

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

OXYLABS LT, UAB

Petitioner

v.

BRIGHT DATA LTD.,

Patent Owner

Case IPR2024-00126

Patent No. 11,616,826

PATENT OWNER RESPONSE

Mail Stop PATENT BOARD
Patent Trial and Appeal Board
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

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<u>PATENT OWNER'S EXHIBIT LIST</u>	
EX. 2001	Preliminary Amendment, dated March 12, 2024 in Reissue Application No. 18/603,037
EX. 2002	Office Action, dated 6/21/2022 in Reexamination Control No. 90/014,827
EX. 2003	Remarks, dated Aug. 6, 2019 in Application No. 16/278,105 which issued as U.S. Patent No. 10,469,628
EX. 2004	Remarks dated Aug. 23, 2018 in Application No. 15/957,950 which issued as U.S. Patent No. 10,225,374
EX. 2005	U.S. Pub. No. 2006/0212584 (“Yu”)
EX. 2006	Deposition Transcript of Dr. James Olivier, dated December 29, 2022 in IPR2022-00687
EX. 2007	U.S. Patent No. 6,434,618 (“Cohen II”)
EX. 2008	U.S. Patent No. 11,044,341 (“the ‘341 Patent”)
EX. 2009	U.S. Patent No. 10,469,628 (“the ‘628 Patent”)
EX. 2010	U.S. Patent No. 10,225,374 (“the ‘374 Patent”)
EX. 2011	Definition of “Operating System”, Merriam-Webster Dictionary, accessed at https://www.merriam-webster.com/dictionary/operating%20system on March 13, 2024
EX. 2012	Definition of “Operating System”, Cambridge English Dictionary, accessed at https://dictionary.cambridge.org/us/dictionary/english/operating-system on March 13, 2024
EX. 2013	Deposition Transcript of Dr. James Olivier, dated August 12, 2024 in IPR2024-00126

EX. 2014	Errata Sheet of Dr. James Olivier, dated August 27, 2024 in IPR2024-00126
EX. 2015	U.S. Patent No. 10,484,511 (“the ‘511 Patent”)
EX. 2016	Definition of “select”, Dictionary.com, accessed at https://www.dictionary.com/browse/select on September 3, 2024
EX. 2017	Definition of “selecting”, Merriam-Webster Dictionary, accessed at https://web.archive.org/web/20090422141612/https://www.merriam-webster.com/dictionary/selecting on September 3, 2024
EX. 2018	Definition of “select”, Cambridge English Dictionary, accessed at https://dictionary.cambridge.org/us/dictionary/english/select?q=selecting on September 3, 2024
EX. 2019	U.S. Patent No. 10,257,319 (“the ‘319 Patent”)
EX. 2020	U.S. Patent No. 10,484,510 (“the ‘510 Patent”)
EX. 2021	U.S. Patent No. 10,491,713 (“the ‘713 Patent”)
EX. 2022	U.S. Patent No. 11,050,852 (“the ‘852 Patent”)
EX. 2023	Claim Construction Order, <i>Bright Data Ltd. v. NetNut Ltd.</i> , Case No. 2:21-cv-00225, Dkt. 146 (E.D. Tex. May 10, 2022)
EX. 2024	Order, <i>Bright Data Ltd. f/k/a Luminati Networks Ltd. v. Teso LT, UAB a/k/a UAB Teso LT, et al.</i> , Case No. 2:19-cv-395-JRG, Dkt. 303 (E.D. Tex. Feb. 12, 2021)
EX. 2025	Order, <i>Bright Data Ltd. f/k/a Luminati Networks Ltd. v. Code200, UAB, et al.</i> , Case No. 2:19-cv-396-JRG, Dkt. 98 (E.D. Tex. Feb. 9, 2021)
EX. 2026	U.S. Patent No. 10,637,968 (“the ‘968 Patent”)

EX. 2027	U.S. Patent No. 10,069,936 (“the ‘936 Patent”)
EX. 2028	Prosecution History of U.S. Patent No. 10,069,936
EX. 2029	Select portions of the prosecution history of U.S. Patent No. 10,225,374
EX. 2030	Definition “Consumer”, Cambridge English Dictionary; accessed at https://dictionary.cambridge.org/us/dictionary/english/consumer on June 10, 2022
EX. 2031	Definition “Consumer”, Cambridge Advanced Learner’s Dictionary, copyright 2008, ISBN 978-0-521-71266-8
EX. 2032	Definition “Consumer”, Cambridge Academic Content Dictionary, copyright 2009, ISBN 978-0-521-69196-3
EX. 2033	Definition “Consumer”, Collins English Dictionary; accessed at https://www.collinsdictionary.com/us/dictionary/english/consumer on June 10, 2022
EX. 2034	Definition “Consumer”, Collins COBUILD Advanced Dictionary of American English, copyright 2007, ISBN 978-1-4240-0363-1
EX. 2035	Network Fundamentals Study Guide, published February 17, 2015; accessed at https://www.webopedia.com/reference/network-fundamentals-studyguide/#topologies on June 14, 2022
EX. 2036	Excerpts from Tanenbaum, A., et al., “Computer Networks – Fifth Edition”, copyright 2011, ISBN 0-13-212695-8
EX. 2037	Excerpts from Tanenbaum, A., “Computer Networks – Fourth Edition”, copyright 2003, ISBN 0-13-066102-3
EX. 2038	RESERVED
EX. 2039	Bright Data, “Buy Datacenter Proxies”, accessed at https://brightdata.com/proxy-types/datacenter-proxies on December 12, 2022

EX. 2040	Source Code File - HIGHLY CONFIDENTIAL – OUTSIDE ATTORNEYS’ EYES ONLY – SOURCE CODE
EX. 2041	Declaration of Dr. Tim A. Williams – HIGHLY CONFIDENTIAL – OUTSIDE ATTORNEYS’ EYES ONLY
EX. 2042	Bright Data, “What is Proxy Manager?”, accessed at https://help.brightdata.com/hc/en-us/articles/4413135708561 on January 19, 2023
EX. 2043	Bright Data, “Is communication between relays encrypted?”, accessed at https://help.brightdata.com/hc/en-us/articles/4413418365713-Is-communication-between-relays-encrypted- on January 19, 2023
EX. 2044	Bright Data, “Which ports and protocols are supported by Bright Data?”, accessed at https://help.brightdata.com/hc/en-us/articles/4413222000017-Which-ports-and-protocols-are-supported-by-Bright-Data- on January 19, 2023
EX. 2045	Bright Data, Network Diagram – HIGHLY CONFIDENTIAL – OUTSIDE ATTORNEYS’ EYES ONLY
EX. 2046	Select portions of the prosecution history of U.S. Patent No. 10,469,628
EX. 2047	Select portions of the prosecution history of U.S. Patent No. 11,044,341
EX. 2048	Preliminary Amendment dated November 29, 2023, Reissue Application No. 18/523,800
EX. 2049	Prosecution History of U.S. Patent No. 10,257,319
EX. 2050	Corrected Patent Owner Preliminary Response, IPR2020-01266, Paper 16 (PTAB Dec. 9, 2020)

EX. 2051	Patent Owner Preliminary Response, IPR2020-01358, Paper 9 (PTAB Nov. 20, 2020)
EX. 2052	Joint Protective Order
EX. 2053	Redlined version of the Joint Protective Order (compared to Default Protective Order)
EX. 2054	Executed Acknowledgements from Dr. Tim A. Williams and counsel for Patent Owner

I. INTRODUCTION

Patent No. 11,616,826 (“the ‘826 Patent”) contains 25 claims with only claim 1 being independent. As discussed herein, the method of claim 1 operates within a specific architecture shown below:

first client device ↔ **first server** ↔ **web server**

Patent Owner respectfully submits that Petitioner fails to meet its burden for at least four reasons.

First, the petition does not address Patent Owner’s proposed constructions for the disputed claim terms “client device” and “server” which distinguish the different types of hardware used in the specific architecture. Patent Owner’s constructions are correct and should be adopted based on at least the intrinsic record.

Second, Petitioner uses purely role-based constructions for the disputed claim terms “client device” and “server” which are not appropriate in the context of the ‘826 Patent. The purely role-based constructions focus only on the role being performed by a network component at a particular point in time for a particular connection, rather than the type of hardware. Even under Petitioner’s incorrect constructions, the prior art does not invalidate the challenged claims.

Third, deficiencies in the grounds under either set of constructions show that Petitioner fails to meet its burden with respect to the challenged claims.

Finally, there are strong secondary considerations of non-obviousness in view of Patent Owner's data center proxy service that embodies the claimed features.

II. PERSON OF ORDINARY SKILL IN THE ART ("POSA")

Patent Owner proposes a POSA would, as of 10/8/2009, have a Master's Degree or higher in the field of Electrical Engineering, Computer Engineering, or Computer Science or as of that time had a Bachelor's Degree in the same fields and two or more years of experience in Internet communications. EX. 2041 at ¶25. Petitioner's definition of a POSA is not materially different, but a POSA would have had at least a Bachelor's degree in a relevant field, rather than purely experience. Paper 9 at 18; EX. 2041 at ¶26. Patent Owner's analysis herein does not change under either definition of a POSA. *Id.*

III. SUMMARY OF THE '826 PATENT

Claim 1 of the '826 Patent recites a method performed by the "first server" within a first client device ↔ first server ↔ web server architecture as shown, for example, in the annotated claims in the following table. EX. 2041 at ¶49. A POSA would have understood that the "first client device" may correspond to a requesting client device and that the "first server" may correspond to an intermediary proxy server. EX. 2041 at ¶50.

‘826 Patent

1. A method for use with a **web server** that stores a first content identified by a first content identifier, and for use with a **first client device** that is addressed over the Internet using first Internet Protocol (IP) address, for use with a list of IP addresses stored in the **first server**, the method by the **first server** comprising:

[1a] storing, operating, or using, a server operating system;

[1b] receiving, from the **first client device**, the first content identifier;

[1c] selecting, an IP address from the list according to a criterion;

[1d] sending, in response to the receiving of the first content identifier, using the selected IP address, the first content identifier;

[1e] receiving, in response to the sending of the first content identifier, the first content from the **web server**; and

[1f] sending the received first content, or a part thereof, to the **first client device**.

A POSA would have understood that there may be additional intermediaries located between the “**first server**” and the “**web server**”. EX. 2041 at ¶51. For example, dependent claims 2-4 makes clear that the selected IP address corresponds to a “**second client device**” in a **first client device** ↔ **first server** ↔

second client device ↔ **web server** architecture. EX. 2041 at ¶51. A POSA would have understood that this architecture involves an intermediary proxy **server** and an intermediary proxy **client device**. *See id.*

A. SPECIFICATION OF THE ‘826 PATENT

A POSA would have known that the use of an intermediary proxy can protect the identity of the requesting client device and reduce blocking/spoofing by the web server. EX. 2041 at ¶¶45-46. However, the specification distinguishes the prior art systems that are cost prohibitive and do not handle dynamic content due to the typical cache-storage methods. EX. 2041 at ¶¶55-65; EX. 1001 at 2:8-3:3. To solve these problems, the specification discloses a non-traditional architecture with different types of network components (client devices vs. servers) arranged in a specific way.

