IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

ACCELERATION BAY LLC,

    Plaintiff,

    v.

AMAZON WEB SERVICES, INC.,

    Defendant.

Civil Action No. 22-904-RGA

MEMORANDUM OPINION

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March 26, 2026

ANDREWS, U.S. DISTRICT JUDGE:

Before me are Defendant's renewed motion for judgment as a matter of law or, in the alternative, a new trial (D.I. 331) and Plaintiff's motion for enhanced damages, pre-judgment interest, and post-judgment interest (D.I. 327). I have reviewed the parties' briefing. (D.I. 328, 332, 339, 342, 352, 353, 363, 365).[1] For the reasons set forth below, Defendant's motion is DENIED; Plaintiff's motion is GRANTED IN PART and DENIED IN PART.

I. BACKGROUND

On July 6, 2022, Plaintiff Acceleration Bay sued Defendant Amazon Web Services for direct and indirect infringement of five patents by ten of Defendant's products. (D.I. 1 at 24–53). Prior to trial, Plaintiff narrowed its case and asserted that two of Defendant's products, CloudFront and Virtual Private Cloud ("VPC"), each infringed claim 12 of U.S. Patent No. 6,714,966 ("the '966 Patent") and claim 6 of U.S. Patent No. 6,732,147 ("the '147 Patent"). (D.I. 237 at 2). Plaintiff also pursued a claim that Amazon's use of CloudFront constituted willful infringement. (*Id.* at 2).

Defendant asserted numerous defenses including a noninfringement defense, a license defense based on a 2010 Amazon-Boeing Agreement,[2] and various invalidity defenses. (D.I. 10 at 78–80). Before trial, Defendant withdrew its anticipation defense (D.I. 159 at 18 n.84), and the Court granted Plaintiff summary judgment on Defendant's obviousness defense (D.I. 219 at 38).

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[1] Defendant's Opening Brief of twenty-five pages (D.I. 332) raises at least seventeen arguments (D.I. 360). When I noticed a general absence of any attempt to explain how Defendant had preserved most of these arguments, I directed Defendant to submit a letter explaining that. (*Id.*). In response, I got a fourteen-page single-spaced letter. (D.I. 363). I estimate the single-spaced letter is the equivalent of a second twenty-five page brief. Thus, Defendant's dereliction in the Opening Brief resulted in its effectively getting double the allotted number of pages. I regret that.
[2] The parties refer to this defense as the "license defense." Thus, I do too.

The '966 and '147 patents were invented by two employees of the Boeing Company. (Tr. 161:7–163:1). The inventors began development in 1996 (Tr. 164:7–9) and the two patents issued in 2004. The patents relate to physical computer networks—physical items such as wire, servers, and routers that enable data to be sent to a computer—and a virtual overlay network—a non-physical system that determines how to optimize date transfer in the existing physical networks—to send data to an "m-regular" number of connections in a virtual network that "heals" itself through messages sent in a "broadcast channel."[3] (Tr. 168:18–174:18, 217:3–231:20). The '966 patent addresses the technology that implements a virtual overlay network to "broadcast" data using an underlying physical computer network (Tr. 161:17–20, 226:25–4, 230:17–21; 326:5–7), and the '147 patent is for a technology that creates and maintains the connections in the broadcast network (Tr. 162:9–16, 227:6–10, 230:25–231:20, 327:17–329:6).

In 2010, The Boeing Company entered into an agreement with Defendant (the "2010 Boeing-Amazon Agreement"). (D.I. 149-1, Ex. 3). As I previously ruled, if The Boeing Company used one of Defendant's services prior to selling the patents in 2014, the 2010 Boeing-Amazon Agreement would prevent an infringement suit against any of Boeing's patents used in the particular service. (D.I. 219 at 20). On December 10, 2014, Plaintiff purchased the '966 and the '147 patents from The Boeing Company. (D.I. 149-1, Ex. 4). The '966 patent expired on November 10, 2021, and the '147 patent expired on July 20, 2022. (D.I. 149-1, Ex. 11 ¶ 249).

