

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

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

Philip A. Rovner and Jonathan A. Choa, POTTER ANDERSON & CORROON LLP, Wilmington, DE; Paul J. Andre, Lisa Kobialka, and James Hannah, KRAMER LEVIN NAFTALIS & FRANKEL LLP, Menlo Park, CA; Aaron M. Frankel and Marcus A. Colucci, KRAMER LEVIN NAFTALIS & FRANKEL LLP, New York, NY, attorneys for Plaintiff.

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March 23, 2020

/s/ Richard G. Andrews

ANDREWS, U.S. DISTRICT JUDGE:

This is a patent case about three video games: Grand Theft Auto Online, NBA 2K15, and NBA 2K16. Currently before me is the Motion for Summary Judgment of Non-Infringement filed by Defendant Take-Two Interactive Software, Inc. and its subsidiaries, Defendants Rockstar Games, Inc. and 2K Sports, Inc. (D.I. 462). I have considered the parties' briefing (D.I. 463, 472, 477), and I heard oral argument on February 4, 2020 (D.I. 490). Because no reasonable jury could conclude Defendants infringed the asserted patents, it is "game over" for Plaintiff Acceleration Bay, LLC's infringement claims. The Motion for Summary Judgment is granted.

I. BACKGROUND

A. The Patents

Plaintiff alleges online features of the three accused video games infringe five patents: U.S. Patent Nos. 6,701,344 ('344 patent), 6,714,966 ('966 patent), 6,920,497 ('497 patent), 6,732,147 ('147 patent), and 6,910,069 ('069 patent). Plaintiff initially sued Defendants for infringing these patents in 2015. *Acceleration Bay LLC v. Take-Two Interactive Software Inc.*, No. 15-cv-311-RGA (D. Del.). I dismissed that case because Plaintiff lacked standing to assert the patents. No. 15-cv-311-RGA, D.I. 149. Plaintiff resolved the standing issue by reaching a new patent purchase agreement with the Boeing Company, which was the original owner of the patents. (D.I. 1 at 1). The parties agree Plaintiff cannot seek damages for any infringement that occurred before April 2015. (D.I. 463 at 43; D.I. 472 at 14).

Plaintiff asserts the following claims:

- '344: Claims 12, 13, 14, and 15;
- '966: Claims 12 and 13;
- '497: Claims 9 and 16;
- '147: Claim 1; and

- '069: Claims 1 and 11

(D.I. 489). The asserted claims of the '069 and '147 patents are method claims. The '069 claims recite methods for adding participants to a computer network, while the '147 claim recites a method for disconnecting participants from a computer network. The asserted claims of the remaining patents ('344, '966, and '497) recite types of computer networks, systems, services, or components.

The parties refer to the '344, '966, '069, and '147 patents as “topology” patents. The asserted claims of these patents are limited to networks that are “incomplete” and “m-regular.” I construed “m-regular” to mean “[a] state that the network is configured to maintain, where each computer is connected to exactly m neighbor [participants or computers].” (D.I. 256 at 5). Claim 13 of the '344 patent is illustrative:

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.

Claim 13 of the '966 patent is similar:

An information delivery service comprising:
a plurality of broadcast channels, each broadcast channel for distributing information relating to a topic, each of the broadcast channels for providing said information related to a topic 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 topic of interest; and
means for connecting to the identified broadcast channel.

While the '069 and '147 patent claims describe methods, they are also limited to “incomplete” and “m-regular” networks.¹ For example, claim 1 of the '147 patent claims:

A method of disconnecting a first computer from a second computer, the first computer and the second computer being connected to a broadcast channel, said broadcast channel forming an m-regular graph where m is at least 3, the method comprising:
when the first computer decides to disconnect from the second computer, the first computer sends a disconnect message to the second computer, said disconnect message including a list of neighbors of the first computer; and
when the second computer receives the disconnect message from the first computer, the second computer broadcasts a connection port search message on the broadcast channel to find a third computer to which it can connect in order to maintain an m-regular graph, said third computer being one of the neighbors on said list of neighbors.

