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

ADAPTIVE SPECTRUM & SIGNAL ALIGNMENT, INC.	§	
v.	§	CASE NO. 2:24-CV-124-JRG-RSP
CHARTER COMMUNICATIONS, INC.	§	

CLAIM CONSTRUCTION ORDER

On March 20, 2025, the Court held a hearing to determine the proper construction of disputed terms in United States Patents No. 7,809,996, 10,848,398, 11,050,654, 11,477,108, and 11,770,313. Before the Court is the Opening Claim Construction Brief (Dkt. No. 72) filed by Plaintiff Adaptive Spectrum and Signal Alignment, Inc. ("ASSIA" or "Adaptive"). Also before the Court are the Responsive Claim Construction Brief (Dkt. No. 77) filed by Defendant Charter Communications, Inc. ("Charter"), Plaintiffs' reply (Dkt. No. 82), the parties' December 19, 2024 Joint Claim Construction and Prehearing Statement (Dkt. No. 55), and the parties' March 5, 2025 P.R. 4-5(d) Joint Claim Construction Chart (Dkt. No. 84).

Having reviewed the arguments made by the parties at the hearing and in their claim construction briefing, having considered the intrinsic evidence, and having made subsidiary factual findings about the extrinsic evidence, the Court hereby issues this Claim Construction Order. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005) (en banc); *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 841 (2015).

ASSIA EX2006
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I. BACKGROUND

Plaintiff alleges infringement of United States Patents No. 7,809,996 ("the '996 Patent"), 10,848,398 ("the '398 Patent"), 11,050,654 ("the '654 Patent"), 11,477,108 ("the '108 Patent"), and 11,770,313 ("the '313 Patent") (collectively, the "patents-in-suit"). Dkt. No. 72, Exs. A–E.

The '996 Patent, titled "Adaptive FEC Codeword Management," issued on October 5, 2010, and bears an earliest priority date of December 7, 2003. The Abstract of the '996 Patent states:

> Adaptive FEC coding is used to adjust the codeword composition of FEC codewords in a communication system. A codeword composition ratio may be adjusted in response to variance of a measured transmission error value from a target transmission error value in the system. The codeword composition ratio may be any quantity or value that represents the relation between the payload and parity bytes in the applicable FEC coding scheme. Adjustment of the codeword composition ratio may be adjusting parameters such as the N, K and/or R values in ADSL1 systems or the INP and/or maximum interleaving delay values in ADSL2 systems. A controller may be used to monitor, analyze and adjust the various values used in adaptively managing FEC coding. The present invention may be implemented in a transmission system in which a transmitter transmits data to a receiver via a transmission channel, such as a DSL system.

The ’398 Patent, titled “Method, Apparatus, and System for Optimizing Performance of a Communication Unit by a Remote Server,” issued on November 24, 2020, and bears a filing date of November 10, 2011. The Abstract of the ’398 Patent states:

> Described herein are apparatus, system, and method for optimizing performance of one or more communication units by a remote server. The method comprises: collecting data from the one or more communication units; generating a policy, for each of the one or more communication units, based on the collected data; and sending the policy to each of the one or more communication units, wherein the policy comprises conditions for operation of the one or more communication units, wherein the one or more communication units implement the policy according to time-varying data. The system comprises: one or more communication units; and a server operable to communicate with the one or more communication units, wherein the server comprises: a memory; and a processor, coupled to the memory, and operable to perform the method discussed above.

The ’313 Patent resulted from a continuation of the ’398 Patent, and Defendant submits that “[t]he ’398 and ’313 Patents share a common specification, so citations to one patent apply equally to the other.” Dkt. No. 77 at vi.

The ’654 Patent, titled “Method and System for Using a Downloadable Agent for a Communication System, Device, or Link,” issued on June 29, 2021, and bears a filing date of September 25, 2012. The Abstract of the ’654 Patent states:

> Described is a method performed by a downloadable agent, the method comprising: collecting WAN performance information, wherein the downloadable agent is executable on a computing device coupled to a LAN of a broadband subscriber,

> wherein the LAN is coupled by another device to a WAN; and transmitting the WAN performance information to a machine; wherein the machine is operable to: store and analyze the performance information to generate an analysis result; and report the analysis result to at least one of the broadband subscriber and its service provider. Described is a corresponding system which comprises a database; and a server coupled to the database, the server operable to: receive WAN performance information from a downloadable agent; store the information in the database, analyze the information to generate an analysis result; and report the analysis result to at least one of the broadband subscriber and the broadband subscriber's service provider.

The '108 Patent, titled "Systems and Methods for Jointly Optimizing WAN and LAN Network Communications," issued on October 18, 2022, and bears an earliest priority date of January 12, 2011. The Abstract of the '108 Patent states:

> Described are systems and methods for jointly optimizing Wide Area Network (WAN) and Local Area Network (LAN) network communications. In one embodiment, a management device communicatively interfaced with a WAN and a LAN includes a collection module to collect LAN information from the LAN and WAN information from the WAN; an analysis module to jointly analyze the collected WAN information and the collected LAN information to identify an operational condition; and an implementation nodule to initiate a management event responsive to the operational condition being identified. In one embodiment, the management event includes generating and transmitting a diagnostics report responsive to a fault being identified. The management device may further generate and execute instructions to remedy the diagnosed fault.

Shortly before the start of the March 20, 2025 hearing, the Court provided the parties with preliminary constructions with the aim of focusing the parties' arguments and facilitating discussion. Those preliminary constructions are noted below within the discussion for each term.

II. LEGAL PRINCIPLES

"It is a 'bedrock principle' of patent law that 'the claims of a patent define the invention to which the patentee is entitled the right to exclude.'" *Phillips*, 415 F.3d at 1312 (quoting *Innova/Pure Water Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). Claim construction is clearly an issue of law for the court to decide. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 970–71 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996). "In

some cases, however, the district court will need to look beyond the patent's intrinsic evidence and to consult extrinsic evidence in order to understand, for example, the background science or the meaning of a term in the relevant art during the relevant time period." *Teva*, 135 S. Ct. at 841 (citation omitted). "In cases where those subsidiary facts are in dispute, courts will need to make subsidiary factual findings about that extrinsic evidence. These are the 'evidentiary underpinnings' of claim construction that we discussed in *Markman*, and this subsidiary factfinding must be reviewed for clear error on appeal." *Id.* (citing 517 U.S. 370).

To determine the meaning of the claims, courts start by considering the intrinsic evidence. *See Phillips*, 415 F.3d at 1313; *see also C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 861 (Fed. Cir. 2004); *Bell Atl. Network Servs., Inc. v. Covad Commc'ns Group, Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001). The intrinsic evidence includes the claims themselves, the specification, and the prosecution history. *See Phillips*, 415 F.3d at 1314; *C.R. Bard*, 388 F.3d at 861. Courts give claim terms their ordinary and accustomed meaning as understood by one of ordinary skill in the art at the time of the invention in the context of the entire patent. *Phillips*, 415 F.3d at 1312–13; *accord Alloc, Inc. v. Int'l Trade Comm'n*, 342 F.3d 1361, 1368 (Fed. Cir. 2003).

The claims themselves provide substantial guidance in determining the meaning of particular claim terms. *Phillips*, 415 F.3d at 1314. First, a term's context in the asserted claim can be very instructive. *Id.* Other asserted or unasserted claims can aid in determining the claim's meaning because claim terms are typically used consistently throughout the patent. *Id.* Differences among the claim terms can also assist in understanding a term's meaning. *Id.* For example, when a dependent claim adds a limitation to an independent claim, it is presumed that the independent claim does not include the limitation. *Id.* at 1314–15.