At trial, Plaintiff argued that Defendant's CloudFront and VPC products infringed the '966 and '147 patents. (D.I. 161 at 20). Defendant's VPC product[4] is a cloud computing service that

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[3] I construed "m-regular," "healing," and "broadcast channel" after the parties submitted *Markman* briefing and presented oral argument. (D.I. 81 at 1–4).
[4] Throughout this litigation, the parties sometimes used "VPC" to refer to the product (the service that is enabled by a set of code and sub-products to create connections between multiple VMs) and sometimes to refer to individual VPC networks (a particular set of VMs connected through

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uses a virtual overlay network to privately connect users' Virtual Machines ("VM")[5] to other VMs and to Defendant's underlying physical network. (Tr. 232:7–17, 337:9–22). Defendant's CloudFront product[6] is a content delivery network ("CDN"), which is a service that delivers content to users. (Tr. 233:19–234:12, 323:16–24). Plaintiff argued that CloudFront uses Defendant's VPC product to deliver the content to users. (Tr. 336:4–17, 339:19–340:6, 341:1–4, 349:18–350:14). Plaintiff argued that both VPC and CloudFront infringe the patents through the use of BigMac and VPC Peering. (D.I. 161 at 20).

BigMac is an overlay network that facilitates data transfers. (Tr. 351:8–357:12, 392:22–395:23). Within a VPC network, BigMac packages data for transfer and forms nodes and connections between the VMs[7] to allow for data transfer—a necessary function of VPC. (*Id.*). Thus, Defendant's product VPC always uses BigMac. For BigMac to transfer data between VPCs, BigMac must use VPC Peering to make these connections. (Tr. 363:21–366:18). VPC Peering is a technology that enables private connections to be sent similar to how information is sent over the public internet. (Tr. 366:5–13). Therefore, Defendant's VPC product also necessarily uses VPC Peering for VPC data transfers.

Defendant's product CloudFront runs Elastic Compute Cloud ("EC2"), which is used to connect CloudFront to a virtual storage capacity, and EC2 must use VPC for functionality. (Tr.

Defendant's VPC overlay network). (*See, e.g.*, D.I. 332 at 18–20; D.I 342 at 2, 7, 9; Tr. 124:2–125:3, 337:9–339:2, 991:17–992:8). The only time this distinction appears to matter is in relation to how the VPC product can connect multiple VPC networks through VPC Peering. (*See, e.g.*, Tr. 363:18–364:3, 884:12–15).

[5] VMs are a part of VPC that allows multiple users to simultaneously use a machine or software while maintaining privacy (Tr. 232:20–233:17, 327:12–14, 337:23–339:2). When discussing VMs in BigMac, the parties used both VM and the term "Top." (Tr. 362:19–23).

[6] The parties sometimes called this an "origin server." (Tr. 342:22–23, 343:10).

[7] BigMac accomplishes this through what the parties refer to as the "BigMac VPC." The BigMac VPC is a specific BigMac overlay network used to connect VMs across VPCs. (*See Tr.* 355:7–357:12, 386:9–19, 503:23–506:10).

267:23–268:12, 341:17–21, 343:10–16). When data is transferred between different VPC networks within CloudFront, including to the BigMac VPC, VPC Peering is used to create private connections between the VPCs. (Tr. 363:21–364:3, 580:11–581:2). VPC Peering uses BigMac to create these connections. (Tr. 364:24–366:18). Thus, Plaintiff argues, CloudFront always uses VPC, and since VPC always uses VPC Peering for data transfers between VPCs, and VPC Peering uses BigMac to create the connections for data transfer, CloudFront also always uses BigMac and VPC Peering. (D.I. 342 at 15).

The infringing capabilities of VPC and CloudFront are enabled by BigMac and VPC Peering. (Tr. 354:21–355:2). In addition to identifying protocols or methods within VPC and CloudFront that infringe through direct uses of BigMac, Plaintiff's expert testified that VPC and CloudFront use outside technologies, and the outside technologies necessarily used BigMac. (Tr. 353:16–354:13). At this point in the proceedings, the methods, protocols, and products that are relevant to how VPC and CloudFront infringe through BigMac—both directly and indirectly— include:

- Elasticast, a protocol within BigMac that allows data to be broadcast to multiple connections in a network. (Tr. 368:7–21, 369:19–370:22, 375:20–376:20).

