IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

LUMINATI NETWORKS, LTD.,	§	
	§	
Plaintiff,	§	
	§	Case No. 2:19-cv-00395-JRG
v.	§	
	§	
TESO LT, UAB, OXYSALES, UAB, and METACLUSTER LT, UAB,	§	
	§	
	§	
Defendants.	§	

CLAIM CONSTRUCTION OPINION AND ORDER

In this patent case, Plaintiff Luminati Networks, Ltd. ("Plaintiff") alleges infringement of U.S. Patents 10,257,319, 10,484,510, and 10,469,614 by Defendants Teso LT, UAB, Oxysales, UAB, and Metacluster LT, UAB (collectively, the "Defendants"). Dkt. No. 126 at 4. Each of these patents relates to improving speed and bandwidth efficiency when accessing data over the Internet. *See* '319 Patent at 1:23–25; '510 Patent at 1:26–28; '614 Patent at 1:19–23.

Generally, the parties have two types of disputes. First, they dispute the scope of three similar terms across the patents: "client device," "first server," and "second server." Second, Defendants contend some of the asserted claims are indefinite. Having considered the parties' briefing along with arguments of counsel at a November 17, 2020 hearing, the Court resolves these disputes as follows.

I. BACKGROUND

A. The '319 Patent and '510 Patent

These two patents, which share the same specification,[1] concern "Internet communication, and more particularly, . . . improving data communication speed and bandwidth efficiency on the Internet." '319 Patent at 1:23–25; *see also* '510 Patent at 1:26–28. The patents explain how, as Internet bandwidth consumption continues to increase, users experience slower speeds, content owners pay more for hosting and bandwidth costs, and Internet Service Providers (ISPs) incur higher infrastructure costs. '319 Patent at 1:29–53; '510 Patent at 1:32–56.

The patents describe two prior-art attempts to address these problems. First, some systems use "proxy servers" located logically between client devices and web servers. The proxy servers request content from various web servers and store, or "cache," that content for future use by other client devices that request the same content. This speeds access to the data for devices that are geographically close to a proxy server, provided that proxy server has the necessary storage space and bandwidth for all of the content likely to be requested. *See generally* '319 Patent at 2:08–23.

The patents, however, caution against using proxy servers for large-scale (e.g., global) solutions as having insufficient storage for all the data available on the Internet. Such implementations would require an extensive capital investment, and proxy servers are poorly suited for dynamic data.[2] *Id.* at 2:24–39.

Second, as an alternative to proxy servers, the patents describe peer-to-peer file sharing, a process by which files are stored on many computers accessible through the Internet. This provides

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[1] The '510 Patent's underlying application was a continuation of the '319 Patent's underlying application. '510 Patent at (60).

[2] "Dynamic data" does not exist until created in response to the request of a client device. '319 Patent at 1:65–2:05.

multiple sources for files and therefore speeds access to these files. *See generally* '319 Patent at 2:40–52. This approach, however, requires a file index tracking the location of all shared content. *Id.* at 2:52–58. While this works well for files in relatively low demand, the cost of storing and maintaining a large index for all available Internet content is cost prohibitive. *Id.* at 2:59–3:01. As with proxy servers, peer-to-peer file sharing also does not effectively address the use of dynamic data. *Id.* at 3:01–03.

The patents purport to address these problems with a system that, relative to the prior art, "provides for faster and more efficient data communication within a communication network." *Id.* at 3:13–15. Specifically, the patents describe a system in which a client device intercepts communication requests (e.g., a web request for content) to a server from requesting applications (e.g., web browsers). The client device transmits intercepted requests to an acceleration server, which returns a list of agents associated with the targeted server's IP address. The request is then sent to these agents, which respond with a list of peers that have previously seen some or all of the requested content. The client then downloads the data from these peers rather than the server, which speeds up file transfer, reduces congestion by fetching content from multiple sources, and offloads data transfers from web servers to nearby peers. '319 Patent at (57).

The claims are specific to HTTP requests and recite a client device acting as an intermediary between two servers. Claim 1 of the '319 Patent requires a client device to:

> receiv[e], from the second server, [a] first content identifier;
>
> send[], to the first server over the Internet, a Hypertext Transfer Protocol (HTTP) request that comprises the first content identifier;
>
> receiv[e] the first content from the first server over the Internet in response to the sending of the first content identifier; and
>
> send[] the first content . . . to the second server, in response to the receiving of the first content identifier.

