appliance 200 sends an HTTP request to server 106, which includes the URL for the first content, which appliance 200 received in a message from client 102. Pet. 36 (citing Ex. 1010 ¶¶ 442–453; Ex. 1003 ¶¶ 234–236).

Claim 17 recites "[t]he method according to claim 1, further comprising storing, by the first client device in response to the receiving from the web server, the first content." Petitioner contends that in Plamondon, "the appliance 200 receives . . . an updated copy of the object from the server . . . [i]f the object has changed, the appliance 200 stores the updated object to the cache 232." Pet. 36 (citing Ex. 1010 ¶¶ 257, 450, 431, Figs. 2A, 6A–6B; Ex. 1003 ¶¶ 238–244) (emphasis omitted).

Claim 18 recites "[t]he method according to claim 1, wherein the second server is a Transmission Control Protocol/Internet Protocol (TCP/IP) server that communicates over the Internet based on, or according to, using TCP/IP protocol or connection, and wherein the first client device is a Transmission Control Protocol/Internet Protocol (TCP/IP) client that communicates with the second server over the Internet based on, or according to, TCP/IP protocol." Petitioner asserts that the step of limitation 1[a] "established that the second server ('client 102') and first client device ('appliance 200') communicate via a TCP connection." Pet. 38. Petitioner contends that the devices communicate over network 104 and 104', which can be the Internet. *Id*. (citing Ex. 1010 ¶ 203; Ex. 1003 ¶¶ 145–152, 247–249).

Claim 19 recites "[t]he method according to claim 1, wherein the first client device communicates over the Internet based on, or according to, one out of UDP, DNS, TCP, FTP, POP#, SMTP, or SQL standards." Petitioner asserts that in Plamondon network stack 267 communicates according to the TCP or UDP protocols. Pet. 39 (citing Ex. 1010 ¶ 254; Ex. 1003 ¶¶ 251–253).

Claim 20 recites "[t]he method according to claim 1, wherein the first content comprises web-page, audio, or video content, and wherein the first content identifier comprises a Uniform Resource Locator (URL)." Petitioner argues that Plamondon discloses that the "first content" includes web page content, and it also discloses that client 102 "stream[s] video and/or audio," so it would also pull audio or video content. Pet. 39 (citing Ex. 1010 ¶¶ 462, 532, 549, 559; Ex. 1003 ¶¶ 255–257).

Claim 21 recites "[t]he method according to claim 1, further comprising executing, by the first client device, a web browser application

or an email application." Petitioner contends that Plamondon discloses that its techniques, systems and methods "may be deployed in a browser or for a browser." Pet. 40 (citing Ex. 1010 ¶¶ 12, 680; Ex. 1003 ¶¶ 261–262).

Claim 22 recites "[t]he method according to claim 1, further comprising storing, operating, or using, a client operating system." Petitioner asserts that Plamondon discloses that "appliance 200 . . . run[s] any operating system such as . . . Microsoft® Windows . . . Unix and Linux . . . Mac OS®." Pet. 40 (citing Ex. 1010 ¶ 249; Ex. 1003 ¶¶ 264–266) (emphasis omitted).

Claim 23 recites "[t]he method according to claim 1, wherein the steps are sequentially executed." Petitioner provides explanations and evidence as to how the steps of Plamondon are sequentially executed. Pet. 41–42 (citing, *inter alia*, Ex. 1003 ¶¶ 268–278).

Patent Owner does not present any arguments specific to these claims. *See generally* PO Resp.; PO Sur-reply.

Having considered the arguments and evidence, we determine that Petitioner has shown by a preponderance of the evidence that Plamondon anticipates claims 15–23 of the '510 patent.

F. Obviousness of Claims 2–5 over Plamondon and Price

Petitioner contends that claims 2–5 would have been obvious over the combination of Plamondon and Price. Pet. 52–60. Patent Owner argues that the combination of Plamondon and Price does not disclose all the limitations of the claims and the rationale to combine the references is insufficient. PO Resp. 51– 53; PO Sur-reply 25–26. Patent Owner also asserts that the obviousness of the claims is supported by objective indicia of

nonobviousness, including commercial success, long-felt need, copying, and industry praise. PO Resp. 54–70; PO Sur-reply 21–23.

1. Discussion of Prior Art Teachings and Rationale to Combine

Claim 2 recites "[t]he method according to claim 1, wherein the first client device is identified by a Media Access Control (MAC) address or a hostname, and wherein the method further comprising sending, by the first client device, during, as part of, or in response to, a start-up of the first client device, a first message to the second server, and wherein the first messages comprises the first IP address, the MAC address, or the hostname."

Price describes a computing device acting to coordinate the management of software versions. Ex. 1023 ¶¶ 25–26. In Price, if the coordinating computer determines that "a newer version of the same software" exists, it "delivers . . . the currently available software" to the connected device and the "software version of the . . . connected device is replaced" with the newer version. *Id*. ¶¶ 53, 65.

Petitioner asserts that a person of ordinary skill in the art would have been motivated to combine Plamondon and Price because "the networked devices in Plamondon's architecture presents the software versioning problem that Price solves" in accordance with Price's rationale that "[d]igital-based devices often require updated software versions." Pet. 53. (citing Ex. 1023 ¶ 4). Petitioner also contends that "the need for regularly applying software patches to networked equipment was well-known in the art as a fundamental best practice for cybersecurity" and Price would provide a mechanism to Plamondon for applying software patches. *Id*. (citing Ex. 1003 ¶¶ 379–386). Petitioner asserts that combining Plamondon with Price brings together prior art elements according to known methods, to yield predictable results. *Id*. at 54 (citing Ex. 1003 ¶¶ 387–393).