- "Sharding" or "shardcasting," a method used within Elasticast to broadcast data equally across the participants in a network and maintain the same number of connections. (Tr. 377:7–378:2, 388:9–12).

- Elastic Network Interface ("ENI"), a technology enabled by BigMac, that allows VPC and CloudFront to conduct "load balancing." (Tr. 356:3–357:12, 362:19– 663:9, 371:17–373:16, 382:24–383:24).

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- "Load balancing," a process that makes and maintains an m-regular number of connections in a broadcast channel. (Tr. 371:17–373:16, 382:24–383:24, 387:18–388:4).

- Various "load balancing" methods[8] that are a part of VPC and CloudFront and are enabled by BigMac. (Tr. 353:16–359:14, 375:10–13, 380:20–382:21).

- Private Link, which BigMac provides the functionality for, and allows information to be sent privately across a VPC. (Tr. 363:23–345:1).

- Portions of the BigMac source code that include the healing process. (Tr. 404:9–407:5).

- Regional Edge Caches, which are a physical system placed in various geographic locations and are a part of the VPC and CloudFront infrastructure. (Tr. 340:10–25).

- Availability Zones ("AZ"), which are created by Regional Edge Caches, and allow data to transfer across VPCs quickly. (Tr. 341:12–343:5, 344:22–345:2). The Availability Zones assist with the healing process by increasing the speed for locating other VMs in the area. (Tr. 403:12–24).

- FREP Packets, which are health check messages sent by VMs to ensure an m-regular number of connections is maintained. (Tr. 407:2–410:9).

- Port Search Messages are used to identify missing VMs and identify available VMs to create m-regularity when the number of VMs in a network changes. (Tr. 410: 10–414:1).

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[8] Plaintiffs identify multiple technologies that serve as "load balancing." These include Network Address Translation Gateway ("NAT Gateway") (Tr. 353:18–22), Gateway Load Balancing (*id.*), Elastic Load Balancing ("ELB") (Tr. 358:12–13), and Network Load Balancer ("NLB") (*id.*).

To argue Defendant infringed prior to the expiration of the patents, Plaintiff offered evidence that VPC Peering launched in 2011 (Tr. 490:8–491:18) and that various technologies that assisted in the infringement launched in late 2016. (Tr. 342:17–21, 358:8–359:14). Plaintiff offered evidence that Defendant used its VPC and CloudFront products in Prime Video, Amazon Music, The Luna, Twitch, Prime Services, and any other product offering content delivery. (Tr. 345:20–347:25).

After a five-day trial, the jury found: (1) Defendant's CloudFront product infringed Claim 12 of the '966 Patent and Claim 6 of the '147 Patent, (2) Defendant's infringement of both asserted claims by its CloudFront product was willful, and (3) Defendant's VPC product infringed Claim 12 of the '966 Patent and Claim 6 of the '147 Patent. (D.I. 286). The jury rejected Defendant's license defense for both the CloudFront and VPC products and awarded Plaintiff $30.5 million in damages. (*Id.*). Defendant has filed a renewed motion for judgment as a matter of law or, in the alternative, a motion for a new trial. (D.I. 332). Plaintiff requests enhanced damages, pre-judgment interest, and post-judgment interest. (D.I. 327).

II. LEGAL STANDARD

A. Judgment as a Matter of Law

Judgment as a matter of law is appropriate if "the court finds that a reasonable jury would not have a legally sufficient evidentiary basis to find for [a] party" on an issue. FED. R. CIV. P. 50(a)(1). "Entry of judgment as a matter of law is a 'sparingly' invoked remedy, 'granted only if, viewing the evidence in the light most favorable to the nonmovant and giving it the advantage of every fair and reasonable inference, there is insufficient evidence from which a jury reasonably could find liability.'" *Marra v. Phila. Hous. Auth.*, 497 F.3d 286, 300 (3d Cir. 2007) (citation omitted).