'319 Patent at 19:16–32. Similarly, Claim 1 of the '510 Patent requires the client device to:

> establish[] a Transmission Control Protocol (TCP) connection with a second server;
>
> send[], to [a] web server over an Internet, the first content identifier;
>
> receiv[e], the first content from the web server over the Internet in response to the sending of the first content identifier; and
>
> send[] the received first content, to the second server over the established TCP connection, in response to the receiving of the first content identifier.

'510 Patent at 19:18–31. As the term suggests, the "first content identifier" is some identifier that allows the system to identify the requested content, such as a checksum of the content. *See, e.g.*, '310 Patent at 15:20–22 ("The chunk request that the client sends to each of the peers is the checksum of the data that the client seeks to receive, which is the key (identifier) of the chunk.").

B. The '614 Patent

The '614 Patent concerns similar subject matter. Much like the '319 Patent and '510 Patent, the claims recite a client device communicating with a server over the Internet, but the client device only *sometimes* acts as a proxy. Luminati characterizes this as dynamically shifting between two states—either acting as a proxy or not acting as a proxy—based on some criteria. *See* Dkt. No. 126 at 3. The state-determining criteria might be, for example, the outcome of a random number generator, '614 Patent at 92:30–35, the physical location of the client device, *id.* at 92:47–49, the time a client device signs up with a server, *id.* at 93:31–34, or the IP addresses of the various devices, *id.* at 93:22–30.

In Claim 1, the state-determining criteria is the amount of resource utilization. That claim recites the steps of:

> initiating, by the client device, communication with [a] first server over the Internet in response to connecting to the Internet, the communication comprises sending, by the client device, the first

> identifier to the first server over the Internet;
>
> when connected to the Internet, periodically or continuously *determining whether the resource utilization satisfies the criterion*;
>
> responsive to the determining that the utilization of the resource satisfies the criterion, shifting to the first state or staying in the first state;
>
> responsive to the determining that the utilization of the resource does not satisfy the criterion, shifting to the second state or staying in the second state;
>
> responsive to being in the first state, receiving, by the client device, a request from the first server; and
>
> performing a task, by the client device, in response to the receiving of the request from the first server,

'614 Patent at 172:50–67 (emphasis added). The performed "task" requires:

> receiving, by the client device, the first content identifier from the first server;
>
> sending, by the client device, the first content identifier to the web server;
>
> receiving, by the client device, the first content from the web server in response to the sending of the first content identifier; and
>
> sending, by the client device, the received first content to the first server.

Id. at 173:5–13.

II. GENERAL LEGAL STANDARDS

A. Construction of Claim Terms and Phrases

"[T]he claims of a patent define the invention to which the patentee is entitled the right to exclude." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)).

As such, if the parties dispute the scope of the claims, the court must determine their meaning. *See, e.g.*, *Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1317 (Fed. Cir. 2007); *see also Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 390 (1996), *aff'g*, 52 F.3d 967, 976 (Fed. Cir. 1995) (en banc).

When construing claims, "[t]here is a heavy presumption that claim terms are to be given their ordinary and customary meaning." *Aventis Pharm. Inc. v. Amino Chems. Ltd.*, 715 F.3d 1363, 1373 (Fed. Cir. 2013) (citing *Phillips*, 415 F.3d at 1312–13). "Courts are required therefore 'look to the words of the claims themselves … to define the scope of the patented invention.'" *Id.* (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)) (ellipsis in original). The "ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." *Phillips*, 415 F.3d at 1313 (citations omitted). This "person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." *Id.*

"[I]ntrinsic evidence is the primary resource" for claim construction. *See Power-One, Inc. v. Artesyn Techs., Inc.*, 599 F.3d 1343, 1348 (Fed. Cir. 2010) (citing *id.* at 1312). For certain claim terms, "the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words." *Phillips*, 415 F.3d at 1314 (citation omitted). But for claim terms with less-apparent meanings, "the court looks to 'those sources available to the public that show what a person of skill in the art would have understood disputed claim language to mean." *Id.* (quoting *Innova*, 381 F.3d at 1116). "Those

sources include 'the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art.'" *Id.* (quoting *Innova*, 381 F.3d at 1116).

B. Indefiniteness

"[A] patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention." *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014). The patent "must be precise enough to afford clear notice of what is claimed," but that consideration must be made while accounting for the inherent limitations of language. *Id.* at 909 (citations omitted).