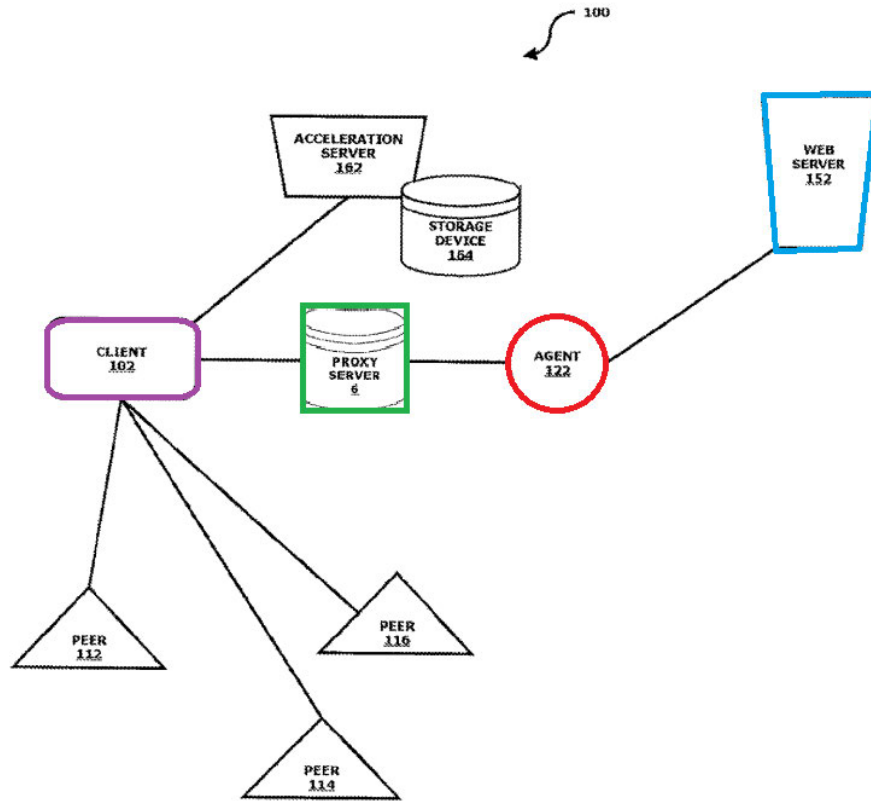
The specification discloses “client devices” (including clients, peers, and agents) are communication devices that are “computers of consumers,” i.e., consumer computers, and it distinguishes client devices from servers. EX. 2041 at ¶162; EX. 1001 at 3:17-28 (describing “client communication device”, “agent communication device”, “peer communication device”), EX. 1001 at 4:41-61 (describing client devices as communication devices operating as clients/peers/agents), EX. 1001 at 4:62-5:34 (describing different servers versus communication devices), EX. 1001 at 2:40-43 (contrasting client devices from

servers), EX. 1001 at 4:43-50 (server not included as communication device), EX. 1001 at 4:6-13 (identifying Figs. 4-6 as illustrating “a communication device of the communication network of FIG. 3”), EX. 1001 at Fig. 6 (showing modules 224, 226, 228 loaded onto a communication device, not a server).

The specification discloses a proxy server may be placed between one or more client devices, which may include client 102 and agent 122 of FIG. 3. EX. 2041 at ¶62; EX. 1001 at 2:10-12.¹ As the following figure shows, a POSA would have understood the **first client device** ↔ **first server** ↔ **second client device** ↔ **web server** architecture may correspond to client 102 ↔ proxy server 6 ↔ agent 122 ↔ web server 152. EX. 2041 at ¶62.

¹ A POSA would understand that communication network 100 shown in FIG. 3 is not intended to be limited and may include other known components, including a proxy server. EX. 2041 at ¶62 (citing, e.g., EX. 1001 at 5:41-48; 19:5-14).

PUBLIC VERSION



IV. CLAIM CONSTRUCTION

A. THE PREAMBLE OF CLAIM 1 IS LIMITING

Patent Owner submits that the preamble of claim 1 is limiting. EX. 2041 at ¶¶66. This is consistent with the Court's Claim Construction Orders. EX. 1010 at 9; EX. 1011 at 9; EX. 2023 at 8. Petitioner did not take a position on the preamble in the claim construction section, but Petitioner analyzes the preamble as if it were limiting. *E.g.*, Petition at 27-28 (analyzing Kocherlakota) and 56-57 (analyzing Cohen).

**B. “SELECTING, AN IP ADDRESS” AND “SENDING OF THE
SELECTED IP ADDRESSES TO THE FIRST CLIENT DEVICE”**

Patent Owner submits that “selecting, an IP address” as recited in claim 1 means making a choice in preference to another or others. EX. 2041 at ¶69. The Merriam-Webster dictionary defines “select” as “to choose (as by fitness or excellence) from a number or group; pick out” or “to make a choice”. EX. 2017. The Cambridge English Dictionary defines “select” as “to choose a small number of things, or to choose by making careful decisions.” EX. 2018.

The step of “selecting” involves making a choice and requires some intelligent decision-making. EX. 2041 at ¶69. For example, “selecting” may involve determining the numerical closeness of the IP addresses in the list relative to the destination web server. *Id.* (citing, *e.g.*, EX. 1001 at 13:25-29). Even if instructed to determine the numerical closeness of IP addresses in the list relative to the destination web server, this still requires some choice, some intelligent decision-making, in performing the “selecting” by evaluating the IP addresses and making a choice. *Id.*

Petitioner’s expert appears to agree with this understanding of “selecting” involving making a choice. EX. 2041 at ¶70. For example, Petitioner’s expert agreed that acceleration server 162 performs “selecting” of agents to be included on a list. EX. 2013 at 48:1-5; *see also* EX. 1001 at 13:25-29 (“The list of agents is created by the acceleration server 162 by finding the communication devices of the

communication network 100 that are currently online, and whose IP address is numerically close to the IP of the destination Web server 152.”). As another example, Petitioner’s expert agreed that client 102 performs “selecting” of an agent. EX. 2013 at 49:1-8; *see also* EX. 1001 at 13:64-14:2 (“To determine which agent in the list to use at its agent for the particular information request, the client may consider multiple factors, such as, for example, factoring the speed of the reply by each agent and whether that agent does or does not have the information required. There are multiple ways to implement this agent selection...”); *see also* EX. 1001 at 14:10-13 (“...after selecting an agent, the client notifies the selected agent that it is going to use it for this request, and notifies the other agents that they will not be used for this request.”), FIG. 10 (block 386).

Petitioner’s expert clarified that in his opinion, there is no “selecting” when the agent 122 identifies itself as the only peer because there is **no choice**. EX. 1002 at ¶64; EX. 2013 at 47:12-15, 49:1-14, 49:21-50:5. Petitioner’s expert stated that selecting means “[y]ou have to be able to choose among a set” and “[t]here’s no selecting if there’s only one answer”. EX. 2013 at 50:6-12 (reproduced below).

6 Q What is your understanding of the term
7 "selecting"?
8 A You have to be able to choose among a
9 set. There's no selecting if there's only one
10 answer. In other words, if I give my students a
11 multiple-choice question and I only have A, they
12 don't have to select the right answer.

Therefore, a POSA would have understood the step of “selecting” requires the first server to make a choice in preference to another or others. EX. 2041 at ¶72. This understanding is also consistent with the relevant prosecution histories of predecessor patents. *Id.* For example, during prosecution of the parent patent, the patentee explained that the cited reference did not teach a server performs the “selecting” limitation. EX. 1008 at 128 (“In fact, the Yu reference teaches away from any selecting by any server... the selecting is made in the requesting client device (see step 514 in Figure 5)”) (emphasis in original).

Finally, Patent Owner does not dispute Petitioner’s understanding of the grammatical singular vs. plural recitation of “IP address” vs. “IP addresses” in claims 1 and 19. Petition at 20. A POSA would have understood sending the

selected IP address in claim 19 to correspond to sending the IP address selected in claim 1. EX. 2041 at ¶67.

C. “SERVER OPERATING SYSTEM”

Patent Owner submits that “server operating system” as recited in claim 1 means an operating system that runs on a server, a type of hardware. EX. 2041 at ¶73. A POSA would have understood that an operating system is the software that manages the hardware and controls the operation of programs. *Id.* A POSA would have understood that a **server** operating system runs on **server** hardware. EX. 2041 at ¶76.

A POSA would have understood that a server operating system is different from a client operating system at least because a server operating system (a) is optimized for concurrent network connections, as opposed to a client operating system that prioritizes interactions with the user; (b) typically has more robust administration tools; (c) typically uses a command line interface as opposed to a graphical user interface; (d) typically provides more fine-grained permissions and/or advanced security settings for multiple users/inputs (e.g., lockout services for certain connections, whitelist IP, etc.); and/or (e) manages redundant hard drives and/or multiple processors. EX. 2041 at ¶73.

In the context of the ‘826 Patent, a POSA would have understood that a server uses a server operating system, while a client device uses a client operating system, because client devices and servers are different types of hardware. EX. 2041 at ¶74.

Petitioner’s proposed constructions do not acknowledge that a server operating system is used by a server, a type of hardware. Petition at 19-22; EX. 2041 at ¶75. Contrary to Petitioner’s arguments, a POSA would have understood that a server operating system is not simply an operating system with the capability of receiving requests and sending responses. EX. 2041 at ¶76.² This is contrary to the characteristics of a server operating system used for server hardware and known to a POSA. *Id.*

Petitioner’s expert’s testimony during deposition confuses rather than clarifies Petitioner’s proposed constructions. *Id.* Petitioner’s expert testified that an operating system can (a) be configured to operate in the role of a client exclusively (by disabling server functionality); (b) be configured to operate in the role of a server exclusively (by disabling client functionality); or (c) be configured to operate in both

² Petitioner also states the operating system must only be “capable” of operating in the role of a server, but does not explain whether server functionality must be enabled or whether client functionality must be disabled.

the client and server roles. EX. 2013 at 17:8-22; 38:16-39:1; 39:2-7; 39:11-40:3; 41:1-16; 42:17-43:7.

Petitioner also does not distinguish a server operating system from, for example, a client operating system. EX. 2041 at ¶¶76-78. For example, Petitioner's expert was unable to distinguish a server operating system from a client operating system under Petitioner's proposed constructions. EX. 2013 at 18:1-21:17; 40:4-22.³ This contradicts the express claim language by genericizing "operating system". EX. 2041 at ¶77. The claim language expressly refers to a server operating system, which would have been easily understood by a POSA. *Id.*

For Petitioner's alternative construction, Petitioner relies on the Masters reference. EX. 1002 at ¶61 (citing EX. 1022 at 8:53-55). However, the Masters reference shows that a server operating system runs on server hardware and actually supports Patent Owner's proposed construction. EX. 2041 at ¶79. The Masters reference refers to a general purpose server operating system employed on server

³ For example, in order to be a server operating system, Petitioner's expert does not require the operating system to be configured to operate in the role of a server exclusively (by disabling client functionality). And, according to Petitioner's expert, even if the operating system were configured to operate in both the client and server roles, he would still call that a server operating system.

computer 202, which is server hardware. EX. 1022 at 8:51-56; *see also* 8:28-30; 7:11-19.⁴ The Masters reference discloses server computer 202 may be a “blade” server, which is server hardware well known to a POSA. EX. 1022 at 9:36-51.