"A post-trial Rule 50 motion can only be made on grounds specifically advanced in a motion for a directed verdict at the end of plaintiff's case." *Kars 4 Kids Inc. v. Am. Can!*, 8 F.4th 209, 220 (3d Cir. 2021) (cleaned up). "To prevail on a renewed motion for JMOL following a jury trial, a party must show that the jury's findings, presumed or express, are not supported by substantial evidence or, if they were, that the legal conclusion(s) implied [by] the jury's verdict cannot in law be supported by those findings." *Pannu v. Iolab Corp.*, 155 F.3d 1344, 1348 (Fed. Cir. 1998). "'Substantial' evidence is such relevant evidence from the record taken as a whole as might be accepted by a reasonable mind as adequate to support the finding under review." *Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 893 (Fed. Cir. 1984).

In assessing the sufficiency of the evidence, the Court must give the non-moving party, "as [the] verdict winner, the benefit of all logical inferences that could be drawn from the evidence presented, resolve all conflicts in the evidence in his favor and, in general, view the record in the light most favorable to him." *Williamson v. Consol. Rail Corp.*, 926 F.2d 1344, 1348 (3d Cir. 1991). The Court "must not weigh evidence, engage in credibility determinations, or substitute its version of the facts for the jury's." *Pitts v. State*, 4 F.3d 151, 155 (3d Cir. 2011); *Perkin-Elmer*, 732 F.2d at 893. Rather, the Court must determine whether the evidence supports the jury's verdict. *See Dawn Equip. Co. v. Ky. Farms Inc.*, 140 F.3d 1009, 1014 (Fed. Cir. 1998); 9B CHARLES ALAN WRIGHT & ARTHUR R. MILLER, FEDERAL PRACTICE AND PROCEDURE § 2524 (3d ed. 2008) ("The question is not whether there is literally no evidence supporting the party against whom the motion is directed but whether there is evidence upon which the jury might reasonably find a verdict for that party.").

B. Motion For New Trial

Federal Rule of Civil Procedure 59(a)(1)(A) provides:

> The court may, on motion, grant a new trial on all or some of the issues—and to any party—as follows: (A) after a jury trial, for any reason for which a new trial has heretofore been granted in an action at law in federal court . . . .

Among the most common reasons for granting a new trial are: (1) the jury's verdict is against the clear weight of the evidence, and a new trial must be granted to prevent a miscarriage of justice; (2) newly discovered evidence exists that would likely alter the outcome of the trial; (3) improper conduct by an attorney or the court unfairly influenced the verdict; or (4) the jury's verdict was facially inconsistent. *Zarow-Smith v. N.J. Transit Rail Operations, Inc.*, 953 F. Supp. 581, 584–85 (D.N.J. 1997) (citations omitted).

The decision to grant or deny a new trial is committed to the sound discretion of the district court. *Allied Chem. Corp. v. Daiflon, Inc.*, 449 U.S. 33, 36 (1980); *Olefins Trading, Inc. v. Han Yang Chem. Corp.*, 9 F.3d 282, 289 (3d Cir. 1993) (reviewing district court's grant or denial of new trial motion under the "abuse of discretion" standard). Although the standard for granting a new trial is less rigorous than the standard for granting judgment as a matter of law—in that the Court need not view the evidence in the light most favorable to the verdict winner—a new trial should only be granted where "a miscarriage of justice would result if the verdict were to stand," the verdict "cries out to be overturned," or where the verdict "shocks [the] conscience." *Williamson*, 926 F.2d at 1352–53.

C. Enhanced Damages

"[T]he court may increase the damages up to three times the amount found or assessed." 35 U.S.C. § 284. Enhanced damages are "designed as a 'punitive' or 'vindictive' sanction for egregious infringement behavior," which the Supreme Court has specified to mean "willful, wanton, malicious, bad-faith, deliberate, consciously wrongful, flagrant, or—indeed—characteristic of a pirate." *Halo Elecs., Inc. v. Pulse Elecs., Inc.*, 579 U.S. 93, 103–04 (2016). Enhanced damages are "not to be meted out in a typical infringement case." *Id.* at 103. While a

jury's finding of willful infringement is a prerequisite to the enhancement of damages, it is not by itself sufficient. *Presidio Components, Inc. v. Am. Tech. Ceramics Corp.*, 875 F.3d 1369, 1382 (Fed. Cir. 2017). Although not required, the Court may consider the non-exclusive *Read* factors as part of its analysis. *Id.* at 1382–83 (citing *Read Corp. v. Portec, Inc.*, 970 F.2d 816 (Fed. Cir. 1992)).