Claim 2 requires that "the first client device is identified by a Media Access Control (MAC) address." Petitioner asserts that "Plamondon's appliance 200 ('first client device') is identified by MAC address in an IEEE 802.11-compliant network or wired Ethernet." Pet. 55 (citing Ex. 1010 ¶ 253; Ex. 1003 ¶¶ 366, 395; Pet. § X). Petitioner argues that "Plamondon describes appliance 200 connecting to clients 102 over network 104 by WiFi or Ethernet, using the MAC address as an identifier." *Id*. (citing Ex. 1010 ¶ 253).

Claim 2 also requires sending "a first message to the second server, and wherein the first messages comprises the first IP address, the MAC address, or the hostname." Petitioner asserts that in the Plamondon-Price combination "when appliance 200 is 'activated' and 'operated with initially loaded software,' it 'automatically register[s]' with the coordinating computer (client 102a)." Pet. 55 (citing Ex. 1023 ¶¶ 44, 48; Ex. 1003 ¶ 397). Petitioner asserts that appliance 200 connects to the coordinating computer over Plamondon's network, and the connections in Plamondon and Price can be an IEEE 802.11 link or Ethernet. *Id*. at 56 (citing Ex. 1003 ¶¶ 397–399). Petitioner contends that the "first message from appliance 200 to client 102a comprising the MAC address." *Id*. In support, Dr. Levin testifies that "[a]ll application messages sent on a WiFi or Ethernet link would include the source MAC address." Ex. 1003 ¶ 399.

Patent Owner argues that Price does not cure the deficiencies in Plamondon as to claim 1. PO Resp. 51. Patent Owner also contends that Petitioner relies on IEEE 802.11-2007 in the obviousness analysis of claim 2, but it does not include the IEEE reference in the ground. *Id*. Petitioner argues that paragraphs 204, 216, 228, and 253 of Plamondon and paragraph 29 of Price do not teach the claim limitations. *Id*. (citing Ex. 2044 ¶ 216).

Patent Owner also asserts that Petitioner relies on alleged security concerns as a motivation to modify Plamondon, but "Plamondon already teaches that policy engine 236 of the appliance 200 addresses security concerns." PO Resp. 52 (citing Ex. 1010 ¶ 354; Ex. 2044 ¶ 218). Patent Owner contends that there is no motivation to modify Plamondon because the reference already provides a solution to the alleged problem. *Id*. Patent Owner argues that a person of ordinary skill in the art "would not be motivated to modify Plamondon based on the teachings of Price because such a combination would result in inefficiencies." *Id*. (citing Ex. 2044 ¶ 219). Patent Owner refers to Petitioner's expert testimony in IPR2022-00135, and asserts that a person of ordinary skill in the art "would not be motivated to combine Plamondon and Price such that client 102a would resend the same software that was just downloaded by appliance 200 back to appliance 200 again." *Id*. at 52–53 (citing Ex. 2044 ¶ 220; IPR2022-00135, Ex. 1003 ¶¶ 448, 450).

Petitioner relies on paragraph 253 of Plamondon which discusses network communications using a network stack including those using TCP/IP protocols for the teaching of the limitation that the first client device is identified by a MAC address. Pet. 55. Plamondon discloses that the network stack "has any type and form of a wireless protocol, such as IEEE 802.11." Ex. 2044 ¶ 215. Dr. Levin testifies that "as a networking device, appliance 200 would have a MAC address" and "[e]very networking component has a MAC address." Ex. 1003 ¶¶ 341, 366. Dr. Williams concurs, testifying that MAC addresses are assigned for devices and "[e]very device that connects to WiFi has a MAC address." Ex. 1081, 9:18–21, 11:4–5. Petitioner relies on the sufficiency of the evidence in the view of a person

of ordinary skill in the art and, accordingly, it is not necessary to have included IEEE 802.11 as prior art in the ground.

As to the rationale to combine Plamondon and Price, we are not persuaded by Patent Owner's argument that there is no motivation to modify Plamondon because the reference already provides a solution to the alleged problem of security concerns. PO Resp. 52. Obviousness "does not require that the motivation be the best option, only that it be a suitable option from which the prior art did not teach away." *PAR Pharm., Inc. v. TWI Pharms.*, Inc., 773 F.3d 1186, 1197–98 (Fed. Cir. 2014) (citing *Galderma Labs., L.P. v. Tolmar, Inc.*, 737 F.3d 731, 738 (Fed. Cir. 2013)) (emphasis omitted). Even if Plamondon discloses security controls like access, authentication, and authorization control of client's connection to a network (Ex. 1010 ¶ 354), applying software patches to networked equipment by the software updates of Price would provide additional benefits. Additionally, as to the alleged inefficiencies with different software downloads in the combination, as Dr. Levin testifies, there may be different software applications requiring different methods of updating, which supports different methods of software updating. Ex. 2010, 145:1–25. In sum, Petitioner presents several bases for the rationale to combine Plamondon and Price—software versioning, improvements in cybersecurity, combining prior art elements according to known methods to yield predictable results—that are sufficient to provide articulated reasoning with a rational underpinning to support the legal conclusion of obviousness. *See* Pet. 53–54; Ex. 1003 ¶¶ 378–393.