Additionally, a POSA would have known that UNIX, Linux, and Microsoft Windows NT offered various types of operating systems. EX. 2041 at ¶80. Therefore, a generic reference to a UNIX, Linux, or Microsoft Windows NT operating system does not show that the operating system is a **server** operating system specifically. *Id.*

D. “CLIENT DEVICE” AND “FIRST SERVER”

For at least the reasons discussed below, Patent Owner submits that “client device” means “consumer computer” or alternatively, “consumer communication device”; and that “first server” means “server that is not a client device.” EX. 2041 at ¶80.

⁴ Server computer 202 of FIG. 4 relates to internet server 102 of FIG. 1. Petitioner’s expert agreed. EX. 2013 at 44:8-12. In FIGS. 4 and 5, the Masters reference distinguishes server computer 202 from client computer 300. In FIG. 1, the Masters reference distinguishes internet server 102 from clients 128.

1. The patentee acted as a lexicographer by specifically defining “client devices” as “computers of consumers” and distinguishing them from commercial network “servers”.

When a patentee expressly sets forth the definition of a claim term, the claim term must be given that meaning. *Vitronics Corp. v. Conceptronic*, 90 F.3d 1576, (Fed. Cir. 1996) (“Although the words in a claim are generally given their ordinary and customary meaning, a patentee may choose to be his own lexicographer and use terms in a manner other than their ordinary meaning, as long as the special definition of the term is clearly stated in the patent specification or file history.”). One way a patentee acts as a lexicographer is to use the phrase “referred to herein as.” See *Kyocera Senco Indus. Tools, Inc. v. ITC*, 22 F.4th 1369, 1379 (Fed. Cir. 2022).

Here, the patentee expressly defined “client devices” to mean “computers of consumers”. EX. 2041 at ¶164. The patentee expressly used the phrase “referred to herein as” to define “client devices”: “In the network 50, files are stored on **computers of consumers, referred to herein as client devices** 60.” EX. 1001 at

2:44-46 (emphasis added). The prosecution history statements also refer to client devices as “consumer owned and operated.” EX. 2028 at 163.⁵

The specification and claims consistently use the terms “client device” and “server” as two different types of network components.

2. The prosecution history confirms that “client devices” and “servers” are different hardware and precludes purely role-based constructions

A patentee can define and narrow the scope of the meaning of claim terms via prosecution history estoppel/disclaimer or by otherwise providing meaning of claim language during prosecution history. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1317 (Fed. Cir. 2005) (“[T]he prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be.”) (internal citation omitted). Such prosecution history supports Patent Owner’s proposed constructions here.

The patentee defined and limited the meaning of “client devices” and “servers” during prosecution. The patentee made clear that these terms refer to

⁵ The use of the word consumer in the specification does not deviate from its common understanding. EX. 2041 at ¶165 (citing EXS. 2030-2034). A “consumer” is commonly defined as a “person who buys goods or services for their own use” or “someone who buys goods or services for personal use.” *Id.*

different hardware. When a patentee expressly disclaims or limits the scope of a claim term during prosecution, courts must recognize those statements. *Aylus Networks, Inc. v. Apple Inc.*, 856 F.3d 1353, 1359 (Fed. Cir. 2017) (explaining that the doctrine of prosecution disclaimer is deeply rooted in Supreme Court precedent and has become "a fundamental precept in our claim construction jurisprudence") (internal citations omitted). Even when statements do not rise to the level of disclaimer, they nonetheless inform the public about the meaning of terms, and such statements are highly relevant in claim construction. *See Phillips*, at 1317.

As a first example, during prosecution of predecessor Patent No. 10,069,936, the patentee expressly differentiated client devices and servers as having different attributes. EX. 2024 at ¶¶123-129.⁶ Those statements are clear enough to inform a POSA as to the meaning of the terms, whether under disclaimer, estoppel, or otherwise. Specifically, the patentee stated:

(1) That servers are known to be “dedicated devices” in contrast to client devices (EX. 2028 at 163; EX. 2028 at 215); and

⁶ Although the claims of the ‘936 Patent refer to “clients”, the patentee’s statements expressly refer to “client devices”.

(2) That a client device is a “non-server”, *i.e.*, not a server. EX. 2028 at 166. These are different types of network components. The patentee expressly stated this differentiation is known in the art EX. 2028 at 163.

The patentee also distinguished prior art references to obtain the claims by arguing that “client devices” are consumer devices whereas “servers” are not:

- The patentee expressly stated that that Garcia’s intermediary server does not correspond to an intermediary client device. EX. 2028 at 166-167 (“the Garcia reference in general, and the cited paragraph in particular, are silent regarding selecting [a] non-cache server in general, a non-server in particular, and further regarding selecting a client device as recited in the claim.”) (emphasis in original).
- The patentee explained that “[c]lient devices, such as client 105 in the Garcia reference, are end-units that request information from servers, use client-related software such as Web browser software, communicate over the Internet using ISP connection, and are typically consumer owned and operated...” EX. 2028 at 163. “[A] client device typically connects to the Internet via an ISP using a single connection.” *Id.* “Clients are inherently [re]sources limited, such as in bandwidth and storage capability.” EX. 2028 at 164. These attributes distinguish client devices from servers.

- The examiner necessarily accepted the patentee’s arguments that a server cannot be equated to a client device because the examiner abandoned its prior reliance on Garcia’s servers and instead relied on the intermediary peer nodes of Yu. EX. 2028 at 123-124.⁷

Thus, the prosecution history informed the public and a POSA that as used in these patents, a “client device” is a consumer computer, and a “server” is a dedicated commercial computer that is not a client device.

As a second example, during prosecution of predecessor Patent No. 10,469,628, the patentee expressly differentiated client devices and servers as different hardware. EX. 2041 at ¶¶135-138. The patentee expressly distinguished receiving content from a peer node, which is a client device, as opposed to receiving content from a server. EX. 2003 at 4-5; *see also* EX. 2005 at [0003](“Peer-to-peer network technologies distribute processing and transmission demands among peer clients in the network.”); *see also* EX. 2005 at [0020](explaining Yu’s peer nodes may be implemented on personal computers, laptop computers, etc.).

⁷ The patentee explained that Yu was not properly combinable with Garcia and that the combination did not teach the claims (EX. 2028 at 95-96) and the examiner ultimately withdrew the rejections based on Garcia (EX. 2028 at 77).

As a third example, during prosecution of predecessor Patent No. 11,044,341, the patentee distinguished client devices and servers as different types of hardware components, and further distinguished the different architectures of the Yu and Barth references. EX. 2041 at ¶¶139-142; *see* EX. 1008 at 124 (explaining Yu discloses a peer-to-peer system using client devices, while Barth is fetching information from additional servers).; *see also* EX. 1008 at 125 (Yu is focused on “reducing a load of a server by accessing client peer devices...”).

A patentee also can disclaim and/or limit the meaning of terms in statements made during subsequent Patent Office proceedings and such statements are part of the intrinsic record. *Aylus Networks, Inc.*, 856 F.3d at 1361; *Krippelz v. Ford Motor Co.*, 667 F.3d 1261, 1266 (Fed. Cir. 2012); *Cuozzo Speed Technologies, LLC v. Lee*, 136 S. Ct. 2131, 195 L. Ed. 2d 423 (2016).

Prior to the district court claim construction orders, and prior to the issuance of the ‘826 Patent, the patentee made clear statements regarding the scope of the disputed claim terms in related patents. *Microsoft Corp. v. Multi-Tech Sys., Inc.*, 357 F.3d 1340, 1350 (Fed. Cir. 2004) (relevance of statement about scope of invention disclosed in “common specification,” when prosecuting a related application, “is enhanced by the fact that it was made in an official proceeding in which the patentee had every incentive to exercise care in characterizing the scope of its invention”).

Related Patent No. 10,257,319 was involved in IPR2020-01266 in which institution was denied. In the preliminary response, the patentee expressly stated that the term “client device” means consumer computer. EX. 2050 at 21-22.⁸ The patentee also made clear that a “client device” is not a server and that a “second server” is not a client device. EX. 2050 at 18-20, 25. The patentee expressly rejected a purely role-based interpretation of the claim terms in distinguishing the prior art references at issue there. *Id.* These statements by the patentee constitute clear and unmistakable disclaimer as to the scope of the terms client device and server in the common specification. EX. 2041 at ¶150. The patentee also made consistent statements with respect to the related Patent No. 10,484,510 in IPR2020-01358, where institution was denied. EX. 2041 at ¶152.

In view of the above, the patentee’s prosecution history statements unambiguously inform a POSA of the meaning of “client device” and “server” consistent with Patent Owner’s proposed constructions.

⁸ EX. 2050 is a Corrected Patent Owner Preliminary Response filed 12/9/2020 where the original Patent Owner Preliminary Response was filed on October 26, 2020 with certain redactions. The original Patent Owner Preliminary Response was expunged from the record following a stipulation by the parties. IPR2020-01266, Paper 15 (PTAB Dec. 3, 2020)(Order Conduct of the Proceeding).

3. The claim terms must be read in light of the specification, which supports Patent Owner’s proposed constructions

As described in the specification, “each communication device may serve as a client, peer, or agent” (EX. 1001 at 4:48-49) which informs a POSA that client 102; peers 112, 114, 116; and agent 122 are all “client devices” in the context of the specification. EX. 2041 at ¶159; *see also, e.g.*, EX. 1001 at 4:44-50; 5:21-29; 9:12-50. The specification discloses how a communication device can be configured to serve as a client, peer, or agent. EX. 2041 at ¶160; *see also, e.g.*, EX. 1001 at 4:44-50; 5:21-29; 9:12-50. The specification discusses specific modules executed by the communication device to perform the client/peer/agent roles.⁹ EX. 2041 at ¶161. Therefore, a POSA would have understood that a client device is a consumer computer with specific software to operate in accordance with the claims. *Id.*

The figures of the specification also make clear that an intermediary proxy client device is different from an intermediary proxy server. EX. 2041 at ¶¶119-120.

⁹ Figure 6 and the associated text disclose communication devices having client, peer, and agent modules, **but no server module**. EX. 1001 at 9:12-50.

- Fig. 1 (prior art) shows an intermediary proxy server. EX. 1001 3:66-67; EX. 2041 at ¶110. Fig. 3 (inventive embodiment) shows an intermediary client device. EX. 1001 at 4:3-5; EX. 2041 at ¶114.
- Proxy server 6 of Fig. 1 operates in the role of a server with respect to the requesting client devices 14, 16 and operates in the role of a client with respect to the web servers 30, 32, 34. EX. 2041 at ¶¶112-113. Proxy server 6 is an intermediary, which necessarily toggles roles for different connections. *Id.* Just because proxy server 6 operates in the role of a client with respect to the web servers, proxy server 6 does not transform into an actual client device. EX. 2041 at ¶174. Proxy server 6 is a server, regardless of the role being performed. *Id.*
- Agent 122 of Fig. 3 also toggles roles for different connections. EX. 2041 at ¶¶117-118. Just because agent 122 operates in the role of a server with respect to client 102, agent 122 does not transform into an actual server. EX. 2041 at ¶159. Agent 122 is a client device regardless of the role being performed. *Id.*
- Whether an intermediary is operating in the role of a client versus operating in the role of a server does not inform a POSA whether that

intermediary is a client device versus a server in the context of the ‘826 Patent. EX. 2041 at ¶¶119-120.