D. Pre-Judgment Interest

Pre-judgment interest should be awarded "absent some justification for withholding such an award." *Gen. Motors Corp. v. Devex Corp.*, 461 U.S. 648, 657 (1983). "Unless delay causes prejudice to the defendant, however, it does not support a denial of prejudgment interest." *Green Mountain Glass LLC v. Saint-Gobain Containers, Inc.*, 300 F. Supp. 3d 610, 627 (D. Del. 2018); *see also Lummus Indus., Inc. v. D.M. & E. Corp.*, 862 F.2d 267, 275 (Fed. Cir. 1988). It is the defendant's burden to show the delay caused prejudice.

E. Post-Judgment Interest

Post-judgment interest is governed by 28 U.S.C. § 1961. Section 1961(a) provides, "Such interest shall be calculated from the date of the entry of the judgment, at a rate equal to the weekly average 1-year constant maturity Treasury yield, as published by the Board of Governors of the Federal Reserve System, for the calendar week preceding the date of the judgment." *Id.* § 1961(a). The interest is computed daily and compounded annually. *Id.* § 1961(b).

III. DISCUSSION

Plaintiff argued that Defendant's VPC and CloudFront products each infringed claim 12 of the '966 patent and claim 6 of the '147 patent. Claim 12 of the '966 patent is dependent from claim 1. Claim 1 states:

> A computer network for providing an information delivery service for 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 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.

('966 patent, col. 30, lines 2–13). Claim 12 of the '966 patent states:

The computer network of claim 1 wherein the interconnections of participants form a broadcast channel for a topic of interest.

('966 patent, col. 30, lines 37–39). Claim 6 of the '147 patent states:

A method for healing a disconnection of a first computer from a second computer, the computers being connected to a broadcast channel, said broadcast channel being an m-regular graph where m is at least 3, the method comprising:
attempting to send a message from the first computer to the second computer; and
when the attempt to send the message is unsuccessful, broadcasting from the first computer a connection port search message indicating that the first computer needs a connection; and
having a third computer not already connected to said first computer respond to said connection port search message in a manner as to maintain an m-regular graph.

('147 patent, col. 29, lines 12–25).

A. Defendant's Renewed Motion for Judgment as a Matter of Law Is Denied

Defendant argues four theories to support its motion for judgment as a matter of law. (D.I. 332). For the following reasons, Defendant's motion is DENIED.

1. A Reasonable Jury Could Find That Plaintiff Proved Infringement

Defendant argues that Plaintiff failed to prove infringement at trial. (D.I. 332 at 4–10, 17–21). Defendant makes this argument based on three theories. First, Defendant argues that Plaintiff abandoned its pre-trial theory of infringement by failing to argue that the infringement occurred through VPC Peering. (*Id.* at 4–5). Second, Defendant argues that Plaintiff improperly argued

multiple undisclosed theories, and had the new theories been properly excluded from trial, Defendant asserts, there would not have been substantial evidence for the jury to find infringement. (*Id.* at 5–7). Third, Defendant argues that Plaintiff has not met its burden of proof on certain claim elements. (*Id.* at 17–21). Based on any one of these theories, Defendant argues it is entitled to judgment as a matter of law finding no infringement or a new trial.[9] (*Id.* at 7–10, 17–21).

a. Plaintiff did not abandon VPC Peering at trial

According to Defendant, Plaintiff's infringement case prior to trial "relied on two technologies: VPC Peering and BigMac." (D.I. 332 at 4). Defendant argues that Plaintiff abandoned this theory at trial by failing to provide evidence of how VPC Peering contributed to infringement. (*Id.* at 4–5). As support, Defendant asserts that Plaintiff's expert Dr. Medvidović "did not attempt to show that VPC Peering satisfies the elements of either asserted claim, or that CloudFront uses VPC Peering." (*Id.* at 5).