Defendants base some of their indefiniteness challenges on an apparent lack of antecedent basis for certain recited limitations. A claim is not necessarily indefinite if the body of the claim recites additional limitations not found in the preamble. *See Energizer Holdings, Inc. v. Int'l Trade Comm'n*, 435 F.3d 1366, 1370 (Fed. Cir. 2006) ("The failure to provide explicit antecedent basis for terms does not always render a claim indefinite."). The question is whether the claim adequately notifies the public of the scope of the patentee's right to exclude. *See id.* ("When the meaning of the claim would reasonably be understood by persons of ordinary skill when read in light of the specification, the claim is not subject to invalidity upon departure from the protocol of 'antecedent basis.'").

III. LEVEL OF ORDINARY SKILL IN THE ART

The level of ordinary skill in the art is the level of skill of a hypothetical person who is presumed to have known the relevant art at the time of the invention. In resolving the level of ordinary skill, courts consider the types of and solutions to problems encountered in the art, the speed of innovation, the sophistication of the technology, and the education of workers active in the field. *See In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995); *see also KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007) ("A person of ordinary skill in the art is also a person of ordinary creativity, not an automaton.").

Here, the parties generally agree on the proper level of skill in the art. Defendants assert "[a] person of ordinary skill . . . would have at least a bachelor's degree in Computer Science or related field (or equivalent experience), as well as two or more years of experience working with and programming networked computer systems." Dkt. No. 138 at 2 n.1. Luminati contends a person of ordinary skill

> had a Master's Degree or higher in the field of Electrical Engineering, Computer Engineering, or Computer Science or as of that time had a Bachelor's Degree in the same fields and two or more years of experience in Internet communications.

Dkt. No. 126 at 9.

To the extent there are differences between the proffered levels of skill, the parties concede those differences are not material to construing the disputed terms or resolving Defendants' assertions of indefiniteness. Neither party challenges the other's proffered level of skill or provides any analysis of the differences. Nor does either party contend the proper construction of the disputed terms or the correct resolution to the indefiniteness challenges turn on which level of skill the Court finds proper.

IV. AGREED CONSTRUCTIONS

The Court construes the following terms as agreed by the parties:[3]

Claim Term / Phrase	Construction
preamble '319 Patent cl.1 '510 Patent cl.1 '614 Patent cl.1	limiting
web server '510 Patent cls.1 & 16 '614 Patent cls.1 & 29	plain and ordinary meaning
receiving, from the second server, the first content identifier '319 Patent cl.1	plain and ordinary meaning
during, as part of, or in response to, a start up '319 Patent cl.2	plain and ordinary meaning
during, as part of, or in response to, a start up or power-up '510 Patent cl.2	plain and ordinary meaning
in response to connecting to the Internet '614 Patent cl.1	plain and ordinary meaning
connected to the Internet '614 Patent cl.1	plain and ordinary meaning
performing a task, by the client device, in response to the receiving of the request from the first server '614 Patent cl.1	plain and ordinary meaning
above or below the threshold '614 Patent cl.17	plain and ordinary meaning

[3] *See* Dkt. No. 126 at 9–10.

hardware component '614 Patent cls.18–20	plain and ordinary meaning
message that comprises a status '614 Patent cls.25–26	plain and ordinary meaning

V. CONSTRUCTIONS OF DISPUTED TERMS

A. client device ('319 Patent cls.1, 2, 14, 17, 22, 24, and 25; '510 Patent cls.1, 2, 8, 10, 13, 15, 18, and 19)

Luminati's Proposed Construction	Defendants' Proposed Construction
consumer computer	plain and ordinary meaning

According to Luminati, the specification defines "client device" as a "consumer computer." Dkt. No. 126 at 10 (citing '319 Patent at 2:44–46). The Court should construe the term this way, says Luminati, for two reasons. First, although Luminati does not necessarily disagree with the Court's preliminary construction,[4] a jury can more easily understand "consumer computer." *See* Dkt. No. 176 at 9:08–10 ("we think that a consumer computer is . . . easier for the jury to understand"). Second, Luminati claims the patentee distinguished client devices from servers during the prosecution, a concept better captured by its proposal than the Court's preliminary construction. *Id.* at 8:21–9:01 ("we believe that the way that client device is used in these particular patents . . . is consumer device and consumer computer and specifically not servers"); *see also* Dkt. No. 126 at 11–12.

Defendants counter that Luminati's proposed construction conflicts with the specification, Luminati's earlier admissions in this case, the common understanding of the phrase, and the

[4] Based on its initial review of the briefs, the Court preliminarily construed this term as "communication device that is operating in the role of a client."