"[C]laims 'must be read in view of the specification, of which they are a part.'" *Id.* at 1315 (quoting *Markman*, 52 F.3d at 979). "[T]he specification 'is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.'" *Phillips*, 415 F.3d at 1315 (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)); *accord Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002). This is true because a patentee may define his own terms, give a claim term a different meaning than the term would otherwise possess, or disclaim or disavow the claim scope. *Phillips*, 415 F.3d at 1316. In these situations, the inventor's lexicography governs. *Id.* The specification may also resolve the meaning of ambiguous claim terms "where the ordinary and accustomed meaning of the words used in the claims lack sufficient clarity to permit the scope of the claim to be ascertained from the words alone." *Teleflex*, 299 F.3d at 1325. But, "[a]lthough the specification may aid the court in interpreting the meaning of disputed claim language, particular embodiments and examples appearing in the specification will not generally be read into the claims." *Comark Commc'ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998) (quoting *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988)); *accord Phillips*, 415 F.3d at 1323.

The prosecution history is another tool to supply the proper context for claim construction because a patent applicant may also define a term in prosecuting the patent. *Home Diagnostics, Inc. v. Lifescan, Inc.*, 381 F.3d 1352, 1356 (Fed. Cir. 2004) ("As in the case of the specification, a patent applicant may define a term in prosecuting a patent."). "[T]he prosecution history (or file wrapper) limits the interpretation of claims so as to exclude any interpretation that may have been disclaimed or disavowed during prosecution in order to obtain claim allowance." *Standard Oil Co. v. Am. Cyanamid Co.*, 774 F.2d 448, 452 (Fed. Cir. 1985).

Although extrinsic evidence can be useful, it is "less significant than the intrinsic record in determining the legally operative meaning of claim language." *Phillips*, 415 F.3d at 1317 (citations and internal quotation marks omitted). Technical dictionaries and treatises may help a court understand the underlying technology and the manner in which one skilled in the art might use claim terms, but technical dictionaries and treatises may provide definitions that are too broad or may not be indicative of how the term is used in the patent. *Id.* at 1318. Similarly, expert testimony may aid a court in understanding the underlying technology and determining the particular meaning of a term in the pertinent field, but an expert's conclusory, unsupported assertions as to a term's definition are entirely unhelpful to a court. *Id.* Generally, extrinsic evidence is "less reliable than the patent and its prosecution history in determining how to read claim terms." *Id.*

The Supreme Court of the United States has "read [35 U.S.C.] § 112, ¶ 2 to require that a patent's claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty." *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2129 (2014). "A determination of claim indefiniteness is a legal conclusion that is drawn from the court's performance of its duty as the construer of patent claims." *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1347 (Fed. Cir. 2005) (citations and internal quotation marks omitted), *abrogated on other grounds by Nautilus,* 134 S. Ct. 2120. "Indefiniteness must be proven by clear and convincing evidence." *Sonix Tech. Co. v. Publ'ns Int'l, Ltd.*, 844 F.3d 1370, 1377 (Fed. Cir. 2017).

III. AGREED TERMS

In their December 19, 2024 Joint Claim Construction and Prehearing Statement, the parties submit that "[t]he parties have met and conferred and have not come to agreement on the

construction of any of the terms of [the patents-in-suit]." Dkt. No. 55 at 1. During the course of briefing, the parties reached certain agreements that are noted herein and that are set forth in Appendix A to the present Claim Construction Memorandum and Order.

IV. DISPUTED TERMS IN U.S. PATENT NO. 7,809,996

A. "retransmission overhead control signal"

"retransmission overhead control signal" ('996 Patent, Claim 20)	
Plaintiff's Proposed Construction	**Defendant's Proposed Construction**
"a signal for controlling one or more parameters that affect retransmission overhead"	Indefinite

Dkt. No. 55, Ex. A1 at 2; Dkt. No. 72 at 3; Dkt. No. 77 at 2; Dkt. No. 84, App'x A at 6.

Shortly before the start of the March 20, 2025 hearing, the Court provided the parties with the following preliminary construction: "a signal for controlling one or more parameters that affect retransmission overhead."

(1) The Parties' Positions

Plaintiff argues that "[t]he plain language of the claims supports ASSIA's construction." Dkt. No. 72 at 4. Plaintiff also argues that, "[t]o a POSITA [(person of ordinary skill in the art)], the patent specification provides concrete examples of retransmission overhead control signals, including a CCR (Codeword Composition Ratio) adjustment signal and an interleave depth control signal." *Id.* at 5. Plaintiff also argues that, in a recently filed petition for *Inter Partes* Review ("IPR") at the United States Patent and Trademark Office ("PTO"), Defendant's expert "had no problem understanding this term and argued that a POSITA would have no trouble interpreting 'retransmission overhead control signal.'" *Id.* at 6.

Defendant responds that this term, which Defendant abbreviates as "ROCS," does not have any established meaning in the art and "[i]t is unclear what the ROCS controls, or the range of types and formats of the signals that might qualify or not qualify as a ROCS, and the specification lacks any meaningful disclosure on these issues." Dkt. No. 77 at 2; *see id.* at 3. Defendant argues that "[t]he handful of examples ASSIA has pointed to in the claims and specification, even if accepted, . . . do not provide a POSITA with any objective insight about the *outer boundaries* of what might be encompassed or excluded from this claim term—*i.e.*, what other controls this signal is directed to or how that signal is formatted." *Id.* at 5 (citation omitted).

Plaintiff replies that "the claim language itself states that the claimed controller generates a ROCS in response to an input signal and is used by the transmitter, providing functional clarity." Dkt. No. 82 at 1. Plaintiff also argues that "although the exact phrase 'retransmission overhead control' does not appear in the body of the specification, the specification explicitly describes signals that fall within the scope of a ROCS, including: (i) CCR adjustment control signals that modify Codeword Composition Ratio (CCR) to optimize retransmission overhead and (ii) interleave depth control signals that modify interleaving to manage latency and error correction." *Id.* (citations omitted). Plaintiff also urges that "[t]he dictionary definition of 'overhead' is entirely consistent with how a POSITA would understand retransmission overhead, such as control, routing, and/or error checking data that manages retransmission efficiency." *Id.* at 3.

At the March 20, 2025 hearing, Plaintiff argued that this full term does not appear verbatim in the specification but is composed of concepts that are discussed at length in the specification. Plaintiff argued that "control signal" and "overhead" are commonly used terms in digital communications, and Plaintiff noted that the parties now agree upon a construction for

"retransmission." Defendant acknowledged that "control signal," for example, has a known meaning in the art, but Defendant reiterated its arguments that the patent fails to provide reasonably clear guidance for determining whether a particular signal is a "transmission overhead control signal." Alternatively, Defendant argued that Plaintiff's proposal of "parameters" is a term used in other, non-asserted claims and lacks support as to "retransmission overhead control signal."

(2) Analysis

As a threshold matter, Plaintiff notes that Defendant did not argue indefiniteness in its IPR petition as to the '996 Patent, but this does not significantly affect the Court's analysis because an IPR petition cannot assert indefiniteness. *See* 35 U.S.C. § 311(b); *see also Cuozzo Speed Tech., LLC v. Lee*, 136 S. Ct. 2131, 2141–42 (2016); *Samsung Elecs. Am., Inc. v. Prisua Eng'g Corp.*, 948 F.3d 1342, 1355 (Fed. Cir. 2020).

