IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

ACCELERATION BAY LLC, Plaintiff, v. ACTIVISION BLIZZARD, INC. Defendant.	Civil Action No. 16-453-RGA
ACCELERATION BAY LLC, Plaintiff, v. ELECTRONIC ARTS INC. Defendant.	Civil Action No. 16-454-RGA
ACCELERATION BAY LLC, Plaintiff, v. TAKE-TWO INTERACTIVE SOFTWARE, INC., ROCKSTAR GAMES, INC., AND 2K SPORTS, INC. Defendants.	Civil Action No. 16-455-RGA

MEMORANDUM OPINION

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ANDREWS, U.S. DISTRICT JUDGE:

Presently before me is the issue of claim construction of multiple terms in U.S. Patent

No. 6,701,344 ("the '344 patent"), U.S. Patent No. 6,714,966 ("the '966 patent"), U.S. Patent

No. 6,829,634 ("the '634 patent"), U.S. Patent No. 6,910,069 ("the '069 patent"), and U.S.

Patent No. 6,732,147 ("the '147 patent"). I have considered the parties' Joint Claim

Construction Brief (D.I. 281).[1] I issued an Order and Stipulation Regarding Supplemental Claim

Construction Briefing, pursuant to which the parties address terms 27, 29-34, and 38-40. (D.I.

206; D.I. 215). I held oral argument on November 21, 2017. (D.I. 363 ("Tr.")).

I.   LEGAL STANDARD

"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 v. AWH Corp.*, 415 F.3d 1303, 1312

(Fed. Cir. 2005) (en banc) (internal quotation marks omitted). "'[T]here is no magic formula or

catechism for conducting claim construction.' Instead, the court is free to attach the appropriate

weight to appropriate sources 'in light of the statutes and policies that inform patent law.'"

SoftView LLC v. Apple Inc., 2013 WL 4758195, at *1 (D. Del. Sept. 4, 2013) (quoting *Phillips*,

415 F.3d at 1324) (alteration in original). When construing patent claims, a court considers the

literal language of the claim, the patent specification, and the prosecution history. *Markman v.*

Westview Instruments, Inc., 52 F.3d 967, 977–80 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370

(1996). Of these sources, "the 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 (internal quotation marks omitted).

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[1] Citations to "D.I. ___" are to the docket in C.A. No. 16-453 unless otherwise noted.

"[T]he words of a claim are generally given their ordinary and customary meaning. . . . [Which 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." *Id.* at 1312–13 (citations and internal quotation marks omitted). "[T]he ordinary meaning of a claim term is its meaning to [an] ordinary artisan after reading the entire patent." *Id.* at 1321 (internal quotation marks omitted). "In some cases, 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." *Id.* at 1314.

When a court relies solely upon the intrinsic evidence—the patent claims, the specification, and the prosecution history—the court's construction is a determination of law. *See Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 841 (2015). The court may also make factual findings based upon consideration of extrinsic evidence, which "consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises." *Phillips*, 415 F.3d at 1317–19. Extrinsic evidence may assist the court in understanding the underlying technology, the meaning of terms to one skilled in the art, and how the invention works. *Id.* Extrinsic evidence, however, is less reliable and less useful in claim construction than the patent and its prosecution history. *Id.*

"A claim construction is persuasive, not because it follows a certain rule, but because it defines terms in the context of the whole patent." *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998). It follows that "a claim interpretation that would exclude the inventor's device is rarely the correct interpretation." *Osram GMBH v. Int'l Trade Comm'n*, 505 F.3d 1351, 1358 (Fed. Cir. 2007) (citation omitted).

II. BACKGROUND

The following claims are the most relevant for the purposes of this Markman.

Claim 11 of the '147 Patent

11. *A computer-readable medium* containing instructions for controlling disconnecting of a computer from another computer, the computer and other computer being connected to a broadcast channel, said broadcast channel being an m-regular graph where m is at least 3, comprising:

a component that, when the computer decides to disconnect from the other computer, the computer sends a disconnect message to the other computer, said disconnect message including a *list of neighbors* of the computer; and

a component that, when the computer receives a disconnect message from another computer, the computer broadcasts a *connection port search message* on the broadcast channel to find a computer to which it can connect *in order to maintain an m-regular graph*, said computer to which it can connect being one of the neighbors on said list of neighbors.

(D.I. 117-2, Exh. A-3 ("'147 patent"), claim 11) (emphasis added).