Furthermore, the figures use different symbols to distinguish client devices from servers. Whereas all client devices are shown as circles, rounded corner rectangles, or triangles, servers are never shown using those symbols. Instead, the patent uses only cylinder and rhombus shapes for servers, and never uses those shapes for client devices.

As discussed above, the specification repeatedly differentiates client devices (client, peers, and agents) and servers (proxy servers, acceleration servers, and web servers) as different types of hardware components. *See also supra*, section II.A. Consistent with the specification, Patent Owner’s constructions distinguish client devices from servers as different hardware.

4. The claim terms refer to different types of network components, known to have different attributes.

A POSA would have understood a “client device” to be a computer of a consumer, more specifically, a consumer computer like a laptop, desktop, tablet, or smartphone. EX. 2041 at ¶164. Furthermore, a POSA would have understood that a client device is typically portable and easily moved, like, for example, a laptop, desktop, tablet or smartphone. EX. 2041 at ¶168.

Client devices also differ from commercial servers because they (a) are regularly switched off and taken offline, (b) can only process a limited number of

request at a time, and/or (c) have less fault tolerance, reliability, and scalability, prioritizing value to client device users over system costs. EX. 2041 at ¶169.

A POSA would have understood a “‘client’ network component (hardware) to be consistent with Bright Data’s construction for “client device”. EX. 2041 at ¶170. For example, Tanenbaum’s “Computer Networks” explains “the employees have simpler machines, called clients, on their desks, with which they access remote data, for example, to include in spreadsheets they are constructing.” *Id.* (citing EX. 2036 at 5); *see also* EX. 2035, EX. 2037 at 7.

Based upon the specification, a POSA also would understand there are differences between client devices and servers, where a “server” is a dedicated, always-on, robust network component capable of a large number of connections. EX. 2041 at ¶¶178-179. As such, a POSA would have known that a server is a commercial network element, not a consumer device, and not easily portable or moved about by a consumer. *Id.* A POSA would have understood servers to have other attributes that are part of them being in a network environment and not a consumer computer, for example, a POSA would have understood a server (a) to remain online with greater availability and maximum up time to receive requests almost all of the time (switching off servers can be catastrophic to a network); (b) to efficiently process multiple requests from multiple client devices at the same time; (c) to generate various logs associated with the client devices and traffic

from/to the client devices; (d) to primarily interface and respond to the client devices, oftentimes without a Graphical User Interface (“GUI”); (e) to have greater fault tolerance and higher reliability with lower failure rates; and/or (f) to provide scalability for increasing resources to serve increasing client demands. EX. 2041 at ¶179. These known attributes distinguish a server from a client device. *Id.*

A POSA would have understood and been able to identify a server at the time of invention. The “Network Fundamentals Study Guide” explains “[s]ervers are often dedicated, meaning that they perform no other tasks besides their server tasks.” EX. 2041 at ¶180 (citing EX. 2035). Tanenbaum’s “Computer Networks” similarly explains “data are stored on powerful computers called servers” (hardware) and “one server can handle a large number (hundreds or thousands) of clients simultaneously”. EX. 2041 at ¶180 (citing EX. 2036 at 5-6); *see also* EX. 2037 at 7.

5. The express claim language supports Patent Owner’s constructions distinguishing client devices and servers as different types of hardware

Because claim 1 of the ‘826 Patent refers to an intermediary server, the claim language supports Patent Owner’s hardware-based constructions. An intermediary necessarily toggles roles at different points in time for different connections. Therefore, role-based constructions would not distinguish between an intermediary **server** and an intermediary **client device**. *See infra*, sections IV.D.6.b and IV.D.6.c.

6. Petitioner's proposed constructions eliminate any meaningful distinction between client devices and servers

Petitioner relies on purely role-based constructions for these claim terms (*e.g.*, Petition at 17-19) which is not appropriate in the context of the '826 Patent. EX. 2041 at ¶82. Petitioner's purely role-based constructions directly contradict the findings in the district court¹⁰, the express claim language, the specification, and the patent prosecution history statements. EX. 2041 at ¶84.

a. Petitioner's proposed constructions contradict the findings by the district court

Petitioner's expert analyzed a "client device" as a "communication device that is operating in the role of a client". EX. 2013 at 34:18-35:1. Petitioner's expert did not give any special meaning to "communication device" and instead, understood this to mean a device that can communicate. EX. 2013 at 35:2-15. Petitioner therefore deviates from the district court's construction for the term

¹⁰ Certain overlapping claim terms of related patents were construed by the district court in the Teso Litigation, the Code200 Litigation, and the NetNut Litigation. *Bright Data Ltd. v. Teso LT, UAB et al.*, Case No. 2:19-cv-00395 (E.D. Tex.)(the "Teso Litigation"); *Bright Data Ltd. v. Code200, UAB, et al.*, Case No. 2:19-cv-00396 (E.D. Tex.)(the "Code200 Litigation"); and *Bright Data Ltd. v. NetNut Ltd.*, Case No. 2:21-cv-00225 (E.D. Tex.)(the "NetNut Litigation").

“client device” and does not attribute any special meaning to the term “communication device.” EX. 2041 at ¶82. A communication device in the context of the specification is not simply any device that communicates over the Internet. EX. 2041 at ¶83.

Petitioner’s expert analyzed a “first server” as a “device that is operating in the role of a server and that is not the first client device or the web server”. EX. 2013 at 35:20-36:4. Petitioner deviates from the district court’s construction for the term “first server” attempting to remove the requirement that it be a server. EX. 2041 at ¶83.¹¹As recognized by the district court, “[t]he patents do not include servers as a type of ‘communication device.’” EX. 1010 at 12. However, Petitioner’s expert does not distinguish a server from a “communication device”. EX. 2013 at 57:8-10 (testifying that the “first server” is a device that communicates). Petitioner’s expert stated that the district court’s finding that a

¹¹ In the Teso Litigation, the Court construed the term “second server” as “server that is not the client device.” EX. 1010 at 14; EX. 1013 at 11 (“The Court is not changing the construction of “first server” and “second server”). In the Code200 Litigation, the Court construed the term “first server” of the ‘511 Patent as “server that is not the client device or the web server”. EX. 1011 at 15 (also similarly construing the term “second server” of the ‘968 Patent).

server is not a “communication device” in the context of the specification was not material to his analysis. EX. 2013 at 75:3-13.

Petitioner analyzes the claim terms as generic devices operating in a particular role. **The district court expressly rejected genericizing the claim terms in this same manner.**

First, the district court expressly rejected Petitioner’s attempt to ignore that the claims recite different types of network components arranged in a specific way. EX. 2041 at ¶¶94-100; EX. 2025 at 8. For example, the district court found that the defendants “boils the asserted claims down to nothing more than the actions of ‘requesting,’ ‘sending,’ and ‘identifying.’” EX. 2025 at 10. The Court found that such simplification of the claims of the ‘511 and ‘968 Patents is improper. EX. 2025 at 10.¹² As another example, the district court expressly rejected that defendants’ argument that the claims of the ‘319 and ‘510 Patents were simply the receipt and

¹² The independent claims of the ‘511 and ‘968 Patents operate within a specific **first/requesting client device** ↔ **second server** ↔ **first/web server** architecture, as recognized by the district court. EX. 2041 at ¶96.

forwarding of information over the Internet. EX. 2024 at 8-9. The district court recognized the novelty of the “network architecture as a whole”. EX. 2024 at 9.¹³

Second, in the NetNut Litigation, the district court maintained its same constructions for the client device/server terms. EX. 2023 at 14, 23. That defendant had proposed a construction of “client device” as a “device operating in the role of a client”, but the district court expressly rejected referring to a generic device operating in the role of a client, maintaining that a client device must specifically be a “communication device”. EX. 2023 at 10, 14. The district court also expressly rejected construing “second server” as a generic device operating in the role of a server. EX. 2023 at 20.

b. Petitioner’s proposed constructions contradict the express claim language

The preamble of claim 1 recites a “first server” and makes clear that the method steps are performed by the “first server”. EX. 2041 at ¶101. A POSA would have understood that the “first server” is necessarily and consistently a server as the claimed methods are performed. *Id.* Petitioner’s purely role-based constructions do not account for the express claim language at least because, under

¹³ The independent claims of the ‘319 and ‘510 Patents operate within a specific **second server** ↔ **first client device** ↔ **first/web server** architecture, as recognized by the district court. EX. 2041 at ¶98.

the purely role-based constructions, the “first server” would sometimes be operating in the role of a client. *Id.*

As one example, limitation [1e] of claim 1 of the ‘826 Patent recites the first server “receiving... the first content from the web server”. At this point in time, under the purely role-based constructions, the “first server” would be operating in the role of a client, not a server. EX. 2041 at ¶102. Therefore, the “first server” does not meet Petitioner’s proposed construction for this term.

Petitioner’s purely role-based constructions do not distinguish between an intermediary **server** and intermediary **client device**. The claim language expressly refers to servers and client devices arranged in a specific way. Petitioner’s constructions therefore contradict the claim language.

In claim 3, the “first server” sends the first content identifier to the “second client device”. The “first server” would not meet Petitioner’s proposed construction for this term during the performance of claim 3 because the “first server” is operating in the role of a client, not a server. EX. 2041 at ¶103. Similarly, the “second client device” would not meet Petitioner’s proposed construction for this term during the performance of claim 3 because the “second client device” is operating in the role of a server, not a client. *Id.*

Petitioner’s purely role-based constructions can be analogized to the baseball players pitcher and catcher. EX. 2041 at ¶104. If “pitcher” is construed as a “a

player who throws a ball” and “catcher” is construed as “a player who catches a ball”, then when the catcher throws the ball to the pitcher, the act of “throwing” would mean the catcher now meets the role-based construction for pitcher. *Id.* Similarly, when the pitcher catches the ball from the catcher, the act of “catching” would mean the pitcher now meets the role-based construction for pitcher. *Id.* This cannot be correct. *Id.* The pitcher remains a “pitcher” regardless of whether the pitcher is throwing or catching a ball. *Id.* The catcher remains a “catcher” regardless of whether the catcher is throwing or catching a ball. *Id.* The pitcher and the catcher are different types of baseball players. *Id.* In the context of the ‘826 Patent, a “client device” and a “server” are different types of components, i.e., different hardware. *Id.*

c. Petitioner’s proposed constructions contradict the specification

As noted above, Petitioner’s purely role-based constructions do not distinguish between an intermediary **server** and intermediary **client device**. Under the purely role-based constructions, any intermediary would meet both constructions. EX. 2041 at ¶106.

Petitioner’s constructions contradict the specification at least because Petitioner’s constructions fail to distinguish proxy server 6 of Figure 1 and agent 122 of Figure 3. Under the purely role-based constructions, proxy server 6 would meet both constructions for “client device” and “first server”. EX. 2041 at ¶107. Under

the purely role-based constructions, agent 122 would meet both constructions for “client device” and “first server”. *Id.*

Additionally, Petitioner’s purely role-based constructions do not account for lexicography in the specification or the differentiation of client devices and servers in the specification. As one example, Petitioner fails to recognize that one of the problems solved in the patents is the distribution of expensive server hardware. EX. 1001 at 2:8-39. The specification’s proposed solutions would not make sense if there is no difference between servers and client devices as alleged by Petitioner. Maintaining hardware distinctions is therefore critical to understanding the entire purpose of the disclosed inventions.

d. Petitioner’s proposed construction contradict the prosecution history statements

Petitioner’s purely role-based constructions do not account for the differences between client devices and servers made clear in the patentee’s prosecution history statements. *See supra*, section IV.D.2.