The '497 patent is the only asserted patent that is not limited to m-regular and incomplete networks. Instead, the asserted claims of the '497 patent recite a “component in a computer system” that uses a “port ordering algorithm” to identify a call-in port and to connect a computer to the network.

B. The Video Games

Take-Two is the parent company of Rockstar Games and 2K Sports. (D.I. 270 ¶ 8).

Rockstar Games publishes Grand Theft Auto V (GTA V), a video game which includes an online

¹ Although the asserted claim of the '069 patent does not explicitly require an “m-regular” or “incomplete” network, I construed the claim to include both limitations. (D.I. 345 at 12, 14-15).

mode called Grand Theft Auto Online (GTAO). (*Id.* ¶ 35). GTA V is an action-adventure game in which players inhabit the roles of characters in the criminal underbelly of Los Santos, a fictionalized version of Los Angeles. (D.I. 464, Ex. A-1, “Medvidović Report” ¶ 66). In GTAO, players can roam freely through Los Santos or they can compete with other players in defined games, such as heists, races, or shoot outs. (*Id.* ¶ 67). Acceleration Bay alleges both forms of online play infringe its patents. (*Id.*).

NBA 2K15 and NBA 2K16 are basketball games published by 2K Sports. Both games feature single-player and online multiplayer modes. (*Id.* ¶ 69). In the online modes, players can compete on a single court or on large shared locations with multiple courts. These online multicourt modes can include up to 100 players at a time (10 games of 5-on-5 players). (*Id.* ¶183). Although the multicourt modes have different names, such as “MyPark,” “ProAm,” and “Rec Hall,” Plaintiff alleges the underlying networks are the same and all infringe its patents. (D.I. 472 at 7 & n.4). Plaintiff does not accuse the single player or single-court multiplayer modes of infringement. (*Id.*).

II. LEGAL STANDARDS

A. Summary Judgment

“The court shall grant summary judgment if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law.” FED. R. CIV. P. 56(a). The moving party has the initial burden of proving the absence of a genuinely disputed material fact relative to the claims in question. *Celotex Corp. v. Catrett*, 477 U.S. 317, 330 (1986). Material facts are those “that could affect the outcome” of the proceeding, and “a dispute about a material fact is ‘genuine’ if the evidence is sufficient to permit a reasonable jury to return a verdict for the nonmoving party.” *Lamont v. New Jersey*, 637 F.3d 177, 181 (3d Cir.

2011) (quoting *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986)). The burden on the moving party may be discharged by pointing out to the district court that there is an absence of evidence supporting the non-moving party's case. *Celotex*, 477 U.S. at 323.

The burden then shifts to the non-movant to demonstrate the existence of a genuine issue for trial. *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 586–87 (1986); *Williams v. Borough of West Chester, Pa.*, 891 F.2d 458, 460–61 (3d Cir. 1989). A non-moving party asserting that a fact is genuinely disputed must support such an assertion by: “(A) citing to particular parts of materials in the record, including depositions, documents, electronically stored information, affidavits or declarations, stipulations . . . , admissions, interrogatory answers, or other materials; or (B) showing that the materials cited [by the opposing party] do not establish the absence . . . of a genuine dispute” FED. R. CIV. P. 56(c)(1).

When determining whether a genuine issue of material fact exists, the court must view the evidence in the light most favorable to the non-moving party and draw all reasonable inferences in that party's favor. *Scott v. Harris*, 550 U.S. 372, 380 (2007); *Wishkin v. Potter*, 476 F.3d 180, 184 (3d Cir. 2007). A dispute is “genuine” only if the evidence is such that a reasonable jury could return a verdict for the non-moving party. *Anderson*, 477 U.S. at 247–49. If the non-moving party fails to make a sufficient showing on an essential element of its case with respect to which it has the burden of proof, the moving party is entitled to judgment as a matter of law. *See Celotex Corp.*, 477 U.S. at 322.