Claim 1 of the '069 Patent

1. A computer-based, non-routing table based, non-switch based method for adding a participant to a network of participants, *each participant being connected to three or more other participants*, the method comprising:

identifying a pair of participants of the network that are connected wherein a seeking participant contacts a *fully connected portal computer*, which in turn *sends an edge connection request* to a number of randomly selected neighboring participants to which the seeking participant is to connect;

disconnecting the participants of the identified pair from each other; and

connecting each participant of the identified pair of participants to the seeking participant.

(D.I. 117-2, Exh. A-5 ("'069 patent"), claim 1) (emphasis added).

Claim 1 of the '344 Patent

1. A computer network for providing a game environment for a plurality of participants, each participant having connections to at least three neighbor participants, *wherein an originating participant sends data* to the other

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participants by sending the data through each of its connections to its neighbor participants and *wherein each participant sends data that it* receives from a neighbor participant to its other neighbor participants, further wherein the network is m-regular, where m is the exact number of neighbor participants of each participant and further wherein the number of participants is at least two greater than m thus resulting in a non-complete graph.

(D.I. 117-2, Exh. A-1 ("'344 patent"), claim 1) (emphasis added).

Claim 13 of the '344 Patent

13. A distributed game system comprising:

a plurality of broadcast channels, each broadcast channel for playing a game, each of the broadcast channels for providing game information related to said game to a plurality of participants, each participant having connections to at least three neighbor participants, wherein an originating participant sends data to the other participants by sending the data through each of its connections to its neighbor participants and *wherein each participant sends data that it receives from a neighbor participant to its neighbor participants,* further wherein the network is m-regular, where m is the exact number of neighbor participants of each participant and further wherein the number of participants is at least two greater than m thus resulting in a non-complete graph;

means for identifying a broadcast channel for a game of interest; and

means for connecting to the identified broadcast channel.

('344 patent, claim 13) (emphasis added).

Claim 19 of the '634 Patent

13. A non-routing table based computer-readable medium containing instructions for controlling communications of a participant of a broadcast channel within a network, by a method comprising:

locating a portal computer;

requesting the *located portal computer* to provide an indication of neighbor participants to which the participant can be connected;

receiving the indications of the neighbor participants; and

establishing a connection between the participant and each of the indicated neighbor participants, wherein a connection between the portal computer and the participant is not established, wherein a connection between the portal computer and the neighbor participants is not established, further wherein the network is m-regular and m-connected,

where m is the number of neighbor participants of each participant, and further wherein the number of participants is at least two greater than m thus resulting in a non-complete graph.

(D.I. 117-2, Exh. A-4 ("'634 patent"), claim 19) (emphasis added).

III.   TERMS FOR CONSTRUCTION

1. Term 27: "computer readable medium" ('634/19, 22, and '147/11, 14, 15, 16)

   a. *Plaintiff's proposed construction*: "a non-fleeting medium for storing instructions and data that a computer can read, such as hard disks, random access memory, read only memory, DVDs, USB drives"

   b. *Defendants' proposed construction*: "any medium for storing or transporting computer readable instructions, including memory, storage devices, carrier waves and communications links"

   c. *Court's construction*: "any medium for storing or transporting computer readable instructions, including memory, storage devices, carrier waves, and communications links"

The parties agree that the term "computer readable medium" covers media for storing instructions and data such as hard disks and memory storage devices. (D.I. 281 at 4).

The parties also agree that, by itself, the term "computer readable medium" covers transitory, or "fleeting," media. Plaintiff agrees that a carrier wave is one type of transitory "computer readable medium." (Tr. at 68:4-13; Tr. at 90:6-7; D.I. 281 at 4). A USPTO definition of "computer readable medium," offered by Defendants, is to the same effect. (D.I. 281 at 7). It states that "computer readable medium" "typically covers forms of non-transitory tangible media and transitory propagating signals *per se*." (D.I. 282-1, Exh. G-1).

However, Plaintiff argues that given its context in the claims, "computer readable medium" must not cover transitory, or "fleeting," media such as carrier waves. (D.I. 281 at 4). The "computer readable medium" claim language is followed by "containing instructions for controlling disconnecting of a computer from another computer." Thus, Plaintiff characterizes

the fundamental issue as being whether the "computer readable medium" can control the network. (Tr. at 65:14-17; 66:24). Plaintiff argues that carrier waves cannot control the network or carry data to control the network, and that my construction therefore cannot include carrier waves and other transitory media. (*Id.*; D.I. 281 at 10-11).