Accordingly, Petitioner's evidence and argument is sufficient to show that Plamondon and Price teach the limitations of claim 2, with articulated reasoning with support for the combination of references. Patent Owner does not present any arguments specific to claims 3–5. *See generally* PO

Resp.; PO Sur-reply. We have reviewed the evidence and argument for claims 3–5, and determine that it is sufficient to teach the limitations of these claims, with sufficient motivation to combine Plamondon and Price.

2. Discussion of Objective Indicia of Nonobviousness

Patent Owner asserts that obviousness is supported by objective indicia of nonobviousness, including commercial success, long-felt need, copying, and industry praise. PO Resp. 54–70; PO Sur-reply 21–23. Petitioner disagrees, contending that Patent Owner's arguments rely on the use of residential proxies with residential IP addresses, which do not have a nexus to the claims, and that Patent Owner's arguments regarding commercial success, long-felt need, copying, and industry praise suffer from additional evidentiary infirmities. Pet. Reply 27–29.

a. Legal Standards

Objective indicia of nonobviousness may include long-felt but unsolved need, failure of others, unexpected results, commercial success, copying, licensing, industry praise, and expert skepticism. *Mintz v. Dietz & Watson, Inc.*, 679 F.3d 1372, 1379 (Fed. Cir. 2012). "[O]bjective indicia 'may often be the most probative and cogent evidence of nonobviousness in the record,'" and "help turn back the clock and place the claims in the context that led to their invention." *Id.* at 1378. Evidence of objective indicia of nonobviousness "must always when present be considered en route to a determination of obviousness." *Transocean Offshore Deepwater Drilling, Inc. v. Maersk Drilling USA, Inc.*, 699 F.3d 1340, 1349 (Fed. Cir. 2012); *see also Apple Inc. v. Samsung Elecs. Co.*, 839 F.3d 1034, 1048 (Fed. Cir. 2016) (en banc).

Objective indicia of nonobviousness are "only relevant to the obviousness inquiry 'if there is a nexus between the claimed invention and

the [objective indicia of nonobviousness].'" *In re Affinity Labs of Tex., LLC*, 856 F.3d 883, 901 (Fed. Cir. 2017) (quoting *Ormco Corp. v. Align Tech., Inc.*, 463 F.3d 1299, 1312 (Fed. Cir. 2006)). For objective indicia of nonobviousness to be accorded substantial weight, their proponent must establish a nexus between the evidence and the merits of the claimed invention. *ClassCo, Inc. v. Apple Inc.*, 838 F.3d 1214, 1220 (Fed. Cir. 2016).

As the Federal Circuit has explained, "a patentee is entitled to a rebuttable presumption of nexus between the asserted evidence of secondary considerations and a patent claim if the patentee shows that the asserted evidence is tied to a specific product and that the product '*is* the invention disclosed and claimed.'" *Fox Factory, Inc. v. SRAM, LLC*, 944 F.3d 1366, 1373 (Fed. Cir. 2019) (quoting *Demaco Corp. v. F. Von Langsdorff Licensing Ltd.*, 851 F.2d 1387, 1392 (Fed. Cir. 1988)). In other words, presuming nexus is appropriate "when the patentee shows that the asserted objective evidence is tied to a specific product and that product 'embodies the claimed features, and is coextensive with them.'" *Id.* (quoting *Polaris Indus., Inc. v. Arctic Cat, Inc.*, 882 F.3d 1056, 1072 (Fed. Cir. 2018)). On the other hand, "'[w]hen the thing that is commercially successful is not coextensive with the patented invention—for example, if the patented invention is only a component of a commercially successful machine or process,' the patentee is not entitled to a presumption of nexus." *Id.* Once "the patentee has presented a *prima facie* case of nexus, the burden of coming forward with evidence in rebuttal shifts to the challenger . . . to adduce evidence to show that the commercial success was due to extraneous factors other than the patented invention." *Demaco*, 851 F.2d at 1393.

Additionally, "[a] finding that a presumption of nexus is inappropriate does not end the inquiry into secondary considerations." *Fox Factory*, 944 F.3d at 1373. Even in the absence of a presumption, "the patent owner is still afforded an opportunity to prove nexus by showing that the evidence of secondary considerations is the 'direct result of the unique characteristics of the claimed invention.'" *Id.* at 1373–74.

b. Commercial Success

Patent Owner argues that nonobviousness is supported by the fact that it "commercialized a novel 'residential proxy service' that uses residential consumer computers, such as a person's smartphone, tablet, laptop, or personal computer having a residential IP address, as a proxy client device according to the claimed methods." PO Resp. 54 (citing Ex. 2044 ¶ 121). According to Patent Owner, it "currently provides approximately 72 million residential IP addresses associated with real users, in approximately 195 countries, to be used as proxy client devices in its residential proxy service." *Id.* at 54–55 (citing Ex. 2014). Patent Owner asserts that its "residential proxy service has grown to dominate the market." *Id.* at 66 (citing Ex. 2025, 4; Ex. 2044 ¶ 228). According to Patent Owner, "just last year alone," its "residential proxy service generated revenues of $53.7 million." *Id.* at 65–66 (citing Ex. 2044 ¶ 129). Patent Owner further contends that EMK Capital's acquisition of a majority stake in Patent Owner "at an enterprise value of $200 million in 2017" is further evidence of commercial success. *Id.* at 65 (citing Ex. 2044 ¶ 128).