7. Petitioner misplaces reliance on RFC 2616

Petitioner cites to RFC 2616 software definitions of “client” and “server” as support for its proposed constructions.¹⁴ These software definitions are not appropriate for the disputed claim terms of the ‘826 Patent at least because they do not refer to hardware. EX. 2041 at ¶153. Petitioner’s expert admits that the type of device (hardware) is “immaterial” to RFC 2616. EX. 2006 at 28:10-24. This is directly contrary to the claim terms of the ‘826 Patent. EX. 2041 at ¶153. RFC 2616 was not used to define the claim terms client devices and servers as described in the specification or used in the claims. *Id.* Unlike RFC 2616, the ‘826 Patent distinguishes between client devices and servers in terms of hardware.

RFC 2616 defines “client” as a “program that establishes connections for the purpose of sending requests” and RFC 2616 defines “server” as an “application program that accepts connections in order to service requests by sending back responses”. EX. 1005 at 8. Petitioner’s expert testified that RFC 2616 confirmed his

¹⁴ The ‘826 Patent specification references RFC 2616, but in no way limits the meaning of client device or server to the definitions of “client” and “server” in RFC 2616, which is directed at a request/response protocol in a traditional client-server model. *See* EX. 1001 at 16:21-28 (describing HTTP protocol, defined by RFC 2616, to define HTTP headers).

understanding of how a POSA would view the terms “client” and “server.” EX. 2006 at 16:13-22.

RFC 2616 explains that “our use of these terms [server and client] refers only to the role being performed by the program **for a particular connection.**” EX. 1005 at 8 (emphasis added). The definitions in RFC 2616, referring only to the role being performed for a particular connection, actually supports Patent Owner’s criticism of the purely role-based constructions where an intermediary may be operating in different roles at different points in time for different connections. EX. 2041 at ¶197. Petitioner ignores the different roles being performed at different points in time for different connections in order to improperly map the prior art onto the claims. *Id.*

If applied consistently with the teachings of RFC 2616, which Petitioner advocates, the role-based constructions **must** be analyzed at a particular point in time for a particular connection. EX. 2041 at ¶198. Based on his deposition testimony, it appears that Petitioner’s expert agrees. EX. 2006 at 126:7-16 (“it’s important that it have the capability and can work at it and does work at it at a particular time”). As discussed above, the purely role-based constructions contradict the express language and for at least this reason, they are not appropriate in the context of the ‘826 Patent.

Instead of using the definitions of client and server in RFC 2616, which Petitioner advocates, it appears that Petitioner is actually using the definition of “proxy” in RFC 2616. EX. 1005 at 9; EX. 2041 at ¶199. RFC 2616 defines “proxy” as “[a]n intermediary program which acts as both a server and a client for the purpose of making requests on behalf of other clients.” EX. 1005 at 9. It appears that Petitioner is attempting to use the same definition of proxy in RFC 2616 **for both constructions of both claim terms**. EX. 2041 at ¶199. This is improper in the context of the ‘826 Patent and contradicts the express claim language. Petitioner’s interpretation fails to distinguish an intermediary client device from an intermediary server.

V. GROUND 1 BASED ON KOCHERLAKOTA FAILS

A. KOCHERLAKOTA DOES NOT INVALIDATE CLAIM 1 UNDER PETITIONER’S PURELY ROLE-BASED CONSTRUCTIONS

Kocherlakota does not disclose or render obvious a “first server” as recited in the preamble, limitation 1d, or limitation 1e under Petitioner’s constructions.

During limitations 1b and 1f, proxy server 17 is operating in the role of a client, not a server. During limitations 1d and 1d, proxy server 17 is operating in the role of a server, not a client. Therefore, proxy server 17 would meet both of Petitioner’s constructions for “client device” and “server”. Petitioner fails to establish that proxy server 17 is a server as opposed to a client device under the

purely role-based constructions. EX. 2041 at ¶¶212-214. Petitioner is using hindsight bias to arbitrarily deem proxy server 17 a server.

For the analysis of limitation 1d, Petitioner fails to apply the purely role-based constructions at the particular point in time, for the particular connection between proxy server 17 and proxy server 19/21. Petition at 32; EX. 2041 at ¶¶215-218. When proxy server 17 sends a request, proxy server 17 is operating in the role of a client, not a server. EX. 2041 at ¶217. Therefore, under the purely role-based constructions, proxy server 17 cannot be a server during performance of this method step. *Id.* Proxy server 17 is not operating in the role of a server and therefore does not meet Petitioner’s construction for “first server”

The same is true for Petitioner’s analysis of limitation 1e. EX. 2041 at ¶¶219-222. When proxy server 17 receives a response, proxy server 17 is operating in the role of a client, not a server, and proxy server 17 does not meet Petitioner’s construction for “first server”. EX. 2041 at ¶221.

B. KOCHERLAKOTA DOES NOT INVALIDATE CLAIM 1 UNDER EITHER SET OF CONSTRUCTIONS

1. The preamble of claim 1 recites “a list of IP addresses stored in the first server”.

Upon reviewing Kocherlakota, a POSA would have understood that information about the proxies would be stored at client computer 11, not proxy server 17. EX. 2041 at ¶224. Kocherlakota discloses that “[b]efore the actual

sequential use of the multiple proxies, the client will have visited each directly and established any necessary relationship during the visits.” EX. 1003 at 3:12-14. “It is likely that each proxy server will have stored session information **in the client computer** for future use.” EX. 1003 at 3:14-16 (emphasis added). “Such session information may be in the nature of a cookie which is **set in the client computer 11** by means well known in the art.” EX. 1003 at 3:16-18 (emphasis added). “The session information and permission information will remain **stored at the client computer.**” EX. 1003 at 3:18-20 (emphasis added).

A POSA would have understood that the applet information and relevant session information is sent from client computer 11 to proxy server 17. EX. 2041 at ¶225. If the client wants to use a proxy server, the URL, port, user name, and password for that proxy server are entered into the applet window of FIG. 2. EX. 1003 at 3:37-48. Kocherlakota discloses “[a]t the completion of data entry to the applet window of FIG. 2, the client clicks the OK button 225, which causes the applet to access the session information (cookie) associated with each named proxy server and returns the cookies and all entered information to the first proxy.” EX. 1003 at 3:61-65. A session is established between the client and proxy 17. EX. 1003 at 3:21-24. The proxy server 17 analyzes the applet information and establishes a session “using the client provided applet response information for the second proxy as well as the cookie from the client computer 17 [sic - 11] relating to french.com”. EX. 1003

at 4:1-8. “The third proxy server begins a session from the client which is linked through the first proxy server 17 and second proxy server 19.” EX. 1003 at 4:18-21

Therefore, there is no DNS resolution performed by proxy server 17 to establish the proxy chain as alleged by Petitioner. EX. 2041 at ¶226. All relevant information is stored in and sent from client computer 11 to proxy server 17 in order to establish the sessions and form the proxy chain. *Id.* Kocherlakota discloses client computer 11 will “contemporaneously establish sessions through a plurality of proxies so that multiple proxy services may be used for the same communication.” EX. 1003 at 1:55-57. Therefore, a POSA would have understood that when client computer 11 establishes a session with the proxy servers, each server will generate a cookie and store that cookie on the client computer. EX. 2041 at ¶226.

Once the sessions are established, the sessions are maintained for a particular communication. EX. 2041 at ¶228; *see, e.g.*, EX. 1003 at FIG. 5 (step 125) and 1:55-57. There is nothing in Kocherlakota to suggest that proxy server 17 must also subsequently store those IP addresses for re-use. *Contra* Petition at 26. Instead, the client would send new information to the proxy server 17 for a new proxy chain. EX. 2041 at ¶228.

In view of the above, it is clear that client computer 11 stores information about the proxy servers, not proxy server 17. EX. 2041 at ¶229. Petitioner therefore

fails to establish that proxy server 17 stores a list of IP addresses as required by claim

1. *Id.*

2. Limitation 1a recites the first server “storing, operating, or using, a server operating system”

Petitioner’s expert admits that Kocherlakota is silent on what operating system is used by Kocherlakota’s proxies. EX. 2013 at 72:5-9. Petitioner’s expert testified that the operating system used by Kocherlakota’s proxies is immaterial to the teachings of Kocherlakota. EX. 2013 at 73:4-9. It appears that Petitioner is using hindsight bias and using the claim limitations as a roadmap. For at least this reason, Petitioner fails to meet its burden.

3. Limitation 1c recites the first server “selecting, an IP address...”

Proxy server 17 does not perform any “selecting” of proxy servers 19/21. EX. 2041 at ¶231. Proxy server 17 is not choosing proxy server 19 in favor of proxy server 21. *Id.* There is only one option and as such, there is no choice. *Id.* This understanding is consistent with Petitioner’s expert’s deposition testimony. *See supra*, section IV.B.

First, Kocherlakota discloses that the selection of proxy servers in the proxy chain is NOT performed by proxy server 17. EX. 2041 at ¶232. The selection of proxies in the chain occurs when the client enters identities of proxies in the applet. *See* EX. 1003 at 3:30; *see also* Figs. 2 and 7; EX 2041 at ¶¶235-236. Therefore, proxy server 17 is not performing a selection of proxy servers.

Second, Kocherlakota discloses that the selection of features of proxy servers in the proxy chain is NOT performed by proxy server 17. EX. 2041 at ¶233. The selection of which features of which proxies are to be used for a particular URL occurs when the client enters information in the applet. EX. 2041 at ¶¶237-239. Therefore, proxy server 17 is not performing a selection of services.

Ultimately, proxy server 17 does not “select” a proxy server, but merely applies an applet where the selection has already been pre-defined. EX. 2041 at ¶234. There is no choice made by proxy server 17. *Id.* There is only one pre-defined option. *Id.*

Once an internet request is received by proxy server 17, there is no teaching in Kocherlakota that proxy server 17 “selects” a particular proxy server for a particular URL as recited in claim 1. EX. 2041 at ¶240. Proxy server 17 does not “select” from the potential proxy servers 19 and 21. *Id.* Proxy server 17 merely applies the applet. *Id.* That is, the choice has already been made. *Id.* There is only one option pre-defined for proxy server 17. *Id.* As such, there is no selecting performed by proxy server 17. *Id.*

In the default pathway of client computer 11 ↔ proxy server 17 ↔ proxy server 19 ↔ proxy server 21 ↔ web server 15, there is no selecting of proxy server 19. EX. 2041 at ¶241. Proxy server 19 is the only option.

In the skip pathway of client computer 11 ↔ proxy server 17 ↔ proxy server 19 ↔ proxy server 21 ↔ web server 15, there is no selecting of proxy server 19. EX. 2041 at ¶¶242-244. Proxy server 19 is the only option.