Claim 20 of the '996 Patent recites (emphasis added):

> 20. A transmission system comprising:
>
> a *transmission channel to carry data* between a transmitter and a receiver/decoder, each communicatively interfaced with the transmission channel;
>
> a transmission error value monitor communicatively interfaced with the receiver/decoder to periodically monitor for transmission error values indicative of impulse noise events on the transmission channel, wherein the transmission error values are periodically monitored after training and initialization on the receiver/decoder, the transmission error values being selected from a group comprising: a bit error rate, errored seconds, errored minutes, code violations over a fixed period of time, Signal-to-Noise Ratio (SNR) measured at the receiver/decoder, and Transmission Control Protocol and Internet Protocol (TCP/IP) throughput, and wherein the transmission error value monitor to further generate an input signal based on the transmission error values monitored; and
>
> a controller coupled with the transmitter to receive the input signal from the transmission error value monitor and to further generate a *retransmission overhead control signal* for the transmitter in response to the input signal.

Defendant argues that the '996 Patent sets forth no "objective boundaries" to provide sufficient notice to those of skill in the art regarding the scope of the claim. *Interval Licensing*

LLC v. AOL, Inc., 766 F.3d 1364, 1370–71 (Fed Cir. 2014); *see Berkheimer v. HP Inc.*, 881 F.3d 1360, 1364 (Fed. Cir. 2018).

Plaintiff submits that "overhead" has a well-established meaning in the relevant art, which *Newton's Telecom Dictionary* defines as: "In communications, all information, such as control, routing and error-checking characters, that is in addition to user-transmitted data. Includes information that carries network status or operational instructions, network routing information, as well as retransmissions of user-data messages that are received in error." Dkt. No. 72, Ex. F, *Newton's Telecom Dictionary* 542 (18th ed. 2002). Even though this definition of "overhead" includes "retransmissions," this evidence of a well-established definition for "overhead" weighs in favor of finding that a person of ordinary skill in the art would understand "retransmission overhead control signal" with reasonable certainty.

This is consistent with the usage of "retransmission overhead control signal" in Claim 11 of the '996 Patent. Claim 11 recites "[a] method for generating a retransmission overhead control signal" that includes: a step of "transmitting a control signal from the DSL modem via the channel, wherein the control signal specifies retransmission overhead parameters for the retransmission overhead control signal"; and a step of "adjusting the retransmission overhead parameters . . . ." Defendant argues that the recital of a different "control signal" adds to the purported confusion (Dkt. No. 77 at 4–5), but Defendant does not persuasively demonstrate that the use of a "control signal" in a step of a method for "generating a retransmission overhead control signal" demonstrates any indefiniteness. Defendant's argument at the March 20, 2025 hearing that Claim 11 is directed to different technology is also unpersuasive. *See Phillips*, 415 F.3d at 1314 ("Other claims of the patent in question, both asserted and unasserted, can also be valuable sources of enlightenment as to the meaning of a claim term.") (citation omitted).

Also, the specification provides further context by disclosing, for example, controlling a codeword composition ratio, which is "a quantity or value that represents the relation between the payload and parity bytes in the applicable FEC [(forward error correction)] coding scheme." '996 Patent at 4:13–17; *see id.* at 14:50–58. Plaintiff persuasively argues that this is an example of a parameter that can be controlled and that relates to retransmission overhead.

The *Intellectual Ventures* case cited by Defendant, which found indefiniteness as to "timing control signals" and "scan control signals," is not persuasive as to the issue here. *Intellectual Ventures I, LLC v. Canon Inc.*, No. CV 13-473-SLR, 2015 WL 1458035, at *2–*3 (D. Del. Mar. 27, 2015). The District of Delaware found that the term "scan control signal" was "not a commonly-understood control signal, but is instead a functionally specialized signal, the scope of which is not adequately described in the claims or the specification." *Id.*, at *2. The Court likewise found that "the specification does not provide guidance as to the type or format of the timing control signals or what they ultimately control." Yet, as a general matter, the "claims of unrelated patents must be construed separately," *e.Digital Corp. v. Futurewei Techs., Inc.*, 772 F.3d 723, 727 (Fed. Cir. 2014), and the findings of the District of Delaware as to the particular patent there at issue do not involve the above-discussed evidence regarding the particular patent here in suit and do not compel finding indefiniteness as to the different term here at issue.

Finally, regarding Plaintiff's reliance on Figure 6 (*see* Dkt. No. 72 at 5), Defendant argues that Plaintiff "identifies signals 648 and 649 as ROCSs but self-excludes signal 647 from its annotations," which Defendant argues demonstrates that "[e]ven ASSIA and its expert are unable to provide a description of what they think the term includes or excludes that is capable of being applied in a reasonably certain way." Dkt. No. 77 at 4. This apparent dispute regarding what particular signals are within the scope of the disputed term is a factual dispute regarding

infringement, not a legal question for claim construction, particularly considering that this term is not governed by 35 U.S.C. § 112, ¶ 6, and therefore does not rely on the specification for corresponding structure. Also, whereas Claim 20 of the '996 Patent recites a "retransmission overhead control signal" being "for the transmitter," Figure 6 of the '996 Patent illustrates signal 647 being sent "to the receiver." '996 Patent at 14:58–61.

Defendant thus does not demonstrate indefiniteness, and the opinions of Defendant's expert are likewise unpersuasive. *See* Dkt. No. 77-2, Feb. 24, 2025 Ding Decl. at ¶¶ 46–67. The Court therefore hereby expressly rejects Defendant's assertion of indefiniteness. Defendant presents no alternative proposed construction. Based on this, as well as based on considering the above-discussed evidence, the Court adopts Plaintiff's proposed construction, and the Court does so with the understanding that this construction is directed to the claim here at issue, namely Claim 20 of the '996 Patent, which recites a "retransmission overhead control signal" being "for the transmitter." The meaning of this term in other, potentially different contexts is not here at issue and therefore is not further addressed.

The Court accordingly hereby construes "retransmission overhead control signal" to mean **"a signal for controlling one or more parameters that affect retransmission overhead."**

B. "retransmission"

"retransmission" ('996 Patent, Claim 20)	
Plaintiff's Proposed Construction	**Defendant's Proposed Construction**
No construction necessary; plain and ordinary meaning. This term should not be construed separately from "retransmission overhead control signal."	"transmission of the same data that was previously transmitted" Alternatively: "transmission of at least some of the same data that was previously transmitted"

Dkt. No. 55, Ex. A1 at 3; Dkt. No. 72 at 7; Dkt. No. 77 at 7 & 8 n.2; Dkt. No. 84, App'x A at 7.

Shortly before the start of the March 20, 2025 hearing, the Court provided the parties with the following preliminary construction: "transmission of at least some of the same data from a previous transmission."

At the March 20, 2025 hearing, the parties agreed to the Court's preliminary construction. The Court therefore hereby construes "retransmission" to mean **"transmission of at least some of the same data from a previous transmission."**

C. "periodically monitor" and "periodically monitored"

"periodically monitor" ('996 Patent, Claim 20)	
Plaintiff's Proposed Construction	**Defendant's Proposed Construction**
"monitor at fixed intervals"	Plain and ordinary meaning
"periodically monitored" ('996 Patent, Claim 20)	
Plaintiff's Proposed Construction	**Defendant's Proposed Construction**
"monitored at fixed intervals"	Plain and ordinary meaning

Dkt. No. 55, Ex. A1 at 1; Dkt. No. 72 at 8; Dkt. No. 77 at 9; Dkt. No. 84, App'x A at 8.

Shortly before the start of the March 20, 2025 hearing, the Court provided the parties with the following preliminary constructions: "monitor at regular intervals of time"; and "monitored at regular intervals of time."