The parties agree that a carrier wave is a "computer-readable medium containing instructions." Defendants argue "carrier waves . . . store instructions while the wave is being transmitted," citing their expert. (D.I. 281 at 9). Plaintiff agrees that a carrier wave can store instructions during transmission. (Tr. at 65:18-19; 88:5-8). Plaintiff qualifies its agreement only by saying carrier waves must be "decoded" before the instructions can control "disconnecting of a computer from another computer." (Tr. at 88:10-14).

The claim language indicates that those instructions are what ultimately control "disconnecting of a computer from another computer." It does not require, as Plaintiff argues, carrier waves to control the network.

Thus, a carrier wave is a "computer readable medium containing instructions for controlling" the network. The context of "computer readable medium" in the claims does not require that "computer readable medium" excludes transitory media. I accordingly adopt Defendants' proposed construction.

The specification establishes that a "communications link" is a computer-readable medium on which data structures and message structures may be stored or transmitted, and that "memory and storage devices" are another type of computer-readable media. ('634 patent at 16:30-36); (D.I. 281 at 6, 12). It is entirely consistent with my construction.

Defendants cite *Mentor Graphics Corp. v. EVE-USA, Inc.*, 851 F.3d 1275, 1294 (Fed. Cir. 2017), in which the Federal Circuit found that a "computer readable medium containing

instructions" included carrier waves and thus was invalid under § 101. But in *Mentor Graphics*,

the patent specification expressly defined "the computer readable medium" as including carrier

waves. *Id.* Here, the specification never mentions carrier waves. Thus, I am not persuaded that

Mentor Graphics confirms my conclusion that "computer readable medium containing

instructions" includes carrier waves.

2. Term 29: "fully connected portal computer," "located portal computer" ('634/19 and '069/1)

a. *Plaintiff's proposed construction*:

fully connected portal computer: "a completely connected portal computer"

located portal computer: "an identified portal computer"

b. *Defendants' proposed construction*: "a portal computer connected to exactly m neighboring participants of the network"

c. *Court's construction*:

fully connected portal computer: "portal computer connected to exactly m neighbor participants"

located portal computer: "portal computer connected to exactly m neighbor participants"

The parties do not dispute the meaning of "portal computer." They agree that a portal

computer arranges for other computers to have neighbors. (Tr. at 96:21-23; 113:14-18). The

parties do, however, dispute the meaning of both "fully connected" and "located" when

modifying "portal computer." Their dispute centers on whether the portal computer must be

connected to m and only m computers.

A patentee is free to be its own lexicographer. *Phillips v. AWH Corp.*, 415 F.3d 1303,

1316 (Fed. Cir. 2005) (en banc). The patent specifications provide for three "regimes": seeking,

partially connected, and fully connected. ('634 patent at 5:45-51, 6:5-12; '069 patent at 5:47-

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54). A computer in the "fully connected" regime "is currently, or has [been previously,] connected to [m] neighbors." (*Id.*). This is lexicography.

Thus, the patent specifications generally define the "fully connected" regime as existing when the network is m-regular, and each participant has m internal connections.

However, the claim language and specification provide for a "small regime" exception. The "small regime" exists where fewer than m+1 computers are connected, and each computer has fewer than m connections. ('634 patent at 5:51-54; '069 patent at 5:26-30). In contrast, the "large regime" exists where at least m+1 computers are connected, and each computer has m connections. ('634 patent at 5:55-59; '069 patent at 5:30-32). The exception applies, and the network is both "fully connected" and in the "small regime," when a computer was "previously connected" to m neighbors, but the network dwindles in size to fewer than m+1 computers.

The small regime exception is not what is claimed in either the '634 or '069 patent.

The relevant '634 patent claim provides explicitly for an "m-regular network." ('634 patent, claim 19). By definition, the small regime is not m-regular, because it exists where fewer than m+1 computers are connected, and each computer has fewer than m connections. Thus, claim 19 of the '634 patent requires the large regime, where "the network is m-regular," meaning a given computer is "connected to exactly m neighbor participants."

The '069 claim language does not provide explicitly for an m-regular network. Accordingly, Plaintiff argues the doctrine of claim differentiation means that my construction should not require that the network be m-regular. (Tr. at 16:8-17; 111:10-13). *See Andersen Corp. v. Fiber Composites, LLC*, 474 F.3d 1361, 1369-70 (Fed. Cir. 2007) ("different words or

phrases used in separate claims are presumed to indicate that the claims have different meanings and scope").[2]

But "powerful evidence to the contrary" can overcome this presumption. *Id.* at 1370. Such "powerful evidence" exists here.

First, the claim language provides that the portal computer "sends an edge connection request to a number of randomly selected neighboring participants." This language refers to the "random walk," which occurs only in the large regime. ('069 patent at 19:60-65).