In the jump pathway of client computer 11 ↔ proxy server 17 ↔ proxy server 21 ↔ web server 15, there is no selecting of proxy server 21. EX. 2041 at ¶¶246-248. Proxy server 21 is the only option. The choice has already been made and defined in the applet that is applied by proxy server 17. Proxy server 21 does not select proxy server 21 as opposed to proxy server 19. Proxy server 17 sends the request to proxy server 21 because of the earlier selections made in the applet. There is no choice for proxy server 17 to make.

For at least the reasons discussed above, a POSA would have understood that the selection of which proxies and which features of the proxies are to be used for a particular URL is NOT performed by proxy server 17. EX. 2041 at ¶249. Rather, the user of the client computer 11 makes this selection in the applet. *Id.* Proxy server 17 merely applies the applet. *Id.* Proxy sever 17 does not make any choice – the decision has already been made. *Id.*

Thus, proxy server 17 does not perform the “selecting” steps recited in limitations 1c of claim 1. EX. 2041 at ¶249. For example, there is no disclosure in Kocherlakota regarding any intelligent selection by proxy server 17. *Id.* There is no disclosure of any choice to be made by proxy server 17. *Id.*

C. KOCHERLAKOTA DOES NOT INVALIDATE CLAIMS 2-5, 12, AND 18 UNDER PETITIONER’S PURELY ROLE-BASED CONSTRUCTIONS

. Claims 2-5, 12, and 18 recite the use of an intermediary “client device”. EX. 2041 at ¶¶253-256.

As discussed above, a POSA would not be able to distinguish an intermediary client device from an intermediary server under the purely role-based constructions. EX. 2041 at ¶257. Petitioner is using hindsight bias to arbitrarily deem proxy servers 17, 19, 21 of Kocherlakota as client devices or servers. *Id.*

The intermediary proxy servers 17, 19, 21 are operating in different roles at different points in time. *Id.* Petitioner’s expert agreed. EX. 2006 at 82:23-84:1. Petitioner’s expert confirmed that proxy servers 17, 19, 21 perform both client and server roles and meet both constructions. EX. 2013 at 73:16-74:14.

It is clear that Petitioner does not consistently analyze the proxy servers of Kocherlakota. EX. 2041 at ¶258. All of the proxy servers 17, 19, 21 are intermediaries that perform both client and server roles and meet both constructions. *Id.* Therefore, Petitioner is using hindsight bias in deeming one proxy server a server another proxy server a client device. *Id.*

If Petitioner were to consistently analyze the proxy servers of Kocherlakota, then they would have to all be servers, or they would have to all be client devices. EX. 2041 at ¶¶259-262. They cannot all be both servers and client devices because

that would eviscerate any meaning from the claim language and any distinctions in the constructions of the claim terms. Ultimately, Petitioner fails to recognize the differences between client devices and servers in the context of the ‘826 Patent.

Petitioner’s expert testified that, for example, proxy server 19 is “always a client device and always a server as those terms have been construed by the Court”. EX. 2006 at 84:14-85:1. To the contrary, this testimony directly contradicts the district court at least because the district court did not use the same construction for both claim terms. This testimony also contradicts the intrinsic record of the ‘826 Patent. Petitioner and its expert ignore the specific architecture in which the claims operate.

Finally, Petitioner ignores the role being performed at a particular point in time for a particular connection. EX. 2041 at ¶264. For example, during claim 4, proxy server 19 is operating in the role of a server, not a client, and therefore proxy server 19 does not meet Petitioner’s construction for “client device”. Petitioner fails to establish that proxy servers 19, 21 are client devices, as opposed to servers. EX. 2041 at ¶265.

D. KOCHERLAKOTA DOES NOT INVALIDATE CLAIMS 2-5, 12, AND 18 UNDER PATENT OWNER’S HARDWARE CONSTRUCTIONS

As noted above, claims 2-5, 12, and 18 recite the use of an intermediary “client device”. Proxy servers 19, 21 of Kocherlakota are servers, not client

devices. EX. 2041 at ¶266. Petitioner provides no analysis of these components under Patent Owner’s constructions.

Kocherlakota expressly refers to proxies 17, 19, 21 as proxy **servers** and a POSA would have understood that proxies 17, 19, 21 are server hardware components. EX. 2041 at ¶266. There is no teaching in Kocherlakota that would suggest proxy servers 17, 19, and 21 are “client devices” under Patent Owner’s constructions. EX. 2041 at ¶267.

For example, the HTTP Definitive Guide states that HTTP proxy servers are “intermediary **servers** that act as platforms for HTTP services and controls.” EX. 1023 at 16/658 (emphasis added). Petitioner’s expert agreed there is no disclosure in Kocherlakota that suggests implementing proxies 17, 19, or 21 on something other than a proxy server. EX. 2006 at 86:7-11.

E. KOCHERLAKOTA DOES NOT INVALIDATE CLAIM 5 UNDER EITHER SET OF CONSTRUCTIONS

Petitioner fails to establish that proxy server 17 stores the IP address of proxy server 19 (or proxy server 21) as recited in claim 5 for at least the reasons discussed above in section V.B.1. EX. 2041 at ¶270.

Additionally, Petitioner fails to establish that proxy server 17 stores the IP address of proxy servers 19/21 in response to the communicating as required by claim 5. EX. 2041 at ¶271. Petitioner previously argued that proxy server 17 must store a list of IP addresses associated with proxy servers 19/21 in order to establish

sessions with proxy servers 19/21. Petition at 28. Therefore, it is inconsistent to argue that proxy server 17 would store the IP address of proxy server 19/21 *after* establishing a session. EX. 2041 at ¶271. Petitioner fails to explain how a POSA would modify Kocherlakota to do so. *Id.*

For at least these reasons, Petitioner's analysis of claim 5 fails.

F. KOCHERLAKOTA DOES NOT INVALIDATE CLAIM 18 UNDER EITHER SET OF CONSTRUCTIONS

Petitioner fails to establish that proxy server 17 performs any selecting as recited in claim 18 for at least the reasons discussed above in section V.B.3.

Even if the Board disagrees with Patent Owner's analysis of limitation 1c, proxy server 17 does not "select" **multiple** IP addresses from the list as recited in claim 18. EX. 2041 at ¶273. In the default pathway, proxy server 17 allegedly "selects" proxy server 19. *Id.* In the skip pathway, proxy server 17 allegedly "selects" proxy server 19. *Id.* In the jump pathway, proxy server 17 allegedly "selects" proxy server 21. *Id.* Based on Petitioner's analysis, with which Patent Owner disagrees, proxy server 17 allegedly "selects" either proxy server 19 OR proxy server 21, but not both. *Id.* Petitioner's expert confirmed that he understands proxy server 17 "selects" the IP address of proxy server 19 OR proxy server 21. EX. 2013 at 76:5-16.

For at least these reasons, Petitioner's analysis of claim 18 fails.

G. KOCHERLAKOTA DOES NOT INVALIDATE CLAIM 19 UNDER EITHER SET OF CONSTRUCTIONS

Petitioner's analysis of claim 19 fails for at least three reasons.

First, Petitioner is relying on the establishment of the proxy chain, which occurs before any request is received by proxy server 17 and before, according to Petitioner, any alleged selection has been performed by proxy server 17. EX. 2041 at ¶275. Therefore, proxy server 17 could not send the **selected** IP address to client computer 11 before, according to Petitioner, any alleged selection has been performed based on analysis of the URL. *Id.*

Second, Petitioner argues that a POSA would have been motivated to modify proxy server 17 to send the selected IP address to client computer 11 in order to verify that the proxy chain was set up correctly. Petition at 45. However, this claim limitation relates to the selected IP address, which according to Petitioner, corresponds to the IP address of either proxy server 19 (default, skip pathways) or proxy server 21 (jump pathway) after analysis of the URL. EX. 2041 at ¶276. Petitioner fails to show that a POSA would have been motivated to modify proxy server 17 to send the **selected** IP address of either proxy server 19 or proxy server 21 to client computer 11 after analysis of the URL. *Id.*

Third, as discussed above in section V.B.1, client computer 11 stores the information about the proxies. EX. 2041 at ¶277. Proxy server 17 does not select which proxies are to form the proxy chain or which features of which proxies are

to be used. *Id.* It appears that Petitioner is using hindsight bias in its analysis of claim 19.

VI. GROUND 2 BASED ON KOCHERLAKOTA AND RFC 1122 FAILS

For at least the reasons discussed above in sections V.C and V.D, the proxy servers 19/21 of Kocherlakota are not client devices. Therefore, Ground 2 fails.

Additionally, the HTTP Definitive Guide states that “keep-alive connections should not be established with a proxy server that isn’t guaranteed to support the Connection header”. EX. 1023 at 114/658. Petitioner’s expert admitted that he did not analyze this concept in forming his opinions. EX. 2013 at 25:14-26:14. There is no disclosure in Kocherlakota that the proxy servers 17, 19, or 21 are guaranteed to support the Connection header. EX. 2041 at ¶¶283. Petitioner provides no motivation to modify Kocherlakota to do so. *Id.* Accordingly, a POSA would not be motivated to use keep-alive connections with the proxies of Kocherlakota in view of this disclosure in the HTTP Definitive Guide. *Id.* For at least this reason, Petitioner’s analysis of claims 6-9 in Ground 2 fails.

Furthermore, with respect to claim 7, Petitioner is using hindsight bias. EX. 2041 at ¶284. Kocherlakota is silent as to what happens if one of the proxy servers in the proxy chain goes offline or becomes unavailable. EX. 2041 at ¶285. There is no disclosure in Kocherlakota of proxy server 17 sending keep-alive messages to the proxies 19/21 and there is no disclosure in Kocherlakota of proxy server 17

modifying the information in the applet if one of the proxies 19/21 goes offline or becomes unavailable. *Id.*

Petitioner fails to explain how a POSA would have removed proxy 19/21 from the list and/or how a POSA would have removed proxy 19/21 from the established proxy chain. EX. 2041 at ¶286. Additionally, Petitioner fails to explain how a POSA would have added proxy 19/21 back into the proxy chain. *Id.* Furthermore, Petitioner fails to explain how a POSA would have configured proxy server 17 to update the applet information based on removal/addition of proxy 19/21. *Id.* For at least these reasons, Petitioner fails to establish that claim 7 would have been obvious to a POSA based on Kocherlakota and RFC 1122.

VII. GROUND 3 BASED ON COHEN FAILS

A. COHEN DOES NOT INVALIDATE CLAIM 1 UNDER PETITIONER’S PURELY ROLE-BASED CONSTRUCTIONS

Cohen does not disclose or render obvious a “first server” as recited in the preamble, limitation 1d, or limitation 1e under Petitioner’s constructions.

During limitations 1b and 1f, proxy redirector 104 is operating in the role of a client, not a server. During limitations 1d and 1d, proxy redirector 104 is operating in the role of a server, not a client. Therefore, proxy redirector 104 would meet both of Petitioner’s constructions for “client device” and “server”. Petitioner fails to establish that proxy server 17 is a server as opposed to a client device under the

purely role-based constructions. EX. 2041 at ¶¶295-297. Petitioner is using hindsight bias to arbitrarily deem proxy redirector 104 a server.