(1) The Parties' Positions

Plaintiff argues that its proposed interpretation "is consistent with the plain English meaning of the word [("periodic")] in a technical context and the intrinsic evidence as would be

understood by a POSITA," and "[t]he word 'periodically' is also used in the '996 patent specification in a way that makes clear it refers to a fixed interval." Dkt. No. 72 at 8 (citations omitted). Further, Plaintiff argues that the claims "differentiate[] 'periodically' from 'repeatedly,' signifying that 'periodically' refers to fixed intervals rather than repeated, irregular occurrences." *Id.* at 9.

Defendant responds that the specification discloses that periodic monitoring can be "on a random or non-random basis," either of which, Defendant argues, could use fixed intervals or non-fixed intervals. Dkt. No. 77 at 9–10 (discussing '996 Patent at 17:11–22).

Plaintiff replies that "[t]he patent explicitly describes periodic monitoring at set time intervals (e.g., 15-minute intervals)." Dkt. No. 82 at 5 (citing '996 Patent at 13:19–23). Plaintiff argues that "[t]he word choice of 'periodically' versus 'repeatedly' indicates a distinction between monitoring at regular, fixed intervals versus general repetition." *Id.* at 5.

At the March 20, 2025 hearing, Plaintiff argued that "periodically" is not being used in a colloquial sense but rather is being used in a technical sense. Defendant responded that the specification does not limit "periodic" to time. Plaintiff replied that referring to time is supported by the intrinsic evidence and that if this term does not refer to time then it is unknown what this term refers to. Plaintiff also submitted that the intervals need not be permanently unchanging but nonetheless must have some regularity.

(2) Analysis

Claim 20 of the '996 Patent recites (emphasis added):

> 20. A transmission system comprising:
>
> a transmission channel to carry data between a transmitter and a receiver/decoder, each communicatively interfaced with the transmission channel;
>
> a transmission error value monitor communicatively interfaced with the receiver/decoder to *periodically monitor* for transmission error values indicative of impulse noise events on the transmission channel, wherein the transmission error

> values are *periodically monitored* after training and initialization on the receiver/decoder, the transmission error values being selected from a group comprising: a bit error rate, errored seconds, errored minutes, code violations over a fixed period of time, Signal-to-Noise Ratio (SNR) measured at the receiver/decoder, and Transmission Control Protocol and Internet Protocol (TCP/IP) throughput, and wherein the transmission error value monitor to further generate an input signal based on the transmission error values monitored; and
>
> a controller coupled with the transmitter to receive the input signal from the transmission error value monitor and to further generate a retransmission overhead control signal for the transmitter in response to the input signal.

The specification refers to using "intervals" as an example of operating "periodically":

> The MEV(s) [(measured transmission error values)] might be acquired using code violation or errored-second counts (both are available) from the element management system that *periodically* acquires the number of CRC violations that have occurred (for example, during 15 minute *intervals* in ADSL).

'996 Patent at 13:19–23 (emphasis added).

The specification also discloses that "periodic" could be "random" or "non-random," which suggests that "periodically" might not necessarily refer to "fixed" intervals:

> Means 642 preferably generates an input signal 643 that varies as a function of the MEV(s). Alternatively, the input signal 643 can take many forms and can be based in whole or in part on the BER, errored seconds, etc. . . . Means 642 may *continuously generate* the input signal 643, if desired. Alternatively, means 642 can generate the input signal 643 in a *sampled or periodic fashion, on a random or non-random basis.*

'996 Patent at 17:11–22 (emphasis added).

Defendant also argues that Plaintiff's proposal of "monitored at fixed intervals" would allow for excessively long intervals, such as five or ten years, which Defendant submits would not be useful for correcting transmission errors. Dkt. No. 77-2, Feb. 24, 2025 Ding Decl. at ¶¶ 82–83. While this argument might bear upon other potential issues such as perhaps enablement, Defendant does not persuasively demonstrate that this argument affects the proper construction of "periodically monitor" and "periodically monitored."

In *Inter Partes* Review ("IPR") proceedings, Plaintiff used the word "periodically" in contrast with "intermittent or repeated," stating:

> While Petitioner's art discloses forward error correction schemes, the claims require more. Specifically, the challenged claim requires that the forward error correction scheme *periodically* monitors the transmission channel for errors. The periodic monitoring allows for adaptive adjustment to FEC parameters, or other adjustments to overhead within the transmissions, to optimize transmission in response to varying noise environments—such adaptive adjustments are not consistent with merely intermittent or repeated monitoring.

Dkt. No. 77, Ex. 9, IPR2024-01379, Patent Owner Preliminary Response at 12 (emphasis in original).

The patentee thus explained that the word "periodically" requires something more than "intermittent" or "repeated." The specification is consistent with finding that this narrower meaning requires regular intervals because the specification uses the word "period" together with "fixed" or "given." *See* '996 Patent at 4:59–60 ("the number of code violations over a fixed period of time"), 5:60–61 (same), 9:38–39 (same), 11:18 ("given period of time") & 12:51 ("given time period").

This is also consistent with common usage of the words "periodic" and "periodically," as demonstrated by the extrinsic technical dictionary definition cited by Plaintiff that defines "periodic" as: "Denoting any variable quantity that has *regularly* recurring values with respect to equal increments of some independent variable, such as time. The interval between two successive repetitions is the []period." Dkt. No. 72, Ex. I, *Oxford Dictionary of Electronics and Electrical Engineering* (ASSIA_CHARTER-00033815) (emphasis added). Plaintiff also submits that this dictionary defines "periodic signal" as "a signal that repeats itself at *regular* intervals; a periodic waveform." *Id.* (emphasis added).

Finally, referring to "regular" intervals rather than "fixed" intervals is further appropriate in light of Plaintiff's acknowledgement at the March 19, 2025 hearing that the intervals need not be permanently unchanging.

The Court therefore hereby construes these disputed terms as set forth in the following chart:

Term	Construction
"periodically monitor"	**"monitor at regular intervals of time"**
"periodically monitored"	**"monitored at regular intervals of time"**

V. DISPUTED TERMS IN U.S. PATENT NO. 10,848,398 AND 11,770,313

D. "processed data"

"processed data" ('398 Patent, Claim 1; '313 Patent, Claim 19)	
Plaintiff's Proposed Construction	**Defendant's Proposed Construction**
No construction necessary; plain and ordinary meaning, which need not include all of the "collective processed data from the plurality of communication units"	"collective processed data from the plurality of communication units"

Dkt. No. 55, Ex. A1 at 9; *id.*, Ex. A2 at 5; Dkt. No. 72 at 10; Dkt. No. 77 at 11.

Plaintiff submitted that "'[p]rocessed data' is the result of a sequence of steps recited in claim 1 of the '398 patent and claim 19 of the '313 patent," and Plaintiff argued that Defendant's proposal lacks support in the claim language and that there is no disavowal of claim scope in the intrinsic record. Dkt. No. 72 at 10; *see id.* at 10–11. Plaintiff also argued that Defendant's proposal reads out one of the preferred embodiments. *Id.* at 12.

Defendant responded that "ASSIA's interpretation is not claimed, nor is it an embodiment set forth in the specification," "ASSIA does not point to any support from the specification for this alleged embodiment," and "[t]he claims debunk ASSIA's contention that the processed data can be limited to data from one communication unit." Dkt. No. 77 at 12 & 14 (citation omitted). Defendant also submitted that its proposal encompasses real-time data or historical data. *Id.* at 13.