The specification's teaching that the random walk must occur in the large regime appears in an embodiment. The Court is mindful of the restriction against reading a limitation into a claim from the specification. *See Phillips*, 415 F.3d at 1323. The Court also recognizes that "there is sometimes a fine line between reading a claim in light of the specification, and reading a limitation into the claim from the specification." *Comark Commc'ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1186 (Fed. Cir. 1998); *see also* Phillips, 415 F.3d at 1323 ("[W]e recognize that the distinction between using the specification to interpret the meaning of a claim and importing limitations from the specification into the claim can be a difficult one to apply in practice."). But "interpreting what is meant by a word in a claim is not to be confused with adding an extraneous limitation," only the latter of which "is improper." *Storage Tech. Corp. v. Cisco Sys., Inc.*, 329 F.3d 823, 831 (Fed. Cir. 2003) (internal quotations and citations omitted). All references to the random walk indicate that, regardless of embodiment, the random walk must occur only in the large regime. *(See, e.g.,* '069 patent at 13:36-54, 19:60-65).

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[2] The Federal Circuit has applied the doctrine of claim differentiation both within a single patent and within a family of patents. In *Andersen Corp.*, the court analyzed claim differentiation within the "Group I patents," which all stemmed from continuations based on a single application. *Andersen Corp.*, 474 F.3d at 1368-70. Likewise, the patents-in-suit share a specification. (Tr. at 10:14-21).

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Second, Plaintiff told the PTAB that the '069 patent "is directed to 'incomplete

networks,' in which each participant is connected to fewer than all of the other participants in the

network." (D.I. 359-1, Exh. L at 13-14). The smallest size an incomplete network can be is

$m+2$, where the network is m-regular and each computer has m connections. This statement

amounts to a "clear and unmistakable disclaimer" of networks that are not incomplete. *Aylus

Networks, Inc. v. Apple Inc.*, 856 F.3d 1353, 1360-61 (Fed. Cir. 2017) (holding that "statements

made by patent owners during an IPR can be considered for prosecution disclaimer"); *Omega

Eng'g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1323 (Fed. Cir. 2003) ("for prosecution disclaimer to

attach . . . the alleged disavowing actions or statements made during prosecution must be both

clear and unmistakable.").

Thus, both claims require the large regime, and a "fully connected" computer is

"connected to exactly m neighbor participants."

The "fully connected" lexicography is not tied directly to the "portal computer" in the

specification. Nonetheless, because "fully connected" precedes "portal computer" in the claim

language, the lexicography must modify "portal computer." Accordingly, I adopt "portal

computer connected to exactly m neighbor participants" as my construction for "fully connected

portal computer."

Defendants aver that "fully connected" and "located" mean the same thing, and the terms

should be therefore be construed the same way. (D.I. 281 at 35). "Located" appears in claim 19

of the '634 patent but not in claim 1 of the '069 patent.

First, Defendants note that Plaintiff argued to the PTAB that the "seeking computer . . .

locates and contacts a portal computer that is fully connected to the network" "[i]n order to join

an existing network." (D.I. 120-1, Exh. D-10 at 6-7). Plaintiff is bound to "clear and

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unmistakable" disclaimers made during IPR proceedings. *Aylus Networks, Inc.*, 856 F.3d at 1360-61; *Omega Eng'g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1323 (Fed. Cir. 2003). But this "disclaimer" appears as a passing reference in the background section of the Patent Owner Preliminary Response. It does not necessarily capture the full nuance of the technology. Thus, the statement does not disclaim connection to a "portal computer" that is not "fully connected."

Defendants also point to two parts of the '634 patent specification, which Defendants say demonstrate that "located" is the same as "fully connected." First, Defendants note that "the computer seeking connection first locates a computer that is currently fully connected to the broadcast channel," and the "found portal computer then directs the identifying of four computers (i.e., to be the seeking computer's neighbors) to which the seeking computer is to connect." ('634 patent at 5:45-49, 5:67-6:3). These statements describe the invention as a whole, rather than a particular embodiment. Second, Defendants note that "[w]hen a seeking computer locates a portal computer that is itself not fully connected, the two computers do not connect." ('634 patent at 13:29-34). Likewise, this statement describes the invention as a whole.

Furthermore, as established, claim 19 of the '634 patent requires the large regime. The specification provides that the "portal computer" is itself connected to the broadcast channel. ('634 patent at 13:29-34). Thus, the "located portal computer" is a participant in the large regime network, and is "connected to exactly m neighbor participants."