Court's construction of the term in a prior case. Dkt. No. 138 at 1–2. They criticize Luminati for relying on three lines from the '319 Patent that refer in passing to computers of consumers when describing a prior-art peer-to-peer network. *Id.* at 6. They further argue the specification does not clearly redefine "client device" to mean a "consumer computer." *Id.* at 6–7. If the term must be construed, Defendants urge the same construction previously adopted by the Court in another case: "a device that is operating in the role of a client by requesting services, functionalities, or resources from other devices." *Id.* at 5–6; *id.* at 6 n.4.

Beginning with Luminati's lexicographical argument, the Court finds the language on which Luminati relies is not sufficient to redefine the meaning of the term to "consumer computer." As used by the specification, "consumer" simply means a consumer of content, as opposed to a broadcaster of that content. *See* '319 Patent at 1:54–57 (describing "[t]he need for a new method of data transfer that is fast for the consumer, cheap for the content distributor and does not require infrastructure investment for ISPs"); *see also id.* at 1:58–59 ("There have been many attempts at making the Internet faster for the consumer and cheaper for the broadcaster."). Notably, "consumer" does *not* appear in connection with the description of the claimed inventions, and the lines on which Luminati relies are not a clear and explicit statement by the patentee for the disputed term. *See Thorner v. Sony Comput. Entm't Am. LLC*, 669 F.3d 1362, 1368 (Fed. Cir. 2012) (noting lexicography requires "a clear and explicit statement by the patentee" and any "'implied' redefinition must be so clear that it equates to an explicit one").

Luminati's second argument—that a client device is specifically not a server—is not supported by the specification. The patents use a number of terms that require hardware of some sort, such as communication device, first server, second server, and acceleration server. Each

"communication device" may act as a client,[5] peer, or agent. '319 Patent at 4:48–49; *see also id.* at 3:17–26 (referring to a client communication device, an agent communication device, and a peer communication device). The patents do not include servers as a type of "communication device," but that is not sufficient to construe "client device" as unable to act as a server in all cases. Generally, "[n]egative claim limitations are adequately supported when the specification describes a reason to exclude the relevant limitation." *Santarus, Inc. v. Par Pharm., Inc.*, 694 F.3d 1344, 1351 (Fed. Cir. 2012). Luminati cites to no such reason in the '319 or '510 Patents.

Except for Luminati's request for a negative limitation, the parties agree with the Court's preliminary construction. *See* Dkt. No. 176 at 11:13–16, 16:06–07. That construction is consistent with the extrinsic evidence proffered by Luminati in its L.R. 4-2 disclosures. *See* Dkt. No. 138-3 at 1–2 (citing sources that define "client" as, for example, "[t]he role adopted by an application when it is retrieving and/or rendering resources"). The Court therefore adopts its preliminary construction and construes:

- "client device" as "communication device that is operating in the role of a client."

B. first server ('319 Patent cl.1, 21)

Luminati's Proposed Construction	Defendants' Proposed Construction
web server	plain and ordinary meaning

Claim 1 of the '319 Patent recites "[a] method . . . for use with a first server that comprises

[5] "Client device" appears only once in the specification with reference to the disclosed embodiments, where it is used synonymously with "client." *See* '319 Patent at 6:41–47 ("While the present description refers to a request from the client originating from an Internet browser, . . . a request may originate from an email program or any other program that would be used to request data . . . by the client device.").

a web server that is a Hypertext Transfer Protocol (HTTP) server that responds to HTTP requests." '319 Patent at 19:16–19. Luminati claims its construction would be helpful to a jury by minimizing jury confusion but does not explain what that confusion might be. Dkt. No. 126 at 13. Defendants argue such a construction is unnecessary. Dkt. No. 138 at 8.

Luminati claims its construction is consistent with the claim language, but consistency does not give rise to a dispute over claim scope. Nor has Luminati provided any convincing explanation about how there might be jury confusion.[6] In accordance with the Court's preliminary construction, this term should be given its plain and ordinary meaning.[7]

C. second server ('319 Patent cl.1, 17, 21, and 24; '510 Patent cl.1, 2, 8, 15, and 18)

Luminati's Proposed Construction	Defendants' Proposed Construction
a server that is not the client device or web server	plain and ordinary meaning

The parties dispute whether the second server must be a distinct device from the client device and the web server. Luminati argues its construction would assist the jury by clarifying that the server and client devices are different devices. Dkt. No. 126 at 13. Defendants counter that Luminati's construction would improperly import a limitation into the claim language. Dkt. No. 138 at 8–9.