Patent Owner asserts that its "residential proxy service practices the methods claimed in the '510 [p]atent," and provides claim charts purporting to show how "this commercial embedment practices at least claims 1–3, 8–9, 15–16, 18–20, and 20–24 of the '510 [p]atent." PO Resp. 54, 56–64. Patent

Owner argues that its "residential proxy service directly corresponds to the network architecture of the modified version of Figure 3 of the '510 [p]atent where the requesting client device corresponds to client 102, the Super Proxy corresponds to proxy server 6, and the proxy client device corresponds to agent 122." *Id.* at 64. According to Patent Owner, its "residential proxy service is 'reasonably commensurate in scope with the scope of the claims'" and "embodies the claimed features of the '510 [p]atent and is coextensive with them." *Id.* Additionally, Patent Owner argues that "[t]he features driving the commercial success of [its] residential proxy service is (a) the proxy client devices have residential IP addresses that lower the risk of blocking by the web server and (b) the scalability of this architecture given the large number of proxy client devices having residential IP addresses." *Id.* Finally, Patent Owner argues that "the district court found that sufficient nexus was established." PO Sur-reply 21.

Petitioner responds that Patent Owner's secondary considerations arguments are irrelevant because they "rely on alleged use of 'residential' proxies (with residential IP addresses)" and, under the court's construction, "'residential' proxies enjoy no nexus." Pet. Reply 27. According to Petitioner, "[r]esidential proxies' alleged benefits—anonymity, lowering blocking risk, and scalability—are neither claimed, nor even mentioned in the specification." *Id.* at 28 (citing Ex. 1001; Ex. 1081, 88:2–12) (citations omitted) (emphases omitted). Petitioner further contends that Patent Owner has presented "no competent evidence of commercial success" because its alleged 2021 revenue (provided by counsel) and source code (provided by a consultant) "are hearsay, unauthenticated, and lack foundation." *Id.* (citing Ex. 1081, 63:21–64:16, 74:21–76:3, 89:7–92:2, 97:24–98:24, 99:8–100:1).

Finally, Petitioner argues that there is "no evidence the 2021 product practices any claim." *Id.* (citing Ex. 1081, 75:2–24).

We find that Patent Owner has failed to establish a nexus between the challenged claims and the products that Patent Owner relies on to show commercial success. First, we find that Patent Owner has not established a presumption of nexus because it has not shown that the products that it relies on for commercial success embody and are coextensive with the challenged claims. *See Fox Factory*, 944 F.3d at 1373. To the contrary, Patent Owner relies on features of its products that are not claimed, including the use of a residential proxy service, residential consumer computers, and residential IP addresses, as the basis for the commercial success of its products. For example, Patent Owner identifies "[t]he features driving the commercial success" of its products as "the proxy client devices hav[ing] residential IP addresses" and the scalability of its architecture "given the large number of proxy client devices having residential IP addresses." PO Resp. 64; *see id.* at 54 (pointing to Patent Owner's "novel 'residential proxy service' that uses residential consumer computers, such as a person's smartphone, tablet, laptop, or personal computer having a residential IP address"), 66 (asserting that Patent Owner's "residential proxy service has grown to dominate the market" and pointing to a market report examining "residential proxy services")).

The challenged claims, however, do not include any limitations requiring residential proxies, residential computers, or residential IP addresses. Moreover, as discussed above, we do not adopt Patent Owner's proposed construction limiting the term "client device" to mean a "consumer computer" or "consumer communication device." *See supra* Section II.C.1. At most, Patent Owner presents evidence that the challenged claims broadly

cover the products relied on for commercial success, which is insufficient to show a nexus. *See Fox Factory*, 944 F.3d at 1377 (holding that a presumption of nexus cannot be established by simply showing that "the patent claims broadly cover the product that is the subject of the evidence of secondary considerations").

As noted above, even in the absence of a presumption of nexus, Patent Owner may "prove nexus by showing that the evidence of secondary considerations is the 'direct result of the unique characteristics of the claimed invention.'" *Fox Factory*, 944 F.3d at 1373–74. As discussed above, however, the "unique characteristics" that Patent Owner points to as "driving the commercial success" of its products—the use of a residential proxy service, residential consumer computers, and residential IP addresses—are not recited in the challenged claims. *See* PO Resp. 54–55, 66. Therefore, Patent Owner has failed to prove that commercial success of its products is the "direct result" of the claimed invention's unique characteristics.

We also are not persuaded by Patent Owner's argument that "the district court found that sufficient nexus was established." PO Sur-reply 21. Patent Owner relies on the district court's ruling on defendants' motion to strike the opinions of Patent Owner's expert Dr. Rhyne, where the district court stated that it was denying the portion of "the motion requesting the Court to preclude Dr. Rhyne from testifying regarding secondary considerations of nonobviousness" because it "found that Dr. Rhyne established a sufficient nexus between the secondary considerations and the claimed invention." *Id.*; Ex. 1084, 4. The district court's order, however, does not explain the basis for its ruling, and Patent Owner does not point to anything in the record providing such an explanation. It is also not clear

from the record whether the district court actually made a finding on the merits of nexus, or simply determined that Dr. Rhyne had provided sufficient disclosure in his expert report to offer testimony on nexus at trial.

c. Long-Felt Need

Patent Owner argues that its residential proxy service "solved a long felt, but unresolved need." PO Resp. 67. According to Patent Owner, "traditional data center server proxies could provide some anonymity for the user in accessing a target website," but "that website could still likely identify data center server IP addresses as proxy addresses" because there "were usually (a) associated with commercial IP addresses; and (b) limited to a block of IP addresses sharing the same IP address prefix and geographic location." *Id.* (citing Ex. 2044 ¶ 229). "In contrast," Patent Owner asserts, its "proxy client devices have residential IP addresses that vary widely from one another without being limited to one block of IP addresses and can have a wide variety of geographic locations." *Id.* Patent Owner further contends that its "residential IP network" solves the need to "dramatically increase the number of IP addresses that can be included in a proxy network." *Id.* at 67 (citing Ex. 2044 ¶ 229; Ex. 2029, 7; Ex. 2026, 182:22–197:21).