As a result of this large regime requirement and these parts of the '634 patent specification, I give "located portal computer" the same construction as "fully connected" portal computer. I use "connected to exactly m neighbor participants," rather than Defendants' proposed "connected to exactly m neighboring participants of the network," to be consistent with my construction for "m-regular."

3. **Term 30: "each participant being connected to three or more other participants" ('069/1)**

   a. *Plaintiff's proposed construction*: "each participant is connected to at least three other participants in the network"

   [*See* constructions of "participant," "connected," and "network"]

   b. *Defendants' proposed construction*: "each participant being connected to the same number of other participants, where the number is three or more"

   c. *Court's construction*: "each participant being connected to the same number of other participants in the network, where the number is three or more"

The parties agree that each participant must be connected to at least three other

participants. (D.I. 281 at 36). They dispute whether each participant must have the same

number of connections. (*Id.*).[3]

Plaintiff makes two primary arguments.

First, Plaintiff argues that the plain language of claim 1 of the '069 patent does not

explicitly require an m-regular network. (Tr. at 16:8-17). Other claims in the related patents,

like claim 19 of the '634 patent, do explicitly require an m-regular network. Thus, argues

Plaintiff, the doctrine of claim differentiation requires that claim 1 of the '069 patent not be

construed to mandate an m-regular network. (*Id.*; *see Andersen Corp.*, 474 F.3d at 1369-70

("different words or phrases used in separate claims are presumed to indicate that the claims

have different meanings and scope")).

Even though the claim does not explicitly require the network to be m-regular, my

construction of term 29 requires that the '069 patent network is in the large regime. In the large

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[3] At oral argument, Defendants argued that Plaintiff's brief has conceded this dispute. I too thought Plaintiff had conceded the dispute. But in view of my conclusion, I need not reach the issue. (Tr. at 21:3-19).

regime, the network is m-regular, and in an m-regular network, every participant is connected to the same number of participants.

Furthermore, the language of claim 1 of the '069 patent indicates that it is a method "for adding a participant to a network." To make sure that some participants do not have more connections than others, the claim requires that when a new participant makes connections to existing participants, other connections are broken so that each participant maintains the same number of connections. (D.I. 281 at 38).

Second, Plaintiff argues that computers can be connected to multiple channels at the same time. (D.I. 281 at 40; Tr. at 22:4-8). Thus, a computer connected to multiple channels must have more connections than a computer only connected to one channel. This argument falls short, however, because the claim is directed to a single network, or channel. The parties agree that "network" and "broadcast channel" possess the same meaning in this context. (Tr. at 148:21-22; 149:2-4). Thus, the only connections that count are those in the "network" or "broadcast channel" at issue.

My construction therefore requires that "each participant be[] connected to the same number of other participants in the network, where the number is three or more." I add the language "in the network," as I proposed in an oral order (D.I. 358), to account for the fact that the claim is directed to a single network.

4. **Term 31: "sends an edge connection request to a number of randomly selected neighboring participants to which the seeking participant is to connect" ('069/1)**

   a. *Plaintiff's proposed construction*: "sending a message to randomly selected computers and/or computer processes in the network with which the participant can be connected"

   b. *Defendants' proposed construction*: "sends a message from the fully connected portal computer through a number of randomly selected connections until fully connected participants are identified to which the seeking participant is to connect"

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c. *Court's construction*: "sends a message through a number of randomly selected connections until fully connected participants are identified to which the seeking participant is to connect"

To reduce "elongation" (Tr. at 142:17-20), the patents use a random selection process when adding computers to the network. ('069 patent at 6:63-7:6).

Defendants argue that their proposal properly embodies the sequence of this "random walk," whereas Plaintiff's construction would improperly permit sending a message *after* the computers are randomly selected. (D.I. 281 at 43).

In an embodiment, the specification of the '069 patent describes the "random walk through the graph that represents the broadcast channel": "[t]o select the four computers, a portal computer sends an edge connection request message through one of its internal connections that is randomly selected. The receiving computer again sends the edge connection request through one of its internal connections that is randomly selected." ('069 patent at 13:36-43).

The Federal Circuit has "cautioned against reading limitations into a claim from the preferred embodiment described in the specification, even if it is the only embodiment described." *In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1369-70 (Fed. Cir. 2004).