Both the claims and specification show that the client device and second server are different

[6] *But see* Dkt. No. 145 at 3 n.1 (citing a clerical error in Luminati's opening brief as evidence of potential jury confusion).

[7] At the hearing, neither party objected to the Court's preliminary construction of "plain and ordinary meaning."

devices. Claim 1 of the '510 Patent, for example, recites that the client device establishes a TCP connection with the second server over the Internet. '510 Patent at 19:21–23. Such a connection would not be required if the first client device and second server were the same device. This, of course, is consistent with the purpose of the disclosed inventions—to improve speed and bandwidth efficiency between different devices *through the Internet*. *Id.* at 1:26–27.

The tougher question is whether the second server and web server can be the same device. Client, peer, agent, and server are roles a device can perform. Nothing in the intrinsic record suggests one device cannot perform both the role of a web server and a second server. To construe the claim in such a way would improperly import a limitation into the claim language. Accordingly, the Court will provide its preliminary construction of this term to the jury and construes:

- "second server" as "server that is not the client device."[8]

D. client device ('614 Patent cl.1, 2, 4–6, 9, 15, 18–19, 25, and 28)

Luminati's Proposed Construction	Defendants' Proposed Construction
a device using a client dedicated operating system and operating in the role of client by requesting services, functionalities, or resources from the server	plain and ordinary meaning

Luminati claims the need for a construction based on its belief that Defendants will otherwise "assert that client devices and servers are interchangeable general use computers." Dkt. No. 126 at 16. Because such an assertion is inconsistent with the claim language, says Luminati, it asks for a construction "clarifying that client devices use a client dedicated operating system." *Id.* It argues the prosecution history disavows any broader scope of the term. *Id.* at 17.

[8] Neither party objected to the Court's preliminary construction for this term.

Defendants respond that a client device is simply a device acting in the role of a client. Dkt. No. 138 at 9. They deny that they will claim client devices and servers are interchangeable general use computers. *Id.* at 11. Moreover, they contend there is no basis for the client device requiring "a client dedicated operating system." *Id.* at 10–11.

Luminati's position is not persuasive. It cites nothing from the intrinsic record showing a client device *must* have a "client dedicated operating system." Rather, Luminati cites passages from the specification that, at best, merely acknowledge that a client dedicated operating system is *typical* in a client device. *See, e.g.*, '614 Patent at 7:06–09 ("[a] client device . . . *typically* receives information resources, services, and applications from servers, and is using *a client dedicated or oriented operating system*" (emphasis added)); *see also id.* at 75:45–47 ("Each of the network elements herein, such as the first, second, and third devices, *may* store, operate, or use, a client operating system . . . ." (emphasis added)). But Luminati does not explain what composes a "client *dedicated* operating system," how that phrase is different from a "client *oriented* operating system," or why the disputed term should be construed to include the former rather than the latter.

Regardless, Defendants deny that they will assert that client devices are interchangeable general use computers, undercutting Luminati's proffered need for construction and resolving the dispute about claim scope. Given that Luminati provides no other reason for why construction of this term is necessary, and because the parties generally agree that a "client device," as recited in the claims of the '614 Patent, operates in the role of a client, there appears to be no meaningful dispute to resolve. The Court, in accordance with its preliminary construction, construes this term:

- "client device" as "device operating in the role of a client by requesting services, functionalities, or resources from the server."[9]

[9] Neither party objected to the Court's preliminary construction for this term.

E. first server ('614 Patent cl.1)

Luminati's Proposed Construction	Defendants' Proposed Construction
a server that is not the client device or web server	plain and ordinary meaning

For the same reasons set forth in Part V.C. *supra*, the Court will provide its preliminary construction of this term to the jury and construes:

- "first server" as "server that is not the client device."[10]

VI. INDEFINITENESS

A. Indefiniteness of "the first IP address" ('319 Patent cl.2) and "the first client IP address" ('510 Patent cl.2)

Claim 2 of the '319 Patent recites "a first message [that] comprises *the first IP address*, the MAC address, or the hostname." '319 Patent at 19:37–40 (emphasis added). Similarly, Claim 2 of the '510 Patent recites "a first message [that] comprises *the first client IP address*, the MAC address, or the hostname." '510 Patent at 19:37–39 (emphasis added). But neither of these claims, nor the claims from which they respectively depend, recites "a first IP address" or "a first client IP address." Defendants therefore argue these claims are indefinite because they recite a claim term without an antecedent basis.