B. Patent Infringement

A patent is infringed when a person “without authority makes, uses, offers to sell, or sells any patented invention, within the United States . . . during the term of the patent” 35 U.S.C. § 271(a). “Literal infringement of a claim exists when every limitation recited in the

claim is found in the accused device.” *Kahn v. Gen. Motors Corp.*, 135 F.3d 1472, 1477 (Fed. Cir. 1998). “If any claim limitation is absent from the accused device, there is no literal infringement as a matter of law.” *Bayer AG v. Elan Pharm. Research Corp.*, 212 F.3d 1241, 1247 (Fed. Cir. 2000).

A product that does not literally infringe may still infringe under the doctrine of equivalents. *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 37 (1997). The most familiar framework for evaluating equivalence is whether the accused product performs substantially the same function in substantially the same way to obtain substantially the same result. See *Mylan Institutional LLC v. Aurobindo Pharma Ltd.*, 857 F.3d 858, 866 (Fed. Cir. 2017) (citing *Graver Tank & Mfg. Co. v. Linde Air Prod. Co.*, 339 U.S. 605, 608, 609 (1950)). “[T]he doctrine of equivalents must be applied to individual elements of the claim, not to the invention as a whole. It is important to ensure that the application of the doctrine, even as to an individual element, is not allowed such broad play as to effectively eliminate that element in its entirety.” *Warner-Jenkinson Co.* 520 U.S. at 29.

III. DISCUSSION

A. Infringement of the ’344, ’966, and ’497 Patents

1. “Makes,” “Sells,” or “Offers to Sell”

The parties agree that, under my reasoning in *Acceleration Bay LLC v. Activision Blizzard, Inc.*, 324 F. Supp. 3d 470 (D. Del. 2018) and *Acceleration Bay LLC v. Elec. Arts Inc.*, No. 1:16-CV-00454-RGA, 2019 WL 1376036 (D. Del. Mar. 27, 2019), Defendants do not “make,” “sell,” or “offer to sell” the inventions claimed in the ’344, ’966, and ’497 patents. (D.I. 463 at 3; D.I. 472 at 16 n.5). In those cases, I concluded the defendants (other video game developers) did not infringe these patents because the claimed systems only existed when

multiple customers played the games. *Activision*, 324 F. Supp. 3d at 482; *EA*, 2019 WL 1376036 at *4. Plaintiff, however, asks me to reconsider my reasoning in those prior cases, particularly in light of the Federal Circuit’s decision in *Centrak, Inc. v. Sonitor Techs., Inc.*, 915 F.3d 1360 (Fed. Cir. 2019).

To “make” a system under § 271(a), a single entity must combine all the claim elements. *Centillion Data Sys., LLC v. Qwest Commc’ns Int’l, Inc.*, 631 F.3d 1279, 1288 (Fed. Cir. 2011). If a customer, rather than a defendant company, performs the final step to assemble the system, then the defendant has not infringed. *Id.* The asserted ’344 and ’966 claims require a “computer network,” “broadcast channels,” or both. Defendants here, like the defendants in *Activision* and *EA*, make software, not computer networks or broadcast channels. The customers need to introduce those elements to the systems. Additionally, these asserted claims require “participants” who form “connections” with one another. It is therefore the video game players, not Defendants, who assemble the claimed systems.

Similarly, the asserted ’497 claims require a “component in a computer system for locating a call-in port of a portal computer.” Defendants do not make this “component.” Instead, customers use their own hardware, such as an Xbox or personal computer, to locate the “call-in port of a portal computer.” Defendants therefore do not make all the elements of the asserted ’497 claims.

For the same reasons Defendants do not “make” the ’344, ’966, and ’497 claimed systems, they do not “sell” or “offer to sell” them under § 271(a) either. Plaintiff has only alleged Defendants sell software, not hardware. Defendants do not sell the claimed “computer network[s],” “broadcast channels,” or “component[s].” The customers themselves take the final steps to create the accused systems.