Plaintiff replied:

> [T]he parties have met and conferred and reached an agreement with respect to the construction of "processed data" in claim 1 of the '398 patent and claim 19 of the '313 patent. ASSIA is willing to accept Charter's proposed construction of "processed data" as "collective processed data from the plurality of communication units," with the understanding that the claim recites "two or more communication units" and that the policy should be generated using data from the two or more communication units. As the claims are all open-ended, the parties understand that the use of "collective" does not preclude (1) the two or more communication units from sending additional data not used to determine the policy, nor (2) additional communication units from receiving separate policies from the server.

Dkt. No. 82 at n.1.

Shortly before the start of the March 20, 2025 hearing, the Court provided the parties with the following preliminary construction as being agreed-upon by the parties: "collective processed data from the plurality of communication units." At the hearing, neither side presented any objection to the Court's understanding that this construction is agreed-upon.

This agreed-upon construction is noted in Appendix A to the present Claim Construction Order.

E. "the data further comprises determining a received signal strength indication"

"the data further comprises determining a received signal strength indication" ('398 Patent, Claim 2)	
Plaintiff's Proposed Construction	**Defendant's Proposed Construction**
No construction necessary; plain and ordinary meaning.	Indefinite

Dkt. No. 55, Ex. A2 at 6; Dkt. No. 72 at 13; Dkt. No. 77 at 15.

In its reply brief, Plaintiff submits that it no longer asserts Claim 2 of the '398 Patent. Dkt. No. 82 at n.1. As a result, this term is no longer being presented for claim construction.

The Court therefore does not further address this term.

VI. DISPUTED TERMS IN U.S. PATENT NO. 11,050,654

F. "on-demand change request"

"on-demand change request" ('654 Patent, Claims 1, 18)	
Plaintiff's Proposed Construction	**Defendant's Proposed Construction**
No construction necessary; plain and ordinary meaning.	"an active step, performed by the downloadable agent, to request change"

Dkt. No. 55, Ex. A3 at 11; Dkt. No. 72 at 14; Dkt. No. 77 at 17; Dkt. No. 84, App'x A at 10.

Shortly before the start of the March 20, 2025 hearing, the Court provided the parties with the following preliminary construction: "Plain meaning."

(1) The Parties' Positions

Plaintiff argues that "Charter's proposed construction mischaracterizes a statement made by the applicant in the file history regarding claim 1" and that "Charter's proposed construction is also contrary to the plain and ordinary meaning of the claim language." Dkt. No. 72 at 14 & 15.

Defendant responds that "[t]he applicant expressly defined this term during prosecution to overcome prior art." Dkt. No. 77 at 17.

Plaintiff replies that "the sentence from the file history reply brief upon which Charter relies indisputably refers to the *entire* limitation of claim 1 because the entire limitation (not merely 'on-demand change request') appears in quotation marks . . . ." Dkt. No. 82 at 6.

At the March 20, 2025 hearing, Defendant argued that during prosecution, when distinguishing the "Zhao" reference, the patentee explained that the "on-demand change request" is generated by the downloadable agent *itself* rather than by, for example, a user. Plaintiff responded that the claims do not specify who or what generates an "on-demand change request," and Plaintiff reiterated its argument that during prosecution the patentee referred to the "sending," not the request itself, as being "active."

(2) Analysis

Claims 1 and 18 of the '654 Patent, for example, recite (emphasis added):

> 1. A method performed by a downloadable agent, the method comprising:
>
> collecting WAN performance information, wherein the downloadable agent is executable on a computing device coupled to a LAN of a broadband subscriber, wherein the LAN is coupled by another device to a WAN;
>
> transmitting the WAN performance information to a machine, wherein the machine is operable to:
>
> store the WAN performance information in a database associated with the machine,
>
> analyze the WAN performance information to generate an analysis result, the analysis result comprises at least throughput; and
>
> report the analysis result to at least one of the broadband subscriber and the broadband subscriber's service provider; and
>
> sending an *on-demand change request* associated with at least one of throughput, or latency.
>
> * * *

> 18. A system comprising:
>
> a database; and
>
> a server coupled to the database, the server operable to:
>
> receive WAN performance information from a downloadable agent, wherein the downloadable agent is executable on a computing device coupled to a LAN of a broadband subscriber, wherein the LAN is coupled by another device to a WAN; and
>
> store the WAN performance information in the database associated with the server,
>
> analyze the WAN performance information to generate an analysis result, the analysis result comprises at least throughput; and
>
> report the analysis result to at least one of the broadband subscriber and the broadband subscriber's service provider;
>
> wherein the server is operable to receive an *on-demand change request* associated with at least one of: throughput, or latency.

The specification discloses:

> In one embodiment, the server 105 is operable to receive an *on-demand change request.* In one embodiment, the *on-demand change* is associated with at least one of: throughput, latency, packet loss, or jitter. For example, DA [(downloadable agent)] 102 of the PC 101b sends a request via connection 109 to the server 105 to acquire higher throughput than current throughput for its DSL line 110. In such an embodiment, the server 105 performs analysis based on available data in the database 106 and determines if the on-demand request by the PC 102c can be met. If it can be met, a report is provided to the DA 102 by the server 105 with information (e.g., cost etc) about how to improve throughput.

'654 Patent at 8:61–9:5 (emphasis added).

During prosecution, the patentee amended application claims 1 and 21 (which issued as Claims 1 and 18 of the '654 Patent, *see* Dkt. No. 72 at 16 n.4) as follows (additions underlined as in original; highlighting added; omissions indicated by ellipses):

Listing of Claims:

1. (Currently amended) A method performed by a downloadable agent, the method comprising:

• • •

report the analysis result to at least one of the broadband subscriber and the broadband subscriber's service provider[[.]]; and

sending an on-demand change request associated with at least one of throughput, or latency.

21. (Currently amended) A system comprising:

a database; and

a server coupled to the database, the server operable to:

• • •

report the analysis result to at least one of the broadband subscriber and the broadband subscriber's service provider[[.]];

wherein the server is operable to receive an on-demand change request associated with at least one of: throughput, or latency.

Dkt. No. 77 at 17 (annotated excerpts of *id.*, Ex. 4, Jan. 1, 2018 Response to Non-Final Office Action at 2–3 (ASSIA_CHARTER-00008483, -88)).

Later during prosecution, on appeal of a rejection based on the "Zhao" reference (United States Patent Application Publication No. 2002/0174421), the patentee stated:

> Zhao only discloses collecting server latency data without even disclosing changing latency, no matter in the site monitor, web server, or in client's side.
>
> On the contrary, the element of "sending an on-demand change request associated with at least one of throughput, or latency" is an active step, performed by the downloadable agent, to request change for at least one of throughput or latency. * * *
>
> Appellant respectfully asserts that such an *active request for change* associated with at least one of throughput, or latency[,] is absent from disclosure or suggestion of Zhao.

Dkt. No. 77, Ex. 4, Apr. 1, 2019 Reply Brief at 6–7 (ASSIA_CHARTER-00008858–59) (emphasis modified); *see id.*, June 25, 2018 Response to Office Action at 14 (ASSIA_CHARTER-00008639).

To whatever extent Defendant maintains that the patentee distinguished Zhao as being passive as contrasted with the claim limitation here at issue being "active," Defendant does not identify any definitive statement by the patentee that would warrant construing "on-demand change request" as an "active step." Although, as Defendant points out, the patentee here used quotation marks to identify specific language and then stated what that language "is," the identified language extends beyond the term "on-demand change request." In particular, whereas the identified language includes "sending," which is an action, the term "on-demand change request" is a noun phrase. The subsequent reference to an "active request for change" does not compel otherwise but rather merely reinforces that such a request is sent. Defendant appears to start with a presumption that a disclaimer occurred by the patentee's use of the word "active," and Defendant then searches for what the patentee thereby narrowed, but a fair reading of this prosecution history is that the patentee used the word "active" to *describe* the "sending" limitation rather than to further limit the claim scope. This does not amount to a definition or disclaimer. *See, e.g., Omega Eng'g Inc. v. Raytek Corp.*, 334 F.3d 1314, 1325–26 (Fed. Cir. 2003) ("For prosecution disclaimer to attach, [Federal Circuit] precedent requires that the alleged disavowing actions or statements made during prosecution be both clear and unmistakable.") (citation omitted).