More specifically, Defendants assert these claims leave a person of ordinary skill unable to determine what IP address must be in the first message, for two reasons. First, they argue "the first IP address" or "first client IP address" could refer to the IP address of the first client device, the first server, or the second server. Dkt. No. 138 at 15. Second, they argue the IP address may refer

[10] Neither party objected to the Court's preliminary construction for this term.

to one of multiple IP addresses for a single device. *Id.* at 15–16. Defendants claim Luminati provides no way to resolve these possibilities, and instead relies on a conclusory statement of its expert. *Id.* at 16.

Neither argument is convincing. From the context of the claim language, a person of ordinary skill would *not* think the "first client IP address" is associated with any network device other than the first client device. Each Claim 2 recites the step of "sending, *by the first client device*, during, as part of, or in response to, a start-up [or power up] of the first client device, a first message" that includes device-identifying information—specifically, the MAC address or hostname. '319 Patent at 19:36–40 (emphasis added); *see also* '510 Patent at 19:35–39. Clearly, this language requires the client device to identify *itself* on startup to the second server. *See* '319 Patent at 11:63–12:04 (describing how communication devices "sign up" with an acceleration server using the hostname, IP addresses, and MAC addresses of the device's interfaces). A person of ordinary skill would *not* conclude that the first client device sends identifying information of another communication device as part of its initiation process, as that would serve no purpose.

Defendants' second argument confuses breadth with indefiniteness. Each Claim 2 refers to one IP address. A person of ordinary skill would understand the claim language to only require an IP address that identifies the client device, just like the MAC address or hostname. That there might be multiple IP addresses satisfying that criteria does not render the claim indefinite. The Court therefore finds that these claims are not indefinite.

B. Indefiniteness of "determining, by the first client device, that the received first content, is valid" ('319 Patent cl.14; '510 Patent cl.10)

In their briefing, Defendants assert that the patents do not inform a person of ordinary skill what it means for the first content to be "valid." Dkt. No. 126 at 17. They offer a host of possibilities, such as whether the first content was generated from a trusted (rather than untrusted)

source, whether the content has been modified, and whether the content is truthful. *Id.* at 18. Luminati counters that a person of ordinary skill would understand that the at-issue phrase requires determining whether the cached data is the same as the data that would have been received directly from the server. Dkt. No. 126 at 22.

The specification supports Luminati's position. The patents teach methods of providing faster and more efficient data communication by storing responses to information requests in cache for future use within the network. '319 Patent at 9:60–10:03. When a client requests content from a URL, the system first determines whether it has information responsive to that request. *Id.* at 14:24–26. If so, the system must also determine "whether the data that is stored within the memory of the selected agent or . . . peers still mirrors the information that would have been received from the server itself for this request." *Id.* at 14:35–38. This description would lead a person of ordinary skill to conclude "validity" relates to whether the cached data is still identical to the data stored on the server, which goes to the heart of the disclosed subject matter.[11] In contrast, there is no basis in the specification for any of Defendants' other possible meanings. These claims are not indefinite.

C. Indefiniteness of "the determining is based on the received HTTP header according to, or based on, IETF RFC 2616" ('319 Patent cl.15; '510 Patent cl.11)

As discussed *supra*, Claim 14 of the '319 Patent and Claim 10 of the '510 Patent require "determining . . . that the received first content, is valid." Claim 15 of the '319 Patent and Claim 11 of the '510 Patent then require the validity determination to be "based on the received HTTP header according to, or based on, IETF RFC 2616." '319 Patent at 20:44–46; '510 Patent at 20:13–15. Defendants argue there is no antecedent basis for "the received HTTP header," so a person of

[11] During the hearing, Defendants agreed this is the proper interpretation of what it means for the received first content to be valid in light of the specification. Dkt. No. 176 at 62:05–09.

ordinary skill cannot determine what header is received or used for determining validity. Dkt. No. 138 at 20. Defendants stress that RFC 2616 defines many different HTTP headers, and a person of ordinary skill would not know which has been identified. *Id.* at 20–21.

The patents, however, explain that

> the HTTP protocol, defined by RFC 2616, outlines specific methods that Web servers can define within the HTTP headers signifying the validity of certain data, such as, but not limited to, by using HTTP header information such as "max age" to indicate how long this data may be cached before becoming invalid, "no cache" to indicate that the data may never be cached, and using other information.