Plaintiff cites *Centrak*, in which the Federal Circuit found there was a triable issue of fact of whether the defendant was the “final assembler” of the claimed system. 915 F.3d at 1371. In that case, although the defendant’s product did not include all the elements of the asserted claims, there was evidence that the defendant installed the accused product for its customers. *Id.* “[A]s long as a defendant adds the final limitations to complete a claimed combination, the defendant infringes.” *Id.* at 1372.

Plaintiff here has not alleged Defendants ever installed the video games for customers. (*See* D.I. 472 at 18). The controlling case is therefore *Centillion*, in which the Federal Circuit found the defendant could not have infringed the patents because the customers installed the accused software themselves. 631 F.3d at 1288. Here, Defendants make the software that allows customers to simulate a basketball game or rob a virtual bank, but it is the customers themselves who form the claimed systems when they connect to each other. The customers, not Defendants, add the “final limitations to complete a claimed combination.” *Centrak*, 915 F.3d at 1372.

Plaintiff has only alleged direct infringement. (D.I. 1, D.I. 472). Thus, it is unnecessary to analyze whether Defendants might be liable for indirect infringement.

2. “Uses” by Testing

Plaintiff argues Defendants “used” the inventions claimed in the ’344, ’966, and ’497 patents when they developed, updated, and tested the video games internally. (D.I. 472 at 12-16). This argument avoids the flaw that dooms Plaintiff’s theory that Defendants infringed by making or selling the inventions. If Defendants’ own employees tested all the elements of the claimed systems, then they, not their customers, were the “final assembler[s].” *Centrak*, 915 F.3d at 1371. Testing a system can constitute an infringing use under § 271(a), but to survive summary

judgment, the plaintiff must “provide evidence sufficient, if unopposed, to prevail as a matter of law.” *Ricoh Co. v. Quanta Computer Inc.*, 550 F.3d 1325, 1336 (Fed. Cir. 2008).

It is not enough for Plaintiff to show that Defendants’ employees probably played the three video games at some point. Rather, Plaintiff acknowledges it must produce evidence that Defendants tested the accused products: 1) in the accused online game modes; 2) on an accused platform; 3) in the United States; and 4) during the damages time period. (D.I. 472 at 12). The parties agree the damages period begins in April 2015 (D.I. 463 at 43; D.I. 472 at 14), and the accused platform must be either an Xbox or a personal computer (D.I. 477 at 2; D.I. 472 at 14).²

Plaintiff has provided evidence that testing of the three games occurred in the United States. In response to an interrogatory, Defendants stated that NBA 2K15 and 2K16 were primarily tested and developed in the United States. (D.I. 473, Ex. 11, Response to Interrogatory No. 6). Defendants also stated that a Rockstar studio in California tested features for GTA O, including online functionality. (*Id.*, First Supplemental Response to Interrogatory No. 6).

It is less clear though that Defendants tested the games in modes that could infringe the asserted patents. All three games have single-player modes that indisputably do not infringe. Additionally, not all versions of online play infringe. The asserted claims of the ’344, ’966, and ’497 patents all require that each participant have “connections to at least three neighbor participants,” and the ’344 and ’966 patent claims require that the number of participants be “at least two greater than m.” Thus, any testing Defendants did of the games with fewer than six participants could not have infringed the ’344 and ’966 patent claims, and testing with fewer than four participants could not have infringed the ’497 patent claims. Furthermore, Plaintiff only

² The games are also available on Sony PlayStation, but any infringing activity on that platform is protected by a license. (D.I. 237 at 5).

accuses the multi-court online mode of the NBA 2K games of infringing, not the single-court online mode. (D.I. 472 at 7, n. 4). Plaintiff alleges that GTA O is programmed so that it tends to “converge” to an infringing mode, but Plaintiff does not claim the game automatically infringes whenever it is played. (D.I. 472 at 3). Because various game modes do not infringe, the fact that Defendants acknowledge generally testing the games does not mean they must have tested them in an infringing mode.