The Court therefore hereby expressly rejects Defendant's proposed construction, and no further construction is necessary. *See U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997) ("Claim construction is a matter of resolution of disputed meanings and technical scope, to clarify and when necessary to explain what the patentee covered by the claims, for use

in the determination of infringement. It is not an obligatory exercise in redundancy."); *see also O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co., Ltd.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008); *Finjan, Inc. v. Secure Computing Corp.*, 626 F.3d 1197, 1207 (Fed. Cir. 2010) ("Unlike *O2 Micro*, where the court failed to resolve the parties' quarrel, the district court rejected Defendants' construction."); *ActiveVideo Networks, Inc. v. Verizon Commc'ns, Inc.*, 694 F.3d 1312, 1326 (Fed. Cir. 2012); *Summit 6, LLC v. Samsung Elecs. Co., Ltd.*, 802 F.3d 1283, 1291 (Fed. Cir. 2015); *Bayer Healthcare LLC v. Baxalta Inc.*, 989 F.3d 964, 977–79 (Fed. Cir. 2021).

The Court accordingly hereby construes "on-demand change request" to have its **plain meaning.**

G. "WAN performance information"

"WAN performance information" ('654 Patent, Claims 1, 3, 8, 16, 18, 20, 33, 36)	
Plaintiff's Proposed Construction	**Defendant's Proposed Construction**
No construction necessary; plain and ordinary meaning.	"data related to the communication links within the WAN, which does not include data related to transactions at the application layer related to client-server transactions that are executed"

Dkt. No. 55, Ex. A3 at 14; Dkt. No. 72 at 17; Dkt. No. 77 at 20; Dkt. No. 84, App'x A at 11–12.

Shortly before the start of the March 20, 2025 hearing, the Court provided the parties with the following preliminary construction: "data related to the WAN, rather than data related to client-server transactions at the application layer."

(1) The Parties' Positions

Plaintiff argues: "Charter's proposed construction improperly attempts to limit the scope of the term to examples that the applicant provided during prosecution. When analyzed in context,

it is readily apparent that the applicant's statements do not meet the exacting standard for prosecution history disclaimer." Dkt. No. 72 at 17. Plaintiff also argues that "the specification of the '654 patent demonstrates that 'WAN performance information' should be accorded the full scope of its plain and ordinary meaning." *Id.* at 18.

Defendant responds that its proposed construction is based on the patentee's definitive, repeated statements during prosecution. Dkt. No. 77 at 21. Defendant argues that Plaintiff "attempts to re-capture this very scope that it surrendered through its proposed construction of plain and ordinary meaning." *Id.* at 22.

Plaintiff replies that Defendant is improperly attempting to limit this term to specific examples set forth by the patentee. Dkt. No. 82 at 8. Plaintiff also argues that "the applicant explained that Zhao's 'client-server transactions' measured parameters of client applications, not the network." *Id.* at 9 (citations omitted). Further, Plaintiff argues: "Charter's assertion that round-trip latency is a client-server transaction is irrelevant and incorrect. A measure of latency (i.e., the time it takes for data to travel between a source and destination) relates to a network, not the performance of an application." *Id.*

At the March 20, 2025 hearing, Defendant expressed that it largely agreed with the Court's preliminary construction, but Defendant maintained that, based on the patentee's statements during prosecution, the construction should refer to "communication links." Defendant urged that the broad disclosure in the specification is why the patentee had to make a disclaimer during prosecution. Plaintiff responded by emphasizing the patentee's use of "for example" in this prosecution history, and Plaintiff noted that the specification discusses data about WAN performance beyond merely data about "communication links."

(2) Analysis

Claim 1 of the ’654 Patent, for example, recites (emphasis added):

> 1. A method performed by a downloadable agent, the method comprising:
> collecting *WAN performance information*, wherein the downloadable agent is executable on a computing device coupled to a LAN of a broadband subscriber, wherein the LAN is coupled by another device to a WAN;
> transmitting the *WAN performance information* to a machine, wherein the machine is operable to:
> store the *WAN performance information* in a database associated with the machine,
> analyze the *WAN performance information* to generate an analysis result, the analysis result comprises at least throughput; and
> report the analysis result to at least one of the broadband subscriber and the broadband subscriber’s service provider; and
> sending an on-demand change request associated with at least one of throughput, or latency.

The specification discloses:

> In one embodiment, the *WAN performance information* includes at least one of: topological information, geographical information, throughput, latency, jitter, packet loss, time, type of communication device, device network identification, manufacturer and model of equipment, equipment characteristics, firmware, user’s network usage pattern, user’s provisioned WAN service, RF characteristics including at least one of: signal power, frequency bands and mode of operation, environment statistics, or data on operation of communication devices.

’654 Patent at 17:42–52 (emphasis added). The specification thus discloses WAN-related information beyond merely information about communication links with the WAN, such as topological information, geographical information, and usage patterns.

Defendant argues that the patentee disclaimed claim scope during prosecution. “As a basic principle of claim interpretation, prosecution disclaimer promotes the public notice function of the intrinsic evidence and protects the public’s reliance on definitive statements made during prosecution.” *Omega Eng’g*, 334 F.3d at 1324 (citation omitted). “For prosecution disclaimer to attach, [Federal Circuit] precedent requires that the alleged disavowing actions or statements made

during prosecution be both clear and unmistakable." *Id.* at 1325–26. "Even if an isolated statement appears to disclaim subject matter, the prosecution history as a whole may demonstrate that the patentee committed no clear and unmistakable disclaimer." *Ecolab, Inc. v. FMC Corp.*, 569 F.3d 1335, 1342 (Fed. Cir. 2009), *amended on rehr'g*, 366 F. App'x 154 (Fed. Cir. Sept. 30, 2009).

During prosecution, the applicant argued that the claims are distinguishable from the "Zhao" reference (United States Patent Application Publication No. 2002/0174421), as follows:

> . . . [C]laim 1 recites "collecting WAN performance information" while as is shown above, Zhao allegedly discloses methods of gathering information from a web browser to monitor one or more parameters "associated with client-server transactions". It is well known to those skilled in the art that client-server transaction [*sic*] are associated with communications between applications running on two computing devices, that is at the *application layer* of a communications stack, while the "WAN performance information" of claim 1 refers to *gathering information related to the WAN*. For example, information such as physical, link, IP, and TCP layers of a communications stack. Such data, for example, is data specifically related to the communications links within the WAN, and not the transactions at the *application layer* related to "client-server transactions that are executed." See, for example, paragraph [0016] of the pending application.

Dkt. No. 77, Ex. 4, Dec. 28, 2016 Response to Office Action at 20 (ASSIA_CHARTER-00008148) (emphasis added).