Petitioner responds that there is no nexus between the products that allegedly filled the long-felt need and the challenged claims. Pet. Reply 27–28. Petitioner also contends that Patent Owner's evidence of long-felt need "is hearsay from another proceeding" that is "not in the record." *Id.* at 29 (emphases and citation omitted).

For similar reasons as for commercial success, we agree with Petitioner that no nexus has been shown between Patent Owner's evidence of long-felt need and the challenged claims. The key features that Patent Owner points to as satisfying a "long-felt need" are its "residential proxy

service" including proxy client devices that "have residential IP addresses." PO Resp. 67. As explained above, however, the challenged claims do not recite or require a residential proxy service or residential IP addresses. Therefore, Patent Owner has failed to make the requisite showing that a long-felt need was met by its claimed invention.

d. Copying

Patent Owner argues that "[d]uring the jury trial in the Teso Litigation, evidence of Oxylabs copying Bright Data's residential proxy service (then known as 'Hola') was presented." PO Resp. 68 (citing Ex. 2044 ¶ 230). Specifically, Patent Owner argues that its representative (Ofer Vilenski) asked an employee of Oxylabs (Tomas Okmanas) to incorporate its software development kit (SDK) in Oxylabs' applications, but that instead Oxylabs "subsequently released their own SDK for Oxylabs' own residential proxy network." *Id.* (citing Ex. 2026, 202:12–204:8; Ex. 2027, 131:23–132:7; 152:8–153:6). Patent Owner also asserts that Mr. Okmanas testified that he was looking for "a system that works like hola.org," that Oxylabs "wanted to develop its own residential proxy service," and that "he believed that he needed to do what Bright Data (previously known as Luminati and Hola) were doing to be successful." *Id.* at 68–69 (citing Ex. 2027, 95:20–97:1, 103:18–104:10, 149:13–150:8, 152:18–153:6). "This testimony," according to Patent Owner, "is strong evidence of copying." *Id.* at 69 (citing Ex. 2044 ¶ 231).

Petitioner responds that there is no nexus between the products that were allegedly copied and the challenged claims. Pet. Reply 27–28. Petitioner also contends that Patent Owner's evidence of copying "is also hearsay, mostly not in this record," and that the testimony filed in this

proceeding "is either irrelevant or contradicts" Patent Owner. *Id.* at 29 (emphases and citation omitted).

For similar reasons as for commercial success and long-felt need, we agree with Petitioner that no nexus has been shown between Patent Owner's evidence of copying and the challenged claims. Although Patent Owner does not point to specific aspects of Patent Owner's products that it alleges were copied, it refers generally to "Bright Data's residential proxy service" known as "Hola" and the software development kit relating to it. PO Resp. 68–69. As explained above, however, the challenged claims do not recite or require a residential proxy service. Therefore, Patent Owner has failed to make the requisite showing that the claimed invention was copied.

e. Industry Praise

Patent Owner argues that its "residential proxy service has received industry praise including from competitors, and that . . . praise is tied to the claims of the '510 [p]atent as described above." PO Resp. 69 (citing Ex. 2031, 23–24; Ex. 2044 ¶ 233). Patent Owner further contends that "competitors like Oxylabs, Smartproxy, and Microleaves have praised the advantages of using a residential proxy service." *Id.* (citing Exs. 2032–2034; Ex. 2044 ¶ 233).

Petitioner responds that there is no nexus between the products that were the subject of the purported industry praise, because "residential proxies" are "unclaimed," as discussed for the other objective indicia of nonobviousness. Pet. Reply 29.

For similar reasons as for the other objective indicia, we agree with Petitioner that no nexus has been shown between Patent Owner's evidence of industry praise and the challenged claims. Patent Owner ties the evidence of industry praise to its "residential proxy service," which is not recited in

the challenged claims. PO Resp. 69. Therefore, Patent Owner has failed to make the requisite showing that the alleged industry praise has a nexus to the claimed invention.

3. Conclusion on Obviousness

For the reasons explained above, we conclude that Patent Owner's evidence purportedly showing commercial success, long-felt need, copying, and industry praise lacks merit because it does not show nexus with the claimed invention. Thus, the secondary considerations are not sufficient to outweigh Petitioner's evidence of obviousness of challenged claims 2–5 under this ground.

Accordingly, Petitioner has demonstrated by a preponderance of the evidence that claims 2–5 would have been obvious over the combination of Plamondon and Price.

G. Obviousness of Claims 6 and 7 over Plamondon and Kozat

Claim 6 recites

> The method according to claim 1, for use with a third server that comprises a web server that is Hypertext Transfer Protocol (HTTP) server, the third server responds to HTTP requests and stores a second content identified by a second content identifier, the method by the first client device further comprising:
>
> receiving the second content identifier;
>
> sending, to the third server over the Internet in response to the receiving, the second content identifier;
>
> and receiving the second content from the third server over the Internet in response to the sending.