For the analysis of limitation 1d, Petitioner fails to apply the purely role-based constructions at the particular point in time, for the particular connection between proxy redirector 104 and proxy cache 110-1. Petition at 62; EX. 2041 at ¶¶298-301. When proxy redirector 104 sends a request, proxy redirector 104 is operating in the role of a client, not a server. EX. 2041 at ¶300. Therefore, under the purely role-based constructions, proxy redirector 104 cannot be a server during performance of this method step. *Id.* Proxy redirector 104 is not operating in the role of a server and therefore does not meet Petitioner’s construction for “first server”

The same is true for Petitioner’s analysis of limitation 1e. EX. 2041 at ¶¶302-305. When proxy redirector 104 receives a response, proxy redirector 104 is operating in the role of a client, not a server, and proxy redirector 104 does not meet Petitioner’s construction for “first server”. EX. 2041 at ¶304.

B. COHEN DOES NOT INVALIDATE CLAIM 1 UNDER PATENT OWNER’S HARDWARE CONSTRUCTIONS

1. Claim 1 recites the use of a “first server”

Cohen does not disclose or render obvious that proxy redirector 104 is a “first server” located between a first client device and a web server as recited in claim 1. EX. 2041 at ¶306. Cohen expressly states that proxy redirector 104 is a “L4 switch”. EX. 1004 at 5:12-14; 6:26-28. Cohen incorporates by reference U.S.

Application No. 09/190,355 (not published), which issued as U.S. Patent No. 6,434,618 and describes “Layer 4 switches, for example, are available that can make decisions about packet forwarding based on TCP/UDP headers as well as IP headers.” EX. 2007 at 1:20-22. Cohen explains that the L4 switch is necessary to redirect an object request to a proxy cache connected somewhere on the network. EX. 1004 at 2:66-3:1. A POSA would have understood that a switch is not a server under Patent Owner’s constructions. EX. 2041 at ¶306.¹⁵

Petitioner’s expert testified that a server “couldn’t be a wire... connecting, receiving a request and sending back a response – or a router that was receiving a request and sending back a response”. EX. 2006 at 49:21-50:11; *see also* EX. 2006 at 51:11-52:9 (distinguishing a server from a wire/router). Accordingly, proxy redirector 104 does not correspond to the claimed “first server” which is a server. EX. 2041 at ¶308.

As discussed above, just because proxy redirector 104 “operates in the role of a server” at certain points in time does not make the proxy redirector 104 an actual server in the context of the ’826 Patent. EX. 2041 at ¶307.

¹⁵ Cohen also discloses the proxy redirector 104 may be combined into the same unit as a router. EX. 1004 at 6:23-31. A POSA would have understood that neither a switch nor a router is a server in the context of the ’826 Patent.

A POSA would have understood that a switch is similar to a router, neither of which is a server. EX. 2041 at ¶309. A POSA would have understood that a switch does not use application software and a switch doesn't maintain a state like a server. *Id.* A POSA would have understood that even a layer 4 switch does not operate at the layer 7 application layer used for, for example, obtaining web pages. *Id.*¹⁶ The HTTP Definitive Guide also distinguishes network elements (routers, switches) from server elements (web servers, proxy servers). EX. 1023 at 481/658.

Additionally, the preferred embodiment of proxy redirector 104 is a Linux machine with a programmable network element. EX. 1004 at 7:55-8:10 and Fig. 2. Cohen describes, for example, a gateway program “can request access to incoming packets to network interface 208 that match certain source and destination IP address ranges and port numbers. The dispatcher process 202 uses a packet filter 203 in the Linux kernel 201 to obtain packets requested by the gateway programs and uses a raw IP socket 215 to send packets that have been manipulated in accordance with the gateway program back to the kernel for output back to the network through filter 203 through network interfaces 208.” EX. 1004 at 7:61-8:3.

¹⁶ Petitioner's expert testified that in general, network elements are working at layer 3 and below, and server elements like proxies are working at above layer 3. EX. 2013 at 33:1-7.

Based on the teachings of Cohen, a POSA would have understood that a switch is not a server under Patent Owner's constructions. EX. 2041 at ¶310. A switch has packet processing code, but a server uses a server operating system. *Id.*

Upon reviewing Cohen, a POSA would have understood that proxy redirector 104 does not have the typical attributes of a server. EX. 2041 at ¶310. For example, a switch uses less computation resources and less storage than a server. *Id.*¹⁷ A switch like proxy redirector 104 is typically less expensive than a server and operates at a lower OSI layer than a server. *Id.*

At least because Cohen does not disclose or render obvious that proxy redirector 104 is a server, Cohen does not disclose or render obvious the specific first client device ↔ first server ↔ web server architecture in which claim 1 of the '826 Patent operates. EX. 2041 at ¶311.

2. Limitation 1a recites the first server “storing, operating, or using, a server operating system”

Because proxy redirector 104 is not a server hardware component, Petitioner does not establish that proxy redirector 104 would use a server operating system. EX. 2041 at ¶315.

¹⁷ Cohen does not disclose or teach that proxy redirector 104 caches any content. Petitioner's expert agreed. EX. 2006 at 120:1-4.

Additionally, Petitioner’s analysis of limitation 1a is not sufficiently clear and Petitioner uses circular logic. Petitioner argues that because proxy redirector 104 is a server it must be using a server operating system. EX. 2041 at ¶314. However, proxy redirector 104 is not a server. *Id.* Also, a POSA would have understood that as of 10/8/2009, Linux offered various types of operating systems. *Id.* Petitioner fails to establish that a Linux operating system generally is a server operating system specifically. *Id.* Just because proxy redirector 104 operates on a Linux machine does not intrinsically show that proxy redirector 104 uses a server operating system. *Id.*

C. TEACHING AWAY BY COHEN

Cohen teaches away from the claimed methods of the ‘622 Patent for at least 5 reasons. EX. 2041 at ¶320. A POSA would not be motivated to arrive at the claimed inventions based on the teachings of Cohen.

First, contrary to the claimed methods, Cohen teaches that the client 101 does not “know” that its request is being redirected to a proxy cache. EX. 1004 at 16:34-37; EX. 2018 at 103:11-14. Instead, client 101 thinks its request is being sent directly to the origin server. *E.g.*, EX. 1004 at 6:47-67; EX. 2006 at 112:5-10. In the claimed methods, the first client device is purposely using a first server and possibly, additional intermediaries, to request content from the target web server. EX. 2041 at ¶321.

Second, Cohen teaches that the requested object is always obtained using an additional intermediary proxy cache. EX. 2013 at 53:14-19; EX. 2006 at 95:2-10. In contrast, claim 1 does not require the use of additional intermediaries. EX. 2041 at ¶322. The first server may send a request for content directly to the target web server; for example, the first server may change the source IP address of such a request from the IP address of the first server to a selected IP address. *Id.*

Third, because Cohen teaches that every request must go through a proxy cache, the IP address of the proxy cache is not hidden from the origin server. EX. 2041 at ¶323. Cohen teaches the same proxy cache may be used for multiple requests, in particular, when a proxy cache is selected based on the IP header. EX. 1004 at 7:46-48 (“With respect to the latter [selection based on IP header information], all objects from a specific origin server will be served by a specific proxy.”); EX. 2006 at 125:7-13; *see also id.* at 121:12-122:22. Over time, the IP address of the proxy cache may be blocked/spoofed by the origin server. EX. 2041 at ¶323. In contrast, using different IP addresses of different proxy client devices according to the claimed methods reduces the risk of blocking/spoofing by the target web server. *Id.*

Fourth, Cohen teaches obtaining content from a proxy cache rather than from an origin server. EX. 2041 at ¶324. For example, Cohen teaches obtaining cached content decreases latency and traffic. *E.g.*, EX. 1004 at 1:12-14; 1:43-48. In

contrast, the claimed methods recite methods for fetching content directly from the target web server. EX. 2041 at ¶324.

Fifth, Cohen teaches that it is the proxy cache that determines whether to obtain content from the web server. EX. 2041 at ¶325. In contrast, the claimed methods recite methods for fetching content directly from the target web server. *Id.*

For at least these reasons, a POSA reading Cohen would not be motivated to arrive at the claimed methods of the ‘826 Patent.

**D. COHEN DOES NOT INVALIDATE CLAIMS 2-6, 12, AND 18
UNDER PETITIONER’S PURELY ROLE-BASED
CONSTRUCTIONS**

As discussed above, a POSA would not be able to distinguish an intermediary client device from an intermediary server under the purely role-based constructions. EX. 2041 at ¶329. Petitioner is using hindsight bias to arbitrarily deem the proxy caches of Cohen as client devices or servers. *Id.*

The intermediary proxy caches 110, 115, and/or 117 are operating in different roles at different points in time. *Id.* It is clear that Petitioner did not consistently analyze the components of Cohen under its constructions. EX. 2041 at ¶¶330-331. Petitioner fails to show that the proxy caches are client devices, as opposed to servers.

**E. COHEN DOES NOT INVALIDATE CLAIMS 2-6, 12, AND 18
UNDER PATENT OWNER’S HARDWARE CONSTRUCTIONS**

A POSA would have understood that proxy caches 110-1, 110-2, 115, 117 are servers, not client devices. EX. 2041 at ¶332. For example, the HTTP Definitive Guide states that public caches are shared proxy **servers** called caching proxy servers or more commonly proxy caches. EX. 1023 at 189/658. Petitioner provides no analysis of these components under Patent Owner’s constructions.

There is no teaching in Cohen that would suggest proxy caches 110, 115, 117 are “client devices” under Patent Owner’s constructions. EX. 2041 at ¶333. As one example, Cohen teaches that proxy caches are commercial devices, typically owned by large Internet Service Providers (ISP). *See, e.g.*, EX. 1004 at 1:38-43. In contrast, client devices are consumer owned and operated in the context of the ‘826 Patent. EX. 2041 at ¶333.

**F. COHEN DOES NOT INVALIDATE CLAIM 5 UNDER EITHER
SET OF CONSTRUCTIONS**

Petitioner’s analysis of claim 5 is inconsistent. Petition at 65. Petitioner previously argued that proxy redirector 104 must store a list of IP addresses associated with each proxy cache, in order to select one of the proxy caches. Petition at 57. Therefore, it is inconsistent to argue that proxy redirector 104 would first select a proxy cache and then store the IP address of the proxy cache in the

analysis of claim 5. EX. 2041 at ¶337. Petitioner fails to explain how a POSA would modify Cohen to do so. *Id.*

Additionally, Petitioner argues that when proxy redirector 104 transparently establishes a TCP connection between the client and a proxy cache, proxy redirector 104 would store the IP address of the proxy cache. Petition at 66. Petitioner fails to establish that proxy redirector 104 stores an IP address of the proxy cache in response to the communicating as required by claim 5. EX. 2041 at ¶338.

G. COHEN DOES NOT INVALIDATE CLAIM 19 UNDER EITHER SET OF CONSTRUCTIONS

Petitioner argues that the Cohen discloses an alternative method where the proxy cache sends the content directly back to the client. Petition at 71. Petitioner argues that in this case, the IP address of the proxy cache is the source address in the IP packet. Petition at 71.