Subsequently, in response to another rejection, the patentee again distinguished Zhao as involving monitoring "client-server transactions":

> . . . [T]he "performance data" disclosed by Zhao is patentably distinct from the "WAN performance information" in Applicant's claim 1.
>
> The performance data disclosed by Zhao is related to a client instead of WAN. For example, Zhao discloses in [0010] that "The software application is configured to monitor one or more *performance parameters of the client associated with client-server transactions* that are executed. The application may simply collect and transmit performance data back to the server, or it may perform one or more computations on the monitored performance parameters and transmit results of the computations to the server." Zhao further discloses in [0069] that "The present invention is described herein in the context of an e-business management system. An exemplary system may include three components interoperably coupled together: a site monitor which is designed to provide site-wide views of

> performance data to a user; *a java application response time analyzer (JARTA) which is designed to monitor the performance of client-server transactions* executed by a client;" Zhao discloses in [0064] that "According to the present disclosure, *performance parameters which are measured at client sites* 411-414 can be transmitted up through the hierarchy to the respective servers 402-4040." (*emphasis added*)
>
> It is obvious that the "performance parameters" in Zhao is generated at a client by an application software installed at the client. The "performance parameters" are associated with client-server transactions.
>
> While on the contrary, in Applicant's claim 1, the downloadable agent just collects the WAN performance information. *The WAN performance is related to the performance of the WAN network instead of the performance of a client.* Applicant explicitly discloses the term "performance" in WAN performance in [0021]: "The term "performance" herein refers generally to network throughput (e.g., TCP/UDP), latency, jitter, connectivity, error rates, power consumption, transmit power, etc." Also, in Applicant's claim 1, the downloadable agent collects the WAN performance information instead of generating the WAN performance information. Furthermore, the WAN performance information in Applicant's claim 1 is distinct from performance parameters associated with client-server transactions.
>
> Therefore, based at least on the above remarks, Applicant respectfully asserts that claim 1 is patentable over Zhao.

Id., Ex. 4, June 1, 2017 Response to Final Office Action at 14–15 (ASSIA_CHARTER-00008204–05) (emphasis in original).

Plaintiff argues that Defendant's proposed finding of disclaimer is unwarranted because Zhao was focused on monitoring the client software, not monitoring the WAN. The proper focus, however, is not the disclosure of Zhao but rather the patentee's statements in distinguishing Zhao.

Here, in distinguishing Zhao, the patentee repeatedly and definitively distinguished between, on one hand, "WAN performance information," and, on the other hand, information related to "client-server" transactions at the "application layer." These definitive statements should be given effect in the Court's construction. *See, e.g., Omega Eng'g*, 334 F.3d at 1324–26 (quoted above); *Southwall Techs., Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1576 (Fed. Cir. 1995)

("Claims may not be construed one way in order to obtain their allowance and in a different way against accused infringers.").

Defendant's proposal of "communication links," however, lacks sufficient support in the prosecution history, particularly when considering that the above-reproduced disclosure in the specification appears to be broader because it refers to "geographical information." '654 Patent at 17:42–52. At the March 20, 2025 hearing, as to the first above-reproduced portion of the prosecution history, Defendant urged that the second instance of "for example" refers to the preceding sentence, thereby arguing that the statement regarding "communication links" is a disclaimer and not merely an example. Dkt. No. 77, Ex. 4, Dec. 28, 2016 Response to Office Action at 20 (ASSIA_CHARTER-00008148). Defendant's reading of this passage is untenable. A fair reading of this instance of "for example" is that the patentee was referring to "communication links," not the preceding sentence, as being an example. *See id.*

The Court therefore hereby construes "WAN performance information" to mean **"data related to the WAN, rather than data related to client-server transactions at the application layer."**

H. "collect LAN performance data from at least one of the computing device and other device"

"collect LAN performance data from at least one of the computing device and other device" ('654 Patent, Claims 4, 21)	
Plaintiff's Proposed Construction	**Defendant's Proposed Construction**
No construction necessary; plain and ordinary meaning.	Indefinite

Dkt. No. 55, Ex. A3 at 15; Dkt. No. 72 at 20; Dkt. No. 77 at 23.

Plaintiff argued that "the 'another device' recited in claims 1 and 18 provides explicit antecedent basis for 'other device' in dependent claims 4 and 21, respectively." Dkt. No. 72 at 20. Alternatively, Plaintiff argued that "even if the Court decides that explicit antecedent basis is lacking, the 'another device' of claim 1 provides at least implicit antecedent basis." *Id.* at 22.

Defendant responded that "[b]ased on ASSIA's representation in its opening claim construction brief that 'the "another device" recited in claims 1 and 18 provides explicit antecedent basis for "other device" in dependent claims 4 and 21, respectively,' Charter no longer maintains a dispute as to this term." Dkt. No. 77 at 23 (citation omitted).

In their March 5, 2025 P.R. 4-5(d) Joint Claim Construction Chart, the parties submitted the following agreed-upon construction for this term: "collect LAN performance data from at least one of the computing device and *the another* device." Dkt. No. 84, App'x A at 5 & 15 (emphasis added).

Shortly before the start of the March 20, 2025 hearing, the Court provided the parties with the following preliminary construction as being agreed-upon by the parties: "collect LAN performance data from at least one of the computing device and the another device." At the hearing, neither side presented any objection to the Court's understanding that this construction is agreed-upon.

This agreed-upon construction is noted in Appendix A to the present Claim Construction Order.

VII. DISPUTED TERMS IN U.S. PATENT NO. 11,477,108

I. "identifying one or more operational conditions within the WAN in a different communication layer from the one or more communication layers on the LAN"

"identifying one or more operational conditions within the WAN in a different communication layer from the one or more communication layers on the LAN" ('108 Patent, Claim 1)	
Plaintiff's Proposed Construction	**Defendant's Proposed Construction**
No construction necessary; plain and ordinary meaning.	"identifying one or more operational conditions within the WAN that is not in any of the same layers from which LAN information was collected to make that identification"
"identifying, at the management device, one or more operational conditions within the WAN in a different communication layer from the one or more communication layers on the LAN" ('108 Patent, Claims 8, 15)	
Plaintiff's Proposed Construction	**Defendant's Proposed Construction**
No construction necessary; plain and ordinary meaning.	"identifying, at the management device, one or more operational conditions within the WAN that is not in any of the same layers from which LAN information was collected to make that identification"

Dkt. No. 55, Ex. A4 at 17–18; Dkt. No. 72 at 23; Dkt. No. 77 at 24; Dkt. No. 84, App'x A at 16.

Shortly before the start of the March 20, 2025 hearing, the Court provided the parties with the following preliminary constructions: "identifying one or more operational conditions within the WAN that is not in any of the same layers from which LAN information was collected to make that identification"; and "identifying, at the management device, one or more operational conditions within the WAN that is not in any of the same layers from which LAN information was collected to make that identification."

(1) The Parties' Positions

Plaintiff argues that "Charter's proposed construction rewrites the claim in an attempt to require the operating condition on the WAN to be in a different layer from 'any of' the communication layers on the LAN, rather than the recited 'one or more' communication layers on the LAN." Dkt. No. 72 at 23. Plaintiff urges that "[t]he plain meaning of the claim language does not require the perfect exclusivity Charter seeks to impose." *Id.* at 24. Plaintiff also submits that "[w]hile the specification does describe embodiments in which there is no overlap between the communication layers for which LAN information was collected and the communication layer of the WAN in which the operating condition is identified, the specification explicitly refers to these as examples, not as limitations on the claimed invention . . . ." *Id.* at 26 (citations omitted).

Defendant responds that "[t]he anaphoric phrase 'the' in 'a different communication layer from *the* one or more communication layers on the LAN' in the 'identifying' step refers to both LAN layers." Dkt. No. 77 at 25 (emphasis modified; citation omitted). Defendant also argues that "[t]he specification and file history also shows that ASSIA's interpretation is overbroad." *Id.* at 26; *see id.* at 26–28.