But in a statement to the PTAB, Plaintiff generalized the embodiment's description of the random walk to the '069 patent as a whole. Plaintiff cited the embodiment in its Patent Owner Preliminary Response as evidence that "the '069 patent describes a 'random selection technique to identify' neighbors." (D.I. 120-1, Exh. D-9 at 9-10). This generalization occurs in the background section of the Response. But it is not general background information (or a passing reference). Rather, the generalization

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is essential to the Patent Owner's argument, and depicts a "clear and unmistakable"

understanding that the "random walk" applies to the '069 patent as a whole. (D.I. 120-1,

Exh. D-9 at 21). Plaintiff is bound to its description of the invention. *See Aylus*

Networks, Inc., 856 F.3d at 1360-61.

Plaintiff's proposed construction, unlike Defendants', reads the "edge connection

request" out of the claim by failing to explain how the "random walk" happens.

Accordingly, I adopt Defendants' proposed construction, absent one superfluous phrase.

5. Term 32: "connection port search message" ('147/1, 11)

a. *Plaintiff's proposed construction*: "message that searches for a connection port"

b. *Defendants' proposed construction*: "a message sent to locate a computer with less than m neighbors to which the computer sending the message can connect"

c. *Court's construction*: "message sent to locate a computer with less than m neighbors"

Claim 11 of the '147 patent provides that upon reception of "a disconnect message" from

a disconnecting computer, "the computer broadcasts a connection port search message on the

broadcast channel to find a computer to which it can connect in order to maintain an m-regular

graph." The purpose of the "connection port search message" is to locate the disconnecting

computer's former neighbors, to which the "connection port search message" sending computer

can connect in order to maintain m connections.

Plaintiff argues that the broadcast message is sent to a network that is m-regular, and the

nodes "are still m-connected at that point." (Tr. at 146:1-8).[4] This fact is irrelevant. The plain

language of the claims establishes that the *purpose* of the connection port search message is to

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[4] Plaintiff's oral argument was different than its argument in briefing. In briefing, Plaintiff argued that Defendants' construction is "unhelpful" because it "misleadingly suggests that the message itself must somehow include features that enable it to locate a computer with less than m neighbors." (D.I. 281 at 47). Plaintiff also argued that Defendants' construction reads out a preferred embodiment, but did not say what that preferred embodiment is. (D.I. 281 at 49).

locate computers with fewer than m neighbors post-disconnection. It does not, however,

preclude the possibility of *sending* the message to computers with less than m neighbors.

Thus, I adopt a construction defining "connection port search message" as "message sent

to locate a computer with less than m neighbors." I do not adopt Defendants' language that

appears elsewhere in the claims.

6. Term 33: "in order to maintain an m-regular graph" ('147/1, 11)

   a. *Plaintiff's proposed construction*: "to keep the network m-regular when it is in a steady state"

   b. *Defendants' proposed construction*: "to maintain the broadcast channel as m-regular following the disconnection, where m is the same number before and after the disconnection"

   c. *Court's construction*: "in order to maintain the broadcast channel as m-regular following the disconnection"

The parties dispute whether the term requires m to be the same number before and after

disconnection. (D.I. 281 at 50).

Plaintiff argues the claims require only that the network is regular in that each participant

has the same number of neighbors before and after disconnection. Plaintiff argues that neither

the claims nor specification forbids m from changing. (D.I. 281 at 51).

The claim language does not expressly require that m be the same before and after the

disconnection, leaving open the possibility that m can change.

Plaintiff provides an example of a changing m. (D.I. 281 at 54). In Plaintiff's example, a

network has 6 participants, and m=3. Upon disconnection of one participant, the network has 5

participants, and m=3. The network can no longer be m-regular. To solve this problem and

make the network m-regular, Plaintiff suggests changing m to m=4. Plaintiff's example does not

appear in the specification.

When m is an odd number, and the number of participants changes from even to odd, the network cannot be m-regular. Defendants urge that the specification solves this problem differently than Plaintiff's suggestion. (Tr. at 152:1-153:12). The embodiment addressing the scenario in which m is odd and the number of participants is odd provides that "the broadcast channel toggles between being and not being m-regular and m-connected." ('147 patent at 14:64-15:6). Furthermore, every other embodiment in the specification contemplates m staying the same before and after disconnection. (*See, e.g.,* '147 patent at 9:6-26).

"[C]laims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using words or expressions of manifest exclusion or restriction." *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed. Cir. 2004). Even though Defendants are correct that the specification teaches toggling, rather than changing m, when m and the number of participants are both odd, this solution appears in an embodiment. This embodiment includes no words or expression of manifest exclusion or restriction. *See Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1372 (Fed. Cir. 2014) (noting that disclaimer applies when, for example, the patentee makes statements such as "all embodiments of the present invention are…" or "the present invention requires…," or the specification indicates that a feature of a preferred embodiment is a "very important feature"). Thus, because the claim language does not restrict m from changing, my construction does not require that "m is the same number before and after the disconnection."