Plaintiff points to an online news article that quotes an anonymous game tester who said testers devoted “tons of time to granular parts of [GTA V].” (D.I. 472 at 16, citing D.I. 473, Ex. 17 [at 187 of 463]). The article does not help Plaintiff. The “piece originally appeared 7/27/15.” (D.I. 473, Ex. 17 [at 184 of 463]). That is less than four months after the beginning of the damages period. The article’s recitation of what anonymous sources said is clearly inadmissible hearsay if offered to prove the truth of what was asserted. Since the only relevance of the statements would be to prove the truth of the assertions, the article has no evidentiary value in terms of creating a disputed material fact. While Defendants surely tested various aspects of their games before releasing them, Plaintiff fails to present evidence that Defendants specifically tested the accused online modes.

Even if Defendants tested the accused modes, Plaintiff needs to show that the testing occurred after April 2015. GTA O and NBA 2K15 were both released before April 2015. (Medvidović Report ¶¶ 66, 68). Thus, any pre-release testing is irrelevant. Plaintiff counters this fact by pointing to updates and patches to all three games that were released during the damages period. (D.I. 472 at 14-15, citing D.I. 473, Exs. 12-16). The fact that Defendants fixed glitches or added features does not, however, imply that they comprehensively tested every feature of the games. Some of the updates involve online play, but that is not enough to show Defendants

tested the accused modes. Even though NBA 2K16 was released during the damages period, Plaintiff does not present evidence of how much testing occurred after April 2015. NBA 2K16 is an updated version of NBA 2K15, and the multiplayer modes are functionally the same. (Medvidović Report ¶ 77). It is entirely possible that Defendants focused most of their testing of NBA 2K16 within the damages period on new features that are not accused here.

It is also possible that Defendants tested the accused modes during the damages period, but just not on an accused platform. All three games are available on the Sony PlayStation, but that platform is outside the scope of this case. (D.I. 237 at 5). Defendants therefore could have tested features on the PlayStation without also testing them on the Xbox or personal computer.

Thus, while Defendants admit testing the three games in the United States, I am unconvinced there is evidence that the U.S. testing involved the accused game modes on an accused platform during the damages period. Plaintiff needed to present evidence that these conditions were all met simultaneously. It has failed to do so.

Plaintiff's argument is, essentially, that TakeTwo is a big company that spends significant time and resources developing these games, and it is implausible that none of its employees tested these games in a way that would infringe the patents. (*See* D.I. 472 at 12-16). That argument, however, asks me (and would ask a jury) to speculate about TakeTwo's internal game-testing procedures. Speculation is not enough to survive summary judgment. "[T]he non-moving party has the duty to set forth specific facts showing that a genuine issue of material fact exists and that a reasonable factfinder could rule in its favor." *Azur v. Chase Bank, USA, Nat. Ass'n*, 601 F.3d 212, 216 (3d Cir. 2010). "The nonmoving party may not avoid summary judgment by relying on speculation or by rehashing the allegations in the pleadings." *Sullivan v. Warminster Twp.*, 765 F. Supp. 2d 687, 697 (E.D. Pa. 2011). As noted by the Court of Appeals in an

analogous situation, “If it was inconceivable to [Plaintiff] that the accused features were not practiced . . . , it should have no difficulty in meeting its burden of proof and introducing testimony.” *Mirror Worlds, LLC v. Apple, Inc.*, 692 F.3d 1351, 1362 (Fed. Cir. 2012) (quoting the district court).

Plaintiff has failed to show there is a genuine dispute of material fact that Defendants “made,” “sold,” “offered to sell,” or “used” the claimed inventions within the damages period. Summary judgment of non-infringement of the ’344, ’966, and ’497 patents is therefore appropriate.