'319 Patent at 16:21–28. This shows that this limitation simply means the validity determination is made using information from the HTTP header. For infringement purposes, a person of ordinary skill would understand it does not matter which HTTP header defined by RFC 2616 is used for a specific embodiment of the method, but only that the HTTP header on which the validity determination is based is found in RFC 2616. Therefore, these claims are not indefinite.

D. Indefiniteness of "periodically communicating" ('319 Patent cl.17; '510 Patent cl.8)

Defendants contend a person of ordinary skill would not understand how "periodically communicating" is different from the communication already recited by Claim 1. Dkt. No. 138 at 21–22. Noting the specification never uses the phrase, Defendants assert "the patents provide no context as to whether 'periodically communicating' means 'from time to time,' or the like, or whether [the phrase refers] to set or regular intervals of time." *Id.* at 22.

The specification does not disclose any need for regular intervals, or what the value of those intervals would be. On the other hand, the specification *does* describe occasional communication between devices so they know the established communication link still exists. *See, e.g.*, '319 Patent at 16:52–57 ("[T]he acceleration server sends 'keep alive' signals to the network elements, and keeps track within its database as to which network elements are online."). A person

of ordinary skill would therefore understand timing between each instance of communication is not critical. In contrast, maintaining the communication link and knowing its status is important to achieving the claimed inventions' purpose. Based on that, these claims are not indefinite.

E. Indefiniteness of "in response to the receiving of the first content identifier" ('510 Patent cl.1)

Claim 1 of the '510 Patent recites that the first client device "send[s] the received first content, to the second server over [an] established TCP connection, in response to *the receiving of [a] first content identifier*." '510 Patent at 19:29–31 (emphasis added). Defendants argue a person of ordinary skill "must guess at which device allegedly receives the first content identifier." Dkt. No. 138 at 24–25. Relying in part on Claim 15, Luminati suggests Claim 1 does not require a specific device to receive the first content identifier. *See* Dkt. No. 126 at 25 (noting Claim 15, which depends from Claim 1, requires the step of "receiving, by the first client device from the second server over the established TCP connection, the first content identifier").

Defendants' position again confuses breadth with indefiniteness. The question of whether the claim is indefinite is different from whether the claim is recited so broadly that it does not matter whether the web server, the second server, or some other device receives the first content identifier to meet this limitation.[12] Rather, the claim language simply requires that the first content identifier be received, and that the first client device send the received first content in response. This language is not indefinite.

F. Indefiniteness of "the sending of the Hypertext Transfer Protocol (HTTP) request," "the receiving and storing of the first content," and "the sending of the part of, or the whole of, the stored first content" ('510 Patent cl.13)

Claim 13 of the '510 Patent recites:

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[12] During the hearing, Luminati asserted that Claim 1 requires the client device to receive the first content identifier. Dkt. No. 176 at 87:18–20.

> The method according to claim 1, for use with a software application that includes computer instructions that, when executed by a computer processor, cause the processor to perform *the sending of the Hypertext Transfer Protocol (HTTP) request*, *the receiving and storing of the first content*, the receiving of the first content identifier, and *the sending of the part of, or the whole of, the stored first content*, the method is further preceded by:
>
> downloading, by the first client device from the Internet, the software application; and
>
> installing, by the first client device, the downloaded software application.

'510 Patent at 20:26–37 (emphasis added). Defendants assert that the claim is indefinite because a person of ordinary skill would not know to what these phrases refer. *See generally* Dkt. No. 138 at 26–29. Luminati counters that a person of ordinary skill would understand these phrases to refer to the steps of Claim 1. More specifically, according to Luminati:

- "the sending of the [HTTP] request" refers to Claim 1's step of "sending, to the web server over an Internet, the first content identifier" in conjunction with the preamble;
- "the receiving and storing of the first content" refers to Claim 1's step of "receiving the first content from the web server"; and
- "the sending of the part of, or the whole of, the stored first content" refers to Claim 1's step of "sending the first received content."

Dkt. No. 126 at 26–27.

These three phrases limit the software application recited in Claim 13, but the claim language is not clear as to what these phrases mean. While there appears to be some connection to Claim 1's steps, the extent of that connection is ambiguous, and therein lies the problem. For example, Claim 1 does not refer to sending "part of, or the whole of," any content. Similarly, while Claim 1's preamble refers to a "web server that responds to [an HTTP request]," the body of Claim 1 refers only to sending a first content identifier." Plus, nowhere does Claim 1 mention the

"storing" requirements of Claim 13.