I do not include "in a steady state" in my construction, as I did not include it in my construction for Term 17 and plan to remove it from my construction for Term 18.

7. **Term 34: "list of neighbors" ('147/1, 11)**

   a. *Plaintiff's proposed construction*: "a list of neighbor computers and/or computer processes"

b. *Defendants' proposed construction*: "a list that specifically identified each of the m neighbors of the first computer"

c. *Court's construction*: plain and ordinary meaning

The parties stipulated to a plain and ordinary meaning construction. (Tr. at 4:21-23).

8. **Term 38: "wherein an originating participant sends data to the other participants by sending the data through each of its connections to its neighbor participants" ('344/1, 13, 16, 18; '634/1, '966/1, 13); Term 39: "wherein each participant sends data that it receives from a neighbor participant to its other neighbor participants" ('344/1, '966/1); Term 40: "wherein each participant sends data that it receives from a neighbor participant to its neighbor participants" ('344/13, '966/13)**

a. *Plaintiff's proposed construction*:

Term 38: Not indefinite.

information generated by a participant is sent to other participants using its connections

Term 39: Not indefinite.

the participant sends information it receives to other participants to which it is connected

Term 40: Not indefinite.

the participant sends information it receives to other participants to which it is connected

b. *Defendants' proposed construction*:

Term 38: data is sent from an originating participant to the other participants by broadcasting data through each of its connections to its m neighbor participants

Thus, the claim is indefinite under *IPXL*

Term 39: each participant receives data from a neighboring participant and rebroadcasts the received data to its m-1 other neighbor participants

Thus, the claim is indefinite under *IPXL*

Term 40: each participant receives data from a neighboring participant and rebroadcasts the received data to its m-1 other neighbor participants

Thus, the claim is indefinite under *IPXL*

c. *Court's construction*:

Term 38: data is sent from an originating participant to the other participants by broadcasting data through each of its connections to its neighbor participants

Term 39: each participant receives data from a neighboring participant and rebroadcasts the received data to its other neighbor participants

Term 40: each participant receives data from a neighboring participant and rebroadcasts the received data to its other neighbor participants

The parties' proposals for Terms 39 are similar in that they both indicate that a computer does not send data back to the computer from which it received the data. Plaintiff's proposed construction requires that data be sent to "other participants." Defendants' construction requires that data be sent to the computer's "m-1 other neighbor participants."

The plain language of Term 40 does not include "other" to describe "neighbor participants." However, Plaintiff's and Defendants' respective proposals for Term 40 are the same as their respective proposals for Term 39, which do include "other" to describe "neighbor participants." Thus, their proposed constructions demonstrate a shared understanding that for Term 40, a computer does not send data back to the computer from which it received the data.

The difference between Defendants' and Plaintiff's proposed constructions is that Defendants' construction requires the data be sent, or broadcasted, to *each* neighbor, whereas Plaintiff's does not.

Plaintiff admits the requirement of Term 38 that the "computer originates a message" by sending "it to *all* of [its] neighbor participants." (Tr. at 62:8-10) (emphasis added).

Defendants' proposed constructions reflect that what is claimed is a variety of "flooding" where a computer sends data to each of its neighbor participants but does not send data back to

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the sender. Accordingly, I adopt Defendants' proposed constructions. However, I do not include

"m" to describe "neighbor participants" and "m-1" to describe "other neighbor participants."

The claim language already provides that the network is m-regular, so "m" and "m-1" do not add

any additional meaning to my constructions.

Defendants contend that Term 38, 39, and 40 are indefinite under § 112, ¶ 2, regardless of

whether I adopt Defendants' or Plaintiff's constructions. (D.I. 281 at 64, 68-69).

A single claim that "recites both a system and the method for using that system" is

indefinite under § 112, ¶ 2. *IPXL Holdings, L.L.C. v. Amazon.com, Inc.*, 430 F.3d 1377, 1383-84

(Fed. Cir. 2005) (citing *Amgen, Inc. v. Chugai Pharm. Co.*, 927 F.2d 1200, 1217 (Fed. Cir.

1991)). The *IPXL Holdings* rule exists because such a claim makes it impossible for a person of

ordinary skill in the art to tell if the system or apparatus itself would infringe or if the system or

apparatus would have to be used in a certain way to infringe. *Id.* at 1384.

However, "apparatus claims are not necessarily indefinite for using functional language."