Claim 7 recites "[t]he method according to claim 6, further comprising executing, by the first client device, a web browser application or an email application."

Kozat is directed to a peer-to-peer content delivery network that uses media servers to clients that cache segments of the media content. Ex. 1024 ¶¶ 10, 18, 29, 37. Control servers in Kozat "keep track of the current supply, current demand, and predicted future demand of all segments of media files," and make caching decisions for the peers. *Id.*, code (57), ¶¶ 20, 21, 29, 37). Kozat improves peer-to-peer architectures by being able to optimize the system with respect to the demand for various content. *Id.* ¶¶ 8, 10.

Petitioner asserts that Plamondon in combination with Kozat teaches the limitations of claims 6 and 7 and there is motivation to combine the references. Pet. 60–67. Petitioner contends that a person of ordinary skill in the art would have been motivated to combine Plamondon and Kozat because "[c]ombining Plamondon with Kozat's P2P techniques would improve Plamondon's performance by increasing transfer speeds and reducing peak loads, since Kozat's control server would ensure that requests were distributed efficiently among peers," and this technique would provide an "effective way to pair peers and match supply and demand." Pet. 62 (citing Ex. 1003 ¶¶ 437–438, 443; Ex. 1024 ¶¶ 3, 21–22).

Petitioner also provides evidence and argument in support of the teachings of the limitations of claims 6 and 7 by the combination of Plamondon and Kozat.

Patent Owner argues that Kozat does not cure the deficiencies in Plamondon as to claim 1. PO Resp. 53. Patent Owner contends that a person of ordinary skill in the art "would not be motivated to combine Plamondon and Kozat" because "Kozat is directed to media streaming with only caching and peer-to-peer forwarding." *Id.* (citing Ex. 2044 ¶ 224). Patent Owner argues that Petitioner's expert agreed with its position. *Id.* (citing Ex. 2010, 125:24–126:1). Patent Owner additionally asserts that,

although Petitioner argues that appliance 200 should be modified to include Kozat's control-server functionality to determine if and where an object is cached, Plamondon already provides a cache management system so Kozat's addition would be unnecessary. *Id*. at 53–54 (citing Pet. 34; Ex. 2044 ¶¶ 225–226). Patent Owner contends that Petitioner's expert agreed that the prefetcher of Plamondon worked without the addition of Kozat. *Id*. at 54 (citing Ex. 2010, 152:11–18). Patent Owner does not provide any arguments specific to claim 7.

We have reviewed the evidence and argument presented by Petitioner and find that it provides articulated reasoning with a rational underpinning for the combination of Plamondon and Kozat. We agree with Dr. Levin's testimony that Plamondon's use of caches would have motivated consideration of Kozat's peer-to-peer system cache management techniques (*see* Ex. 1003 ¶ 434), even with Kozat being directed towards media streaming, because Plamondon also discloses that its client 102 may execute applications to "stream[s] video and/or audio." Ex. 1010 ¶ 246. We also agree with Dr. Levin that persons of ordinary skill would have been motivated to use Kozat's techniques to augment Plamondon because they would "improve Plamondon's performance by increasing transfer speeds and reducing peak loads" because Kozat's control server distributes requests efficiently by "maximiz[ing] the utility of available cache spaces" and "match[ing] supply and demand." Pet. 62; Ex. 1003 ¶ 438 (citing Ex. 1024 ¶¶ 21–22). We agree that the implementation of "Kozat's control server in Plamondon's appliance 200 *would further improve* appliance 200's role as a 'performance enhancing proxy.'" *Id*. Contrary to Patent Owner's arguments, although Plamondon already provides a cache management

system, the evidence supports that Kozat's techniques would improve it, thus providing a motivation to combine the references.

We have reviewed Petitioner's evidence and argument and find it is sufficient to show that Plamondon and Kozat teach the limitations of claims 6 and 7, with motivation to support the combination of Plamondon and Kozat.

For the reasons explained *supra* Section II.F.2, we conclude that Patent Owner's evidence purportedly showing commercial success, long-felt need, copying, and industry praise lacks merit because it does not show nexus with the claimed invention. Thus, secondary considerations are not sufficient to outweigh Petitioner's evidence of obviousness of challenged claims 6 and 7 under this ground.

Accordingly, Petitioner has demonstrated by a preponderance of the evidence that claims 6 and 7 would have been obvious over the combination of Plamondon and Kozat.

H. Obviousness of Claims 2, 8, 9, 11, and 24 over Plamondon Alone Or In Combination with Other Prior Art

Petitioner asserts that claim 24 would have been obvious over Plamondon; claims 8 and 11 would have been obvious over Plamondon and RFC 2616; claims 8 and 9 would have been obvious over Plamondon and RFC 1122; and claim 2 would have been obvious over Plamondon and IEEE 802.11-2007. Pet. 43–51. Petitioner provides argument and evidence in support of its challenges. *Id*. Petitioner argues, with Dr. Levin's supporting testimony, that the secondary references were known standards (Ex. 1003 ¶¶ 286, 297, 317, 340) or use "well-established knowledge" (*id*. ¶ 283) to support its obvious assertions.

Patent Owner does not present any arguments specific to these grounds. *See generally* PO Resp.; PO Sur-reply.