Resolving this dispute in Luminati's favor would be easy had Claim 13 simply recited a software application that includes computer instructions "for executing the steps of Claim 1," or alternatively used language identical to Claim 1's limitations. For some reason, the patentee chose neither of these options, resulting in considerable uncertainty. Thus, because the claim does not clearly set forth the bounds of the recited software application with reasonable certainty, Claim 13 of the '510 Patent is indefinite.

G. Indefiniteness of "sequentially executed" ('614 Patent cl.7)

Claim 7 of the '614 Patent recites "[t]he method according to claim 1, wherein the steps are sequentially executed." '614 Patent at 173:37–38. Defendants contend this requirement is indefinite because of the structure of Claim 1. For simplicity, Defendants group Claim 1's limitations into two sets of steps: (1) the limitations recited before the "wherein" clause, and (2) the four "receiving" and "sending" steps after the "wherein" clause. Dkt. No. 138 at 29. According to Defendants, Claim 7 considered in light of Claim 1's structure requires the first set of steps to "be performed sequentially, concluding with the performance of the task. Then, the 'task' (comprising the [four] 'sending' and 'receiving' steps) must be performed again, given the second set of steps." *Id.* at 29–30. A person of ordinary skill, say Defendants, "would not understand which method steps are executed 'sequentially.'" *Id.*

Luminati views Claim 1 quite differently. That claim, says Luminati, has an "initial part in which the client device performs steps including an initiating step, followed by the determining and shifting steps, before the performance of a task should the first server be in the 'first state'" and a second part providing "four steps [comprising] the performance of the task." Dkt. No. 126 at 29. Luminati treats the four steps recited between the "initiating" and "performing" steps, which

it calls "status steps," as part of the "initiating" step. *Id.* at 28.

The claim is not indefinite. The "wherein" clause merely serves to provide antecedent basis for the "first content" and "first content identifier" recited later. The second set of limitations requires certain sub-steps for the "performing" step. A person of ordinary skill would understand that Claim 7 simply requires the steps of Claim 1 to be performed in the recited order, with the performing step recited last. *See* '614 Patent at 25:26–27 (defining "sequentially" as "one completing before the next starts"). As part of that performing step, the second set of steps must be performed in the recited order.

That said, Luminati construes Claim 1 improperly by considering the status steps as part of the "initiating" step and only requiring five of the ten recited Claim 1 steps to be performed sequentially. But there is no basis for that interpretation in the specification, nor does the plain language of the claims require it. Each of the "status steps" calls for some action—whether it be "determining," "shifting," "staying," or "receiving"—and there is no reason for excepting those steps from the "sequentially executed" requirement of Claim 7. Thus, the claim requires the ten steps of Claim 1 to be performed in the recited order.

VII. CONCLUSION

The Court construes the disputed claim terms as follows:

Disputed Term	Construction
"client device" '319 Patent claims 1, 2, 14, 17, 22, 24, and 25 '510 Patent claims 1, 2, 8, 10, 13, 15, 18, and 19	"communication device that is operating in the role of a client"
"first server" '319 Patent claims 1 and 21	plain and ordinary meaning
"second server" '319 Patent claims 1, 2, 17, 21, and 24 '510 Patent claims 1, 2, 8, 15, and 18	"server that is not the client device"

"client device" '614 Patent claims 1, 2, 4–6, 9, 15, 18–19, 25, and 28	"device operating in the role of a client by requesting services, functionalities, or resources from the server"
"first server" '614 Patent claim 1	"server that is not the client device"

With respect to Defendant's indefiniteness challenges, Claim 13 of the '510 Patent fails to inform a person of ordinary skill of its scope with reasonable certainty and is therefore indefinite. The remaining claims challenged by Defendants are not indefinite.

The Court **ORDERS** each party not to refer, directly or indirectly, to its own or any other party's claim construction positions in the presence of the jury. Likewise, the Court **ORDERS** the parties to refrain from mentioning any part of this opinion, other than the actual positions adopted by the Court, in the presence of the jury. Any reference to claim construction proceedings is limited to informing the jury of the positions adopted by the Court.

SIGNED this 7th day of December, 2020.

ROY S. PAYNE
UNITED STATES MAGISTRATE JUDGE