B. Infringement of the ’069 and ’147 Patents

Unlike the claims discussed above, the asserted ’069 and ’147 claims do not recite systems or components. Instead, they recite methods for adding or disconnecting participants from a network. “A finding of direct infringement [of a method claim] requires that all steps of the claim are performed by or attributable to a single entity.” *Medgraph, Inc. v. Medtronic, Inc.*, 843 F.3d 942, 948 (Fed. Cir. 2016). Viewing the evidence in the light most favorable to Plaintiff, it appears Defendants, not their customers, perform the methods for adding or disconnecting participants from the game networks.

The critical question then is whether the accused games meet the m-regular limitation of the ’069 and ’147 claims. I construed “m-regular” to mean “[a] state that the network is configured to maintain, where each computer is connected to exactly m neighbor [participants or computers].” (D.I. 256 at 5). In other words, Plaintiff must show there is a genuine dispute about whether Defendants’ games are “configured to maintain” networks where each participant is connected to exactly the same number of other participants. I conclude Plaintiff has not met this burden.

The m-regular limitation is also part of the asserted '344 and '966 claims. Summary judgment is therefore appropriate for those claims on two bases: because Defendants' products do not meet the m-regular limitation, and, as discussed above, because Defendants did not "make," "sell," "offer to sell" or "use" those claimed inventions.

Because the games operate differently, I discuss each in turn.

1. Grand Theft Auto Online

Plaintiff's infringement theory is that the GTAOnline software applies various rules and constraints that cause the gameplay network to "converge to the same number of connections for each participant." (D.I. 472 at 3). In his report, Plaintiff's expert Dr. Nenad Medvidović explained that the GTAOnline software is "configured to have a maximum number of participants, a maximum number of connections, reserved connections, [and] limited available ports." (Medvidović Report ¶ 163). The software also uses "load balancing rules, including prioritized channels, to distribute the flow of data evenly between participants." (*Id.*). Dr. Medvidović concluded the combination of these constraints "drives the formation of an incomplete and m-regular network." (*Id.*). Dr. Michael Mitzenmacher, also a Plaintiff's expert, similarly concluded: "Because these rules and constraints cause the network to converge to the same optimal number of connections, each player tends to send data to the same number of participants during game play." (D.I. 464, Ex. A-2, "Mitzenmacher Report" ¶ 121). These rules and constraints exist when players wander through the online open-world mode and when they compete in specific games, but the limits are more restrictive in the specific games. (Medvidović Report ¶ 163).

Part of Plaintiff's theory is that GTAOnline transfers data based on the players' positions in the virtual world. When two players' avatars are closer together, there is a higher rate of data exchange between those two players. (D.I. 473, Ex. 2, "Conlin Report" ¶ 26). According to Dr.

Mitzenmacher, “when the players are geographically dispersed throughout the gameplay area, the proximity connection rules will cause the network to form m-regular graphs.” (Mitzenmacher Report ¶ 121). At his deposition, Dr. Mitzenmacher further explained that “in the course of players wandering through the environment, there will be various local data available to subsets of players, and there will be the natural configurations when players are distributed geographically where the resulting network will be m-regular Again, I think that just arises naturally. Again, in the course of gameplays, the players are moving throughout the game.” (D.I. 464, Ex. E-5, “Mitzenmacher Tr.” at 173:24-174:5, 175:17-19).

Even viewing this evidence in the light most favorable to Plaintiff, no reasonable jury could find GTA0 meets the m-regular limitation. Under my claim construction, a network is not m-regular if the participants just happen to connect to the same number of other participants occasionally. Rather, the network must be “configured to maintain” an m-regular state. In my claim construction opinion, I explained: “My construction does not require the network to have each participant be connected to m neighbors at all times; rather, the network is configured (or designed) to have each participant be connected to m neighbors. In other words, if the network does not have each participant connected to m neighbors, this is fine so long as, when appropriate, it tries to get to that configuration.” (D.I. 244 at 14).