We have reviewed Petitioner's evidence and arguments and find it is sufficient to show that the references teach the limitations of claims, with motivation to support the combination of the prior art references.

For the reasons explained *supra* Section II.F.2, we conclude that Patent Owner's evidence purportedly showing commercial success, long-felt need, copying, and industry praise lacks merit because it does not show a nexus with the claimed invention. Thus, secondary considerations are not sufficient to outweigh Petitioner's evidence of obviousness of challenged claims under these grounds.

Having considered the arguments and evidence, we determine that Petitioner has shown by a preponderance of the evidence that claim 24 would have been obvious over Plamondon; claims 8 and 11 would have been obvious over Plamondon and RFC 2616; claims 8 and 9 would have been obvious over Plamondon and RFC 1122; and claim 2 would have been obvious over Plamondon and IEEE 802.11-2007.

III. MOTIONS TO SEAL

Patent Owner filed a Motion to Seal and To Enter the Proposed Protective Order, which seeks to seal Exhibits 2018, 2020, 2021–2024, and 2044 and associated portions of Patent Owner Response, and to enter an agreed-upon Joint Protective Order. Paper 20; Ex. 2052. Patent Owner asserts that Exhibit 2018 contains sensitive technical information, Exhibits 2020–2024 contain source code and related files, and Ex. 2044 is an expert declaration that references some of the sensitive information in the exhibits. Paper 20, 2–7. Patent Owner argues that it would be harmed by the public

disclosure of its highly sensitive information, which it has taken steps to guard against disclosure, which outweighs the public's interests. *Id*. This Motion is unopposed.

We have reviewed the exhibits at issue, including the redacted portions of Exhibit 2044, and the explanations of the confidential nature of the materials for which sealing is sought, as discussed in the Motion. We grant the Motion to Seal and the associated request to enter the Protective Order. Paper 20. We also grant the request to withdraw the Motion to Seal which was filed as Exhibit 18.

Patent Owner filed another Motion to Seal which seeks to seal Exhibit 2055 and Exhibit 1081. Paper 28, 2. Patent Owner asserts that Exhibit 2055 contains a document related to source code that has not been publicly disclosed and steps have been taken to guard against its disclosure. *Id*. at 3–4. Patent Owner contends that the portions of Exhibit 1081, a deposition transcript of Dr. Williams, which it seeks to redact, contain highly sensitive, technical details that have not been publicly disclosed. *Id*. at 5–11. Petitioner does not oppose the grant of sealing for Exhibit 2055, but opposes the motion as to the redacted portions of Exhibit 1081. Paper 29, 2. Petitioner argues that the some of the redacted material is not sensitive as it "merely identifies the programming language" (Ex. 1018, 46:13–17), or has already been disclosed (*id*. at 62:5–63:14, 77:24–78:25, 93:5–95:18; 96:9–97:18). Paper 29, 4–8 (emphases omitted). Patent Owner responds by asserting that the information at issue is confidential and neither Petitioner nor Patent Owner relied on the redacted testimony in its briefing. Paper 31, 1–2. As such, Patent Owner argues that the "redactions do not diminish the understandability of the public record." *Id*. at 2. Patent Owner distinguishes Petitioner's case law. *Id*. at 2–3. Patent Owner argues that the redacted

testimony "relates to specific details about the operation of Bright Data's commercial services." *Id*. at 5.

We have reviewed the redacted portions of Exhibit 1018. We find that the information is sensitive and falls within the criteria for protection in the Joint Protective Order as it includes unpublished technical information. *See* Ex. 2052 ¶ 4. While we agree with Petitioner that some of the materials discussed had previously been disclosed, nevertheless, the testimony at issue include specific details of Patent Owner's software provided in response to detailed questioning. Accordingly, we grant Patent Owner's Motion to Seal for Exhibits 1018 and 2055 (Paper 28).

IV. MOTION TO EXCLUDE

Petitioner filed versions of Exhibits 2026 and 2027 that are alleged to contain corrections, and these exhibits contain excerpts from a transcript of a trial involving Patent Owner and a third party (Teso). Paper 46; Ex. 2026; Ex. 2027. With the Board's leave, Petitioner filed a Motion to Exclude these corrected versions. Paper 38. Petitioner contends that the corrected exhibits (CE 2026 and 2027) "are piecemeal excerpts from transcripts of a federal court trial" between Patent Owner and non-parties to these proceedings and Patent Owner "cites the excerpts as purported secondary considerations evidence." *Id*. at 1. Petitioner seeks to exclude these exhibits as inadmissible hearsay. *Id*. at 2–5. Petitioner argues that the documents constitute inadmissible hearsay because they are offered "to prove the truth of the matter asserted in the statement," and no hearsay exceptions, including the residual hearsay exception, apply. *Id*.; Fed. R. Evid. § 801(c).

Patent Owner opposes the Motion because: 1) the portions of the exhibits at issue are not hearsay; 2) Federal Rules of Evidence § 703 applies

as the bases of expert opinion; and 3) the residual hearsay exception applies under Federal Rules of Evidence § 807. Paper 39, 1–5.