To argue that it did not "abandon[] VPC Peering at trial," Plaintiff cites to the portions of the trial transcripts where Dr. Medvidović explained that BigMac must use VPC Peering. (D.I. 342 at 3). Plaintiff argues that "any time Dr. Medvidović referred to these peering connections between VPC and BigMac he was addressing VPC Peering." (*Id.*).

I find that the testimony at trial provided adequate evidence for a reasonable jury to conclude that Plaintiff proved VPC Peering's infringement. Plaintiff's VPC Peering infringement theory at trial rested on BigMac necessarily using VPC Peering to securely transfer data between VPCs and VPC Peering relying on BigMac to make connections for the data transfer. At trial,

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[9] Defendant writes that these arguments are offered to advance both its judgment as a matter of law arguments and its new trial arguments. However, for most of these arguments, Defendant does not discuss why a new trial is appropriate. The failure to make an argument constitutes a forfeiture of that argument.

Plaintiff's argument was supported through testimony from Dr. Medvidović on direct examination (Tr. 363:14–364:3, 366:5–18) and cross examination (Tr. 428:25–17, 430:7–24), cross examination testimony from Defendant's fact witness Mr. MacCárthaigh (Tr. 951:19–959:9), and by the introduction of evidence showing the connections between the technologies (D.I. 343-2, Ex. 5 (PTX-254 at 6)). Plaintiff presented evidence demonstrating both accused products necessarily used VPC Peering. This included evidence showing that Defendant's CloudFront product functioned by transferring data between VPCs (Tr. 267:23–268:12, 341:17–21, 343:10–16, 363:21–364:3, 580:11–581:2), and evidence that Defendant's VPC product could not transfer data between VPCs without VPC Peering (Tr. 363:21–366:18). This evidence, among the evidence presented at trial as a whole, is enough for a reasonable jury to conclude that BigMac must use VPC Peering in the VPC and CloudFront products.

Plaintiff's infringement theory was based on VPC Peering enabling VPC data transfers in the accused products. Once Plaintiff proved the connection between VPC Peering and BigMac, the rest of its VPC Peering argument could rest on its BigMac infringement theory. Defendant does not assert that Plaintiff abandoned its BigMac infringement theory. (D.I. 332 at 4–5; D.I. 342 at 2). As evidence showed that VPC Peering must have used BigMac for the accused products to complete the necessary VPC data transfer functions (Tr. 363:18–366:18), Plaintiff's analysis of how the accused products' use of BigMac met the claim elements extended to VPC Peering. Thus, the small portion of testimony that was dedicated to VPC Peering was sufficient to connect the VPC Peering theory to the larger BigMac theory and the evidence supporting it. Plaintiff did not abandon the VPC Peering theory at trial, because VPC and CloudFront relied on VPC Peering for data transfers between VPCs, and VPC Peering and BigMac relied on each other for these data

transfers, Plaintiff offered substantial evidence from which a reasonable jury could conclude that Defendant infringed through the use of the VPC Peering technology.

b. Plaintiff's infringement theories were properly considered by the jury

Defendant argues that various theories underlying Plaintiff's infringement argument were not disclosed prior to trial, and therefore, the theories should have been excluded. (D.I. 332 at 5–8). Defendant argues without these theories, Plaintiff failed to make a case of infringement. (*Id.* at 7–8).

i. VPC data transfer theory

Defendant claims that, for the first time at trial, Plaintiff argued "that any data transfer from a VPC infringes, not just data transfer using VPC Peering or BigMac." (D.I. 332 at 5). Plaintiff responds by arguing that this data transfer argument was part of its larger theory that "VPCs use BigMac and that BigMac must use VPC Peering." (D.I. 342 at 3) (emphasis removed).