Plaintiff’s experts are not describing a network that meets this construction. They have not identified any source code that directs the participants to connect to the same number of other participants. Dr. Medvidović concluded that the combination of various rules and constraints “drives the formation” of an m-regular network. (Medvidović Report ¶ 163). Dr. Mitzenmacher concluded that each participant “tends” to connect to the same number of other participants. (Mitzenmacher Report ¶ 121). Those descriptions are not enough to show that the network is

“configured to maintain” an m-regular state. It might be true that GTA0 players are sometimes, or even often, connected to the same number of other players. But Plaintiff’s evidence does not suggest it is the default state of the network or that the network is in that state substantially all the time.

My construction does not require Plaintiff to show that the accused networks are m-regular 100 percent of the time. For example, if there is a split-second transition after a player disconnects from the game, that would not be enough to make the network not m-regular. Plaintiff’s evidence, however, suggests far greater variation. Plaintiff has not shown (and does not try to show) that if the network falls out of the m-regular state, the network responds by immediately trying to return to that configuration. Rather, it seems that the network might return to m-regular or it might not, depending on various factors.

A reasonable jury could not find that the “proximity connection rules” make the networks m-regular. The players control their own avatars and choose where to move throughout the game environment. The fact that players share more data when they are near each other does not suggest that the network is m-regular. Instead, it suggests that the players’ actions determine how connections are formed, and the network is not “configured to maintain” any particular state. Dr. Mitzenmacher said at his deposition that the infringing state “just arises naturally [as] . . . the players are moving throughout the game.” (Mitzenmacher Tr. at 175:17-19). But if a system is designed to achieve a desired result, one would not normally say the result “just arises naturally.” The result would be designed, not natural.

The doctrine of equivalents does not save Plaintiff’s infringement theory. Dr. Mitzenmacher concluded GTA0 performs “substantially the same function” as the m-regular claim element because it maintains “a balanced and even topography in the network, which

[allows the game] to relay game data efficiently so as to not overload a particular software application node on the network.” (Mitzenmacher Report ¶ 171). It performs this function in “substantially the same way,” he said, by “optimizing the entire network processing of the network by limiting each participant’s connections.” (*Id.* ¶ 172). He concluded it achieves “substantially the same result” because “data are distributed in a balanced fashion over the network such that no node is overloaded and data are efficiently distributed.” (*Id.* ¶ 173).

This argument, however, effectively reads the m-regular limitation out of the patent. There is no mention of participants connecting to the same number of other participants. The doctrine of equivalents cannot be “allowed such broad play as to effectively eliminate [an] element in its entirety.” *Warner-Jenkinson Co.*, 520 U.S. at 29. The GTA0 network and the claimed methods share some of the same general purposes, but that is not enough for infringement. Plaintiff must show there is a genuine dispute about whether “the accused product or process contain elements identical or equivalent to each claimed element of the patented invention.” *Id.* at 39. Plaintiff has not produced evidence that GTA0 is identical or equivalent to the m-regular element.

Plaintiff’s doctrine of equivalents argument is especially weak for the ’344, ’966, and ’147 patents because the patentee added the m-regular limitation during prosecution. (D.I. 464, Ex. D-1). The patentee explained to the patent examiner that, unlike a specific prior art reference, the amended patents “require[] that each participant in the network connects to and forms a neighbor bond to exactly m number of neighbors.” (D.I. 464, F-1 at 10, F-2 at 10). Plaintiff is barred by prosecution history estoppel from now attempting to erase that limitation from the patents. “Prosecution history estoppel precludes a patentee from regaining, through litigation, coverage of subject matter relinquished during prosecution of the application for the patent.

Were it otherwise, the inventor might avoid the PTO's gatekeeping role and seek to recapture in an infringement action the very subject matter surrendered as a condition of receiving the patent." *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 734 (2002) (cleaned up).