Patent Owner asserts that the Board need not decide the Motion because "[i]f the Board finds no anticipation [of claim 1], then the Board need not evaluate any secondary considerations of non-obviousness" and consider the corrected exhibits. Paper 39, 1. Patent Owner contends that the corrected exhibits "were offered as evidence of what they describe, for example, context for otherwise admissible evidence." *Id*. at 2. Patent Owner asserts that, even if the exhibits are deemed hearsay, they are admissible as the bases of an expert opinion under the Federal Rules of Evidence § 703. *Id*. at 3. Patent Owner asserts that it is reasonable for Dr. Williams to rely on the testimony of the trial witnesses because the testimony was taken under oath, at trial, and each witness was examined by lawyers with similar opportunity and motive to fully develop the testimony. *Id*. (citing Ex. 2044 ¶¶ 228–231). Patent Owner argues that it is reasonable for Dr. Williams to consider, for example, the testimony on the development, and Petitioner has not presented any indication that the evidence is not reliable. *Id*. Patent Owner contends that experts in this field would reasonably rely on under-oath testimony from a related litigation in forming opinions, Petitioner did not move to exclude Dr. Williams's opinions, and Petitioner had the opportunity to question Dr. Williams and did not do so. *Id*. at 3–4.

Patent Owner further argues that the residual exception under Federal Rules of Evidence § 807 applies because the witnesses "were cross-examined by parties with similar motive and opportunity," "[t]rial testimony under oath possesses guarantees of trustworthiness," and the testimony has been corroborated. Paper 39, 4–5.

We reviewed the corrected exhibits and the portions of Patent Owner's Response and Sur-reply that cite to these exhibits to determine how the exhibits were intended to be used, and we determine that the contents of the exhibits are intended "to prove the truth of the matter asserted in the statement" and are hearsay. *See* PO Resp. 67 (citing Ex. 2026); PO Resp. 68 (citing Ex. 2027). There is no dispute that the transcripts are from another proceeding. We agree with Petitioner that prior testimony from another case, which is not subject to cross-examination by the opposing party, is hearsay if offered for the truth of the matter.

We also do not find that the exhibits are subject to an exception under Federal Rules of Evidence § 703 as the bases of the expert's opinion testimony. An expert may base an opinion on facts or data if experts in the particular field would reasonably rely on those kinds of facts or data in forming an opinion on the subject. Fed. R. Evid. § 703. However, that does not make the underlying facts admissible. *See* Rule 703 Committee Notes – 2000 amendment ("Rule 703 has been amended to emphasize that when an expert reasonably relies on inadmissible information to form an opinion or inference, the underlying information is not admissible simply because the opinion or inference is admitted."). Moreover, although Patent Owner alleges that the testimony is to "facts or data," we do not agree. The testimony relied upon is to trial testimony is for discussions that may perhaps provide context, but may or may not be true, and the testimony was not subject to cross-examination is this proceeding. *See* Ex. 2044 (citing Ex. 2026, 182:22–197:21; Ex. 2027, 90:3–93:7, 94:23–95:9; 95:20–97:23, 103:18–104:10, 131:23–132:7, 152:8–153:6).

As to the residual exception of Federal Rule of Evidence § 807, in

order to be admissible under this exception, a hearsay statement must be "supported by sufficient guarantees of trustworthiness—after considering the totality of circumstances under which it was made and evidence, if any, corroborating the statement" and also be "more probative on the point for which it is offered than any other evidence that the proponent can obtain through reasonable efforts." Fed. R. Evid. § 807. Here, more probative evidence could have provided by Patent Owner, for instance, by declarations submitted in this proceeding that could have been subject to cross-examination.

Additionally, we note that the testimony at issue is only relevant to alleged factual issues in support of the long-felt need and copying elements of secondary considerations. *See* PO Resp. 67–68. As discussed *supra* Section II.F.2, because we determined that the limited issue of whether nexus had been shown was dispositive as to long-felt need and copying, we did not rely on the information in the exhibits at issue in making our determinations.

Accordingly, we *grant* Petitioner's Motion To Exclude.

V. CONCLUSION

For the foregoing reasons, we conclude that Petitioner has shown by a preponderance of the evidence that claims challenged claims 1–12 and 15–24 of the '510 patent are unpatentable. In summary:

Claim(s)	35 U.S.C. §	Reference(s)/ Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1, 10, 12, 15–23	102	Plamondon	1, 10, 12, 15–23	
24	103	Plamondon	24	
8, 11	103	Plamondon,	8, 11	

Claim(s)	35 U.S.C. §	Reference(s)/ Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
		RFC 2616		
8, 9	103	Plamondon, RFC 1122	8, 9	
2	103	Plamondon, IEEE 802.11-2007	2	
2–5	103	Plamondon, Price	2–5	
6, 7	103	Plamondon, Kozat	6, 7	
Overall Outcome			1–12, 15–24	

VI. ORDER

Accordingly, it is

ORDERED that claims 1–12 and 15–24 of U.S. Patent No. 10,484,510 B2 have been shown to be unpatentable;

FURTHER ORDERED that the Motions to Seal (Papers 20, 28) are *granted*;

FURTHER ORDERED that the Motion to Exclude (Paper 38) is *granted*;

FURTHER ORDERED that the request to enter the protective order is granted;

FURTHER ORDERED that, no later than ten business days after the issuance of this Final Written Decision, the parties may file a joint motion to seal portions of this Final Written Decision, explaining why portions of it should remain under seal, and including as an attachment a redacted version of the Final Written Decision that can be made publicly available;

FURTHER ORDERED that the present decision shall remain under seal until any joint motion to seal the Final Written Decision is resolved;

FURTHER ORDERED that the present decision shall be made public if, after the expiration of the time for the parties to file a joint motion to seal, no such motion has been filed; and

FURTHER ORDERED that, because this is a Final Written Decision, the parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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