Microprocessor Enhancement Corp v. Tex. Instruments, Inc., 520 F.3d 1367, 1375 (Fed. Cir.

2008). Rather, two types of system and apparatus claims are indefinite under *IPXL Holdings*.

First, system and apparatus claims are indefinite if they also "claim activities performed by the

user." *Mastermine Software, Inc. v. Microsoft Corp.*, 874 F.3d 1307, 1316 (Fed. Cir. 2017).

Even if a claim "make[s] reference to user" action, it is indefinite only if it "explicitly claim[s]

the user's act," and not if it claims only "the system's capability to receive and respond to user"

action. *Id.* Second, system and apparatus claims are indefinite if they use "functional language"

that is not "specifically tied to structure," but instead "appear[s] in isolation." *Id.*

Defendants argue that these claims do not describe mere capabilities. (D.I. 281 at 68-70).

As evidence, Defendants point to a statement Plaintiff made about the claims after they were

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rejected as obvious in light of *Alagar* during prosecution. (*Id.* at 67-68). To distinguish the

invention, Plaintiff stated "each participant only rebroadcasts received messages to its neighbors

other than the neighbor from which the node received the message." (D.I. 282-1, Exh. H at 38).

Additionally, Plaintiff argued in an IPR proceeding that "the '966 patent claims all require that

the entire plurality of network participants, upon receiving data, must each send that data to each

of their respective neighbor participants." (D.I. 120-1, Exh. D-1 at 43). The statements, say

Defendants, are concessions from Plaintiff that "the functions of Terms 38-40 must be carried

out and are not mere capabilities of the network." (D.I. 281 at 69).

However, the claims do not "claim activities performed by the user" or make any

reference to a "user." *See Mastermine Software,* 874 F.3d at 1316. Rather, they claim a network

in which participants are configured to send data to their neighbors. The claim language is

"functional." *Id.*

Furthermore, this functional language does not "appear in isolation," but rather, is

"sufficiently tied to structure."

In *Rembrandt Data Techs. LP v. AOL, LLC,* the Federal Circuit held the following claim

to be indefinite:

> 3. A data transmitting device for transmitting signals corresponding to an
> incoming stream of bits, comprising:
>
> first buffer means for partitioning said stream into frames of unequal number of
> bits and for separating the bits of each frame into a first group and a second group
> of bits;
>
> fractional encoding means for receiving the first group of bits of each frame and
> performing fractional encoding to generate a group of fractionally encoded bits;
>
> second buffer means for combining said second group of bits with said group of
> fractionally encoded bits to form frames of equal number of bits; trellis encoding
> means for trellis encoding the frames from said second buffer means; and

transmitting the trellis encoded frames.

641 F.3d 1331, 1339 (Fed. Cir. 2011) (emphasis added). The court explained that "[t]he first

four elements of claim 3 of the '236 patent recite apparatus elements: buffer means, fractional

encoding means, second buffer means, and trellis encoding means," whereas "[t]he final element

is a method: 'transmitting the trellis encoded frames.'" *Id.*

In *Mastermine Software*, on the other hand, the court held the following claim which

disclosed, in part, "[a] system comprising":

> ....
>
> a reporting module installed within the CRM software application ...;
>
> ....
>
> wherein the reporting module installed within the CRM software application
> *presents a* set of user-selectable database fields as a function of the selected report
> template, *receives from the user a selection* of one or more of the user-selectable
> database fields, and *generates* a database query as a function of the user selected
> database fields;
>
> ....

874 F.3d at 1315 (emphasis added). The court distinguished the claim from the *Rembrandt*

claim given that "the functional language here does not appear in isolation, but rather, is

specifically tied to structure: the reporting module installed within the CRM software

application." *Id.*

The functional language in these claims is tied to the structure of the network. The

claims do incorporate some element of sequencing, but the *Mastermine Software* claims

similarly contemplated that the claimed "reporting module" could "generate[] a database query"

only upon its reception of a user "selection." 874 F.3d at 1315. Nonetheless, the claim was

found not indefinite because this "functional language" was tied directly to the "reporting

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module." *Id.* at 1316. Unlike the *Rembrandt* claim, where it was unclear whether infringement was triggered by the creation of an infringing "device" itself or by some infringing use of that "device," here, a person of ordinary skill in the art would understand that infringement is triggered by the use of an infringing "network" with certain functionality. 641 F.3d at 1339. Thus, the claims that incorporate Terms 38, 39, and 40 are not indefinite.

IV.   CONCLUSION

Within five days the parties shall submit a proposed order consistent with this Memorandum Opinion.