Plaintiff replies that "because the term 'one or more' is satisfied by one communication layer, the claim language requires only identifying an operating condition in a WAN communication layer that is different from one LAN communication layer for which LAN information was collected and analyzed," and "[t]hus, ASSIA's interpretation is consistent with the plain and ordinary meaning, including the anaphoric phrase." Dkt. No. 82 at 9. Plaintiff urges that "the terms 'collecting LAN information from one or more communication layers on the LAN' and 'in a different communication layer from the one or more communication layers on the LAN' can each refer to a singular layer or a plurality of layers," and "as long as one layer that satisfies

the 'collecting' limitation is different than the layer on the WAN on which the operating condition is identified, the claim is satisfied." *Id.* at 10.

At the March 20, 2025 hearing, Plaintiff argued that because one layer can be *sufficient to satisfy* the "collecting . . ." limitation, the "identifying . . ." step can refer back to just one layer from the LAN, even if information from another LAN layer was also collected. Defendant responded that the claims are explicit that the "identifying . . ." step refers back to *all* LAN layers for which information was collected.

(2) Analysis

Claim 1 of the '108 Patent recites (emphasis added):

> 1. A management device, comprising:
>
> a Local Area Network (LAN) interface to communicably interface the management device with a LAN;
>
> a Wide Area Network (WAN) interface to communicably interface the management device with a WAN, wherein the WAN is to provide broadband connectivity to the LAN;
>
> one or more processors; and
>
> a non-transitory computer-readable medium or media storing one or more sequences of instructions which, when executed by at least one of the one or more processors, cause the management device to perform operations comprising:
>
> collecting LAN information from *one or more communication layers on the LAN*; and
>
> *identifying one or more operational conditions within the WAN in a different communication layer from the one or more communication layers on the LAN* by analyzing at least the collected LAN information.

The use of the definite article, "the," in the recital of "a different communication layer from *the* one or more communication layers on the LAN" refers back to the recital of "collecting LAN information from *one or more communication layers* on the LAN." *Cf. Baldwin Graphic Systems, Inc. v. Siebert, Inc.*, 512 F.3d 1338, 1343 (Fed. Cir. 2008) ("[T]he use of a definite article ('said' or 'the') to refer back to an initial indefinite article does not implicate, let alone mandate the

singular. Because the initial indefinite article ('a') carries either a singular or plural meaning, any later reference to that same claim element merely reflects the same potential plurality.").

The recital of "a different communication layer from the one or more communication layers on the LAN" thus refers to a communication layer that is different from *all* of "the one or more communication layers on the LAN" from which information is recited as being collected. *See id.*

The specification is consistent with this interpretation of the explicit claim language, disclosing using information from different layers, such as follows:

> For example, information from one layer on the WAN 205 may be used to diagnose or improve the performance on a different layer on the LAN 210, or vice versa. * * * In one example, a management event may include adjusting settings and configurations on a WAN 205 (for example a DSL network) in response to the analysis. Information collected from the LAN 210 may be from different layers of the LAN 210, such as from the *application layer and the networking layer*. The settings and configuration on the DSL system may be implemented at the *physical layer*, by setting physical layer parameters of the DSL system.
>
> * * *
>
> In another example, data and information may be collected at a *networking layer*, or TCP/IP layer from the LAN 210. * * * In a particular case, where the WAN 205 is a DSL connection, the DSL link settings and configuration could be changed, for example, initiating the change as a management event responsive to the above analysis. DSL connection setting may be implemented at the *physical layer*.
>
> * * *
>
> In the above examples, information on the *networking layer* of the LAN 210 is used to configure settings at the *physical layer* on the WAN 205. Similarly, information and data collected from other layers may be incorporated.

'108 Patent at 17:5–21, 17:36–53 & 17:65–18:1 (emphasis added).

The prosecution history further reinforces this understanding. Defendant cites the prosecution history of United States Patent No. 10,333,819 ("the '819 Patent"). The '108 Patent resulted from a continuation of the '819 Patent, so the prosecution history of the '819 Patent can

be considered when construing terms of the '108 Patent. *Ormco Corp. v. Align Tech., Inc.*, 498 F.3d 1307, 1314 (Fed. Cir. 2007) (considering prosecution history of parent patent).

During prosecution of the '819 Patent, the patentee amended claims so as to include "different communication layer" limitations:

> Claims 1, 15 and 19, are amended with incorporation of limitation "collecting LAN information from <u>one or more communication layers on</u> the LAN and WAN information from <u>one or more communication layers on</u> the WAN" and "analyzing jointly the collected WAN information and the collected LAN information to identify an operational condition, the operational condition is within the LAN <u>in a different communication layer from the one or more communication layers on the WAN</u> identified based at least on collected WAN information or within the WAN <u>in a different communication layer from the one or more communication layers on the LAN</u> identified based at least on collected LAN information" (Underline added for amended limitation).
>
> The amendment is fully supported by the specification. * * *
>
> The above cited embodiment explicitly shows that the collected information from LAN is from **application layer and the networking layer**, while the settings on the DSL system (**WAN**) are at the **physical layer**, which is different from the layers from the LAN.

Dkt. No. 77, Ex. 6, Oct. 10, 2018 Response to Final Office Action at 8–9 (ASSIA_CHARTER-00012624–25) (emphasis in original) (discussing '108 Patent at 17:13–21, which is reproduced above). This is consistent with Defendant's proposed construction, particularly in light of how the patentee here referred to "the layer*s*," plural, "from the LAN." *Id.* (emphasis added).

The Court therefore hereby construes these disputed terms as set forth in the following chart:

<u>Term</u>	<u>Construction</u>
"identifying one or more operational conditions within the WAN in a different communication layer from the one or more communication layers on the LAN"	**"identifying one or more operational conditions within the WAN that is not in any of the same layers from which LAN information was collected to make that identification"**

"identifying, at the management device, one or more operational conditions within the WAN in a different communication layer from the one or more communication layers on the LAN"	**"identifying, at the management device, one or more operational conditions within the WAN that is not in any of the same layers from which LAN information was collected to make that identification"**

J. "WAN rate"

"WAN rate" ('108 Patent, Claims 3, 10, 17)	
Plaintiff's Proposed Construction	**Defendant's Proposed Construction**
No construction necessary; plain and ordinary meaning.	Indefinite

Dkt. No. 55, Ex. A4 at 19; Dkt. No. 72 at 28; Dkt. No. 77 at 28.

In its reply brief, Plaintiff submits it no longer asserts any claim in which this term appears. Dkt. No. 82 at n.1. As a result, this term is no longer being presented for claim construction.

The Court therefore does not further address this term.

VIII. CONCLUSION

The Court adopts the constructions set forth in this opinion for the disputed terms of the patent-in-suit. The parties are ordered that they may not refer, directly or indirectly, to each other's claim construction positions in the presence of the jury. Likewise, the parties are ordered to refrain from mentioning any portion of this opinion, other than the actual definitions adopted by the Court, in the presence of the jury. Any reference to claim construction proceedings is limited to informing the jury of the definitions adopted by the Court.

SIGNED this 31st day of March, 2025.

ROY S. PAYNE
UNITED STATES MAGISTRATE JUDGE

APPENDIX A

Term	Parties' Agreement
"processed data" ('398 Patent, Claim 1; '313 Patent, Claim 19)	"collective processed data from the plurality of communication units"
"collect LAN performance data from at least one of the computing device and other device" ('654 Patent, Claims 4, 21)	"collect LAN performance data from at least one of the computing device and the another device"

Dkt. No. 77 at 23; Dkt. No. 82 at n.1; Dkt. No. 84, App'x A at 2, 5, 15 & n.2.