2. NBA 2K

The only accused mode of the NBA 2K games is the multicourt multiplayer mode, in which up to 100 players compete in multiple basketball games in a large shared area, such as a park or gym. (Medvidović Report ¶ 183). Plaintiff acknowledges this mode is functionally the same in NBA 2K15 and 2K16. (D.I. 472 at 7). Thus, I analyze the two games together. The NBA 2K software uses a "Park Relay Server," which connects to players' computers or consoles and allows them to play each other. (Medvidović Report ¶ 95).

Defendants argue NBA 2K is not m-regular because the Park Relay Server is itself a participant in the network. (D.I. 463 at 27). The human players might each connect to the same number of players, but the server connects to all of them. For example, there might be 40 players in a network each connected to four players, but the Park Relay Server would be connected to all 40 players. In this scenario, the network is not m-regular because one participant (the server) is connected to a different number of neighbors than the other participants are.

Plaintiff counters that the server is not a participant in the game. (D.I. 490 at 90:16-17). This is surely true in the sense that the server is not playing basketball. The server is, however, a participant in the network because it transfers data back and forth between other network participants. These patent claims are directed to network management, so what matters is whether the server is a participant in the network, not whether it is making jump shots or grabbing rebounds. Dr. Mitzenmacher, Plaintiff's own expert, wrote that the relay servers "are

participants in the NBA 2K Mesh Network because they can equally send and receive heartbeat data, lockstep data, gameplay data, and VoIP data to other participants in the network.” (D.I. 464, Ex. A-4, “Mitzenmacher Supplemental Report” ¶ 65). I therefore conclude that there is no genuine dispute that the servers are participants in the NBA 2K networks, and the networks do not literally meet the m-regular limitation of the asserted claims.

Plaintiff argues that even if the NBA 2K games do not literally infringe, they are equivalent to m-regular networks. (D.I. 472 at 9). Dr. Mitzenmacher provides Plaintiff’s infringement theory for the ’147 patent under the doctrine of equivalents:

NBA2K performs substantially the same function because when a player is disconnected, the matchmaking service (i.e., the match server) will maintain a balanced and even topography in the network where each participant has the same number of connections, which allow them to relay game data efficiently so as to not overload a particular software application node on the network.

NBA2K performs this function in substantially the same way by optimizing the entire network processing of the network by limiting each participant’s connections such that each participant’s connections are balanced by limiting incoming participants . . . and removing participants that are no longer active. Further, relaying of modified and/or compressed data via relay servers similarly optimizes and limits each participants’ connections and balances the network.

(D.I. 464, Ex. A-6, “Mitzenmacher Reply Report” ¶¶ 84-85) (cleaned up). This argument, however, fails for the same reason it fails when applied to GTAO. Plaintiff cannot use the doctrine of equivalents to remove inconvenient claim elements, such as the m-regular limitation. *Sze Warner-Jenkinson Co.*, 520 U.S. at 29. For the ’344, ’966, and ’147 patents, prosecution history estoppel prohibits Plaintiff from “seek[ing] to recapture in an infringement action the very subject matter surrendered as a condition of receiving the patent.” *Festo*, 535 U.S. at 734.

Given that the server is itself a participant in the network and is connected to all human players, Dr. Mitzenmacher’s claim that the network maintains a “balanced and even topography

in the network where each participant has the same number of connections” is a conclusory assertion. “Conclusory expert assertions cannot raise triable issues of material fact on summary judgment.” *Sitrick v. Dreamworks, LLC*, 516 F.3d 993, 1001 (Fed. Cir. 2008). Ultimately, a reasonable jury would have to conclude that the architecture of the NBA 2K network, which relies on a central relay server, is fundamentally different from the m-regular networks of the asserted claims, precluding a finding for Plaintiff under the doctrine of equivalents.

IV. Conclusion

For these reasons, I will GRANT Defendants’ Motion for Summary Judgment of Non-Infringement with respect to the asserted claims of the ’344, ’966, ’497, ’147, and ’069 patents. I will enter an Order consistent with this Memorandum Opinion.