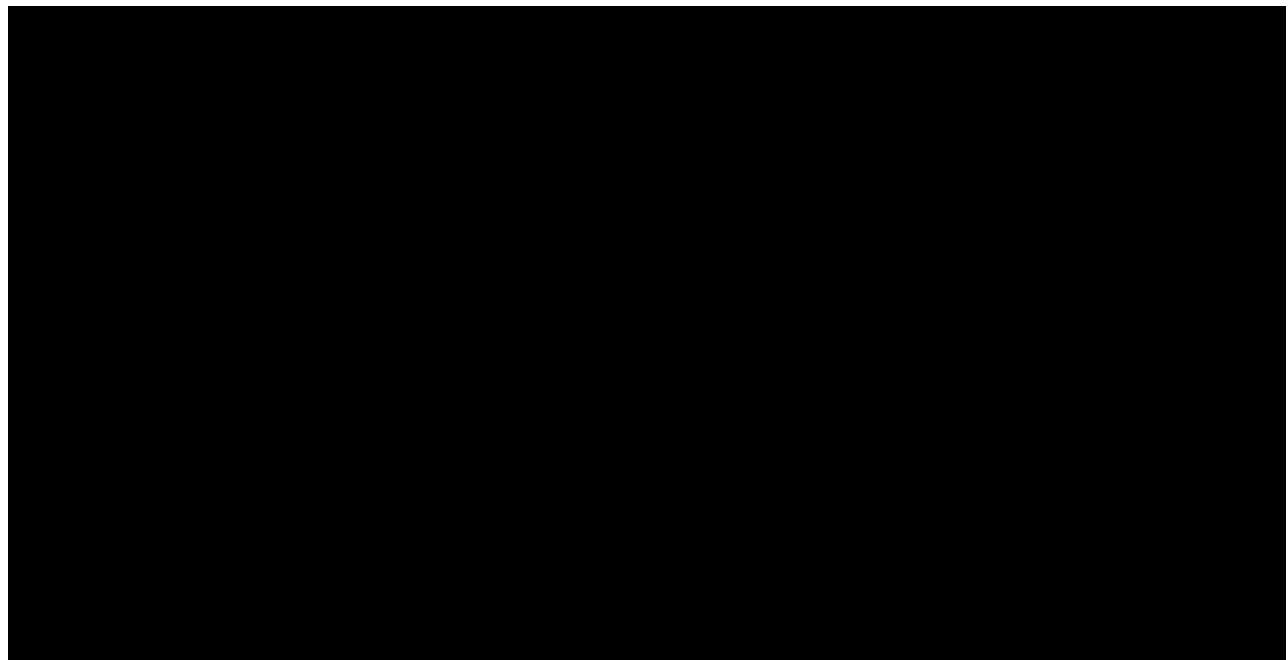
Claim 19 depends from claim 1 which requires the first server to receive the first content from the web server and requires the first server to send the received first content, or a part thereof, to the first client device. In Cohen's alternative method, the content would not be sent from the proxy cache to the alleged first server or from the alleged first server to the alleged first client device. EX. 2041 at ¶340. For at least this reason, Petitioner's analysis of claim 19 fails.

VIII. GROUND 4 BASED ON COHEN AND RFC 1122 FAILS

For at least the reasons discussed above in sections VII.D and VII.E, the proxy caches of Cohen are not client devices. Therefore, Ground 4 fails.

IX. SECONDARY CONSIDERATIONS OF NON-OBVIOUSNESS

Bright Data offers a data center proxy service that practices at least challenged claims 1, 10, 12, 15-17, 21-25 of the '826 Patent. EX. 2041 at ¶343. As shown in Bright Data's network diagram (EX.2045, reproduced below), the customer ↔ SuperProxy ↔ web server architecture corresponds to the first client device ↔ first server ↔ web server architecture of the claims of the '826 Patent. EX.2041 at ¶345.



The data center proxy service includes data center servers and static residential servers. EX.2041 at ¶344. Customers of Bright Data's data center proxy service may request content stored on a web server identified by, for example, a

URL. *Id.* The customer may use a client device to send a content request to the SuperProxy, which stores a group of IP addresses and selects an IP address to be used for the request. *Id.* The SuperProxy sends the request to the target web server via the data center server or static residential server hosting the selected IP address. *Id.* The target web server receives the request and sends the requested content back to the customer's client device via the SuperProxy. *Id.*

As shown in Bright Data's source code (EX. 2040), there is nexus between Bright Data's data center proxy service and at least challenged claims 1, 10, 12, 15-17, 21-25 of the '826 Patent. EX. 2041 at 147-169.

Claim 1 preamble	Bright Data's data center services involve multiple network components including a first client device, such as a customer's device, web servers that store content, such as webpages identified by URLs, and a first server, such as a Superproxy, that stores a list of IP addresses. <i>See, e.g.</i> , EX. 2039.
Claim 1a	Bright Data's Superproxy comprises a proxy server that uses a server operating system.
Claim 1b	For example, The Superproxy receives a URL from a customer's client device. For example, the connect_req ¹⁸ function is called when

¹⁸ See lines 720-751 of EX. 2040

	content requests are received from the customer's client device. The connect_req function creates a Tunnel¹⁹ object using the request's data and then calls the Tunnel's run²⁰ function. The run function uses the resolve²¹ function to obtain the content identifier from the request.
Claim 1c	For example, the Superproxy selects an IP address from the list according to a criterion, including a response time when communication. For example, a Tunnel²² object calls the function _choose_local_ip²³. The _choose_local_ip function will select an IP address from a pool of IP addresses to make the request from.

¹⁹ See lines 425-710 of EX. 2040

²⁰ See lines 626-709 of EX. 2040

²¹ See lines 614-625 of EX. 2040

²² See lines 425-710 of EX. 2040

²³ See lines 550-559 of EX. 2040

Continuing this example, the function `setup_ip_pool`²⁴ calls the function `get_local_ips`²⁵ to obtain a list of available IP addresses. The server's `fun` function calls `setup_ip_pool`²⁶ and then calls the function `check_source_ip`²⁷ to validate that each of the IP addresses in the list meets valid criteria, allowing the selection of the valid IP address.

The `check_source_ip`²⁸ function uses a TCP connection to test a proxy IP address identified as `source_ip`. If a timeout occurs because the connection could not be established within a given time, the `source_ip` address is added to a list of IP addresses which failed respond in time. The `check_source_ip` function calls the `tcp_connect`²⁹ function. The `tcp_connect` function sets a timeout for a socket connection which

²⁴ See lines 776-811 of EX. 2040

²⁵ See lines 755-774 of EX. 2040

²⁶ See lines 1085-1231 of EX. 2040

²⁷ See lines 828-844 of EX. 2040

²⁸ See lines 828-844 of `pkg_svc_lum_agent_tunnel.js` (EX. 2040)

²⁹ See lines 813-826 of `pkg_svc_lum_agent_tunnel.js` (EX. 2040)

	will attempt to connect to the host IP address from the source_ip. As another example, the function ping_ips ³⁰ also tests the set of available IP addresses by calling the tcp_connect function. The ping_ips function marks each IP address as being a success or having failed as a result.
Claim 1d	For example, the Superproxy sends the URL to the web server using the selected IP address. Continuing the above examples, the Tunnel's run³¹ function connects³² to the content server and establishes³³ a proxy tunnel connection between the client device and content server. In this manner proxy requests are made to the content server and content is received from the content server by the SuperProxy and delivered by the SuperProxy to the client device. <i>See also</i> EX. 2045.
Claim 1e	For example, the Superproxy receives the content from the web server. See above analysis of claim 1.

³⁰ See lines 367-403 of pkg_svc_lum_agent_tunnel.js (EX. 2040)

³¹ See lines 626-709 of EX. 2040

³² See line 645 of EX. 2040

³³ See line 661 of EX. 2040

Claim 1f	For example, the Superproxy sends the content to the customer's client device. See above analysis of claim 1.
Claim 10	For example, the Superproxy stores the criterion. See above analysis of claim 1.
Claim 12	For example, the Superproxy selects an IP address form the list based on a response time when communicating. See above analysis of claim 1.
Claim 15	For example, the Superproxy is a TCP/IP server that communicates over the Internet with the customer's client device using TCP/IP. See above analysis of claim 1.
Claim 16	For example, the Superproxy communicates over the Internet according to TCP or UDP. See above analysis of claim 1. <i>See also</i> EX. 2042 and EX. 2043.
Claim 17	For example, the first content comprises a web page identified by a URL. See above analysis of claim 1.
Claim 21	For example, the customer's client device is identified by an IP address. See above analysis of claim 1.
Claim 22	For example, the web server is an HTTP server responding to HTTP requests. See above analysis of claims 1 and 16. <i>See also</i> EX. 2044.

Claim 23	For example, the method steps are sequentially executed. See above analysis of claim 1.
Claim 24	For example, the Superproxy includes a software application that includes computer instructions that, when executed by a computer processor, cause the processor to perform the steps of the claim 1. See above analysis of claim 1.
Claim 25	For example, the Superproxy includes a non-transitory computer readable medium containing computer instructions that, when executed by a computer processor, cause the processor to perform the method according to claim 1. See above analysis of claims 1 and 24.

It is the novel use of a “first server” that stores a group of IP addresses and selects an IP address from the group as recited in, for example, claim 1 that provides an extremely scalable solution that solves the problems identified in the prior art in the background section of the specification. EX. 2041 at ¶347. The novel use of a “first server” as recited in, for example, claim 1 also solves problems regarding blocking/spoofing by a web server. *Id.* It is the ability to support the selection of proxy IP addresses that creates the value in these services. *Id.* As one example, the first server may select a proxy IP address based upon a response time when communicating, which will increase efficiency by avoiding an

IP address that may have been slow or blocked from making a request. EX. 2041 at ¶348. The first server is also able to hide the fact that multiple requests are being sent from the same customer. *Id.* For example, the first server may select an additional IP address for an additional request to reduce the risk of being blocked by a web server. *Id.* It is valuable for the first server to be able to select from different possible proxy IP addresses for different requests. *Id.*

Bright Data's data center proxy services advertise enterprise-grade scaling, which is due to the novel use of a "first server" as recited in the claimed methods. EX. 2041 at ¶349. Bright Data's data center proxy services offer over 770,000+ Datacenter IPs in 98 countries. EX. 2039 at 1-2. Bright Data's data center proxy services also have a 99.99% success rate and are rated as #1. EX. 2039 at 5. This success rate can be attributed to the novel use of a "first server" as recited in the claimed methods. EX. 2041 at ¶350. Moreover, Bright Data's data center proxy services generated revenue of \$22,136,000 in the year of 2021. EX. 2041 at ¶351. This revenue further shows commercial success of the claimed method. *Id.* This revenue supports the non-obviousness of the claimed methods. *Id.*

X. CONCLUSION

For at least the reasons discussed herein, Petitioner fails to meet its burden in the petition.

PUBLIC VERSION

Respectfully submitted,

Date: September 6, 2024

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CERTIFICATE OF COMPLIANCE WITH TYPE-VOLUME LIMITS

This Patent Owner Response (“POR”) consists of 13,988 words, which is no more than 14,000 words, excluding table of contents, table of authorities, certificate of service, this certificate, or table of exhibits. The POR complies with the type-volume as mandated in 37 C.F.R. § 42.24. In preparing this certificate, counsel has relied on the word count of the word-processing system used to prepare the paper (Microsoft Word).

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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. § 42.6(e), the undersigned hereby certifies the PATENT OWNER RESPONSE and all exhibits thereto were served on the undersigned date via email, as authorized by Petitioner, at the following email addresses:

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