Defendant identifies two places in the trial transcript where Dr. Medvidović offered testimony in support of the "any data transfer" argument. (D.I. 332 at 5 (citing Tr. 354:21–22, 502:4–7)). In neither of these instances did Defendant object to the testimony. Nor has Defendant provided any indication of objecting to this testimony at any other time before or during trial. (*See* D.I. 363). When a party "failed to raise admissibility objections at trial," the party, "as a result, has waived [or forfeited[10]] such objections for post-trial consideration" and the evidentiary

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[10] The Court of Appeals for the Third Circuit has in recent years clarified its preferred terminology in connection with waiver and forfeiture. *See United States v. Brito*, 979 F.3d 185, 189 (3d Cir. 2020). A party waives an argument when the party knows that it has the argument and chooses not to make it. A party forfeits an argument when it fails to assert it at an appropriate time. *Id.* The difference is more than semantic. Waiver means the argument cannot be raised later. Forfeiture may be excused if the error is plain. *See DLJ Mortg. Cap., Inc. v. Stevens*, ___ F.4th ___, 2026 WL 456994, at *2 (3d Cir. Feb. 18, 2026). Sometimes all the record shows is that the party did not timely raise an argument; the reason for not raising it is unexplained. In the absence of any explanation, I will refer to the failure to raise an argument or objection as a forfeiture.

"considerations do not support either a motion for JMOL or for a new trial." *Laymon v. Lobby House, Inc.*, 613 F. Supp. 2d 504, 517 (D. Del. 2009); *see Motorola, Inc. v. Interdigital Tech. Corp.*, 121 F.3d 1461, 1469 (Fed. Cir. 1997); *Caisson Corp. v. Ingersoll-Rand Co.*, 622 F.2d 672, 681 (3d Cir. 1980); *Belmont Indus., Inc. v. Bethlehem Steel. Corp.*, 512 F.2d 434, 438 (3d Cir. 1975). Thus, Defendant has forfeited its objections over the admissibility of this portion of Dr. Medvidović's testimony.[11]

ii. infringement theory on claim 6 of the '147 patent

Defendant argues that, despite it not being disclosed in his report, "Dr. Medvidović opined that BigMac and CloudFront infringed the asserted '147 claim." (D.I. 332 at 5–6).

Defendant's objections to this theory were overruled at trial. (Tr. 325:21–326:1, 407:2–9, 410:25–411:10, 480:13–481:3). There is no reason to diverge from the rulings made at trial. Within the first few pages, Dr. Medvidović's report explains that the report addresses his opinion regarding infringement of a number of patents and claims, including claim 6 of the '147 patent (D.I. 236-1, Ex. 1 (Medvidović Rpt.) ¶ 1), and that his report contains his opinion that the VPC and CloudFront products infringe the '147 patent (*id.* at ¶ 3). The report provides an analysis of how the accused products—VPC and CloudFront—necessarily use both VPC Peering (*id.* ¶¶ 537–41) and BigMac (*id.* ¶¶ 533–58). Dr. Medvidović's report then explains his opinion that the accused products infringe claim 6 of the '147 patent. (*See id.* ¶¶ 559–606). This analysis incorporates discussions from other claims and patents where his analysis dealt with VPC, CloudFront, VPC Peering, and BigMac. (*Id.* ¶¶ 559, 574, 589, 599). There are various other discussions throughout the report that support Dr. Medvidović's conclusion. (*See id.* ¶¶ 103–06

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[11] This analysis pertains only to Defendant's failure to preserve its evidentiary objections for use in its post-trial arguments. The question of preserving an argument through a proper Rule 50(a) motion—and whether the responding party's failure to object to the original Rule 50(a) motion then waived its Rule 50 waiver-defense—is a separate issue that is not relevant here.

("CloudFront . . . infringes the . . . '147 patent), ¶¶ 89–96 ("Virtual Private Cloud (VPC) infringes the Asserted Patents, including through its use of VPC Peering, Transit VPC, and BigMac Products")).

Although each aspect of Plaintiff's argument may not have been consolidated within one section of his report, Dr. Medvidović's report disclosed this argument prior to trial.

iii. automatic peering theory

Defendant raises two separate issues: the automatic-manual distinction and the expert disclosure of the BigMac-VPC Peering theory. (D.I. 332 at 6).

First, Defendant argues that Plaintiff created a new distinction between "automatic" and "manual" peering. (D.I. 332 at 6). In response, Plaintiff claims that it referenced the "automatic" and "manual" distinction to explain "that it was not relying on the manual 'five-step process' that [Defendant] focused on throughout its defense and instead was basing its infringement on 'peering . . . in the virtual, the overlay network' and that '[w]e're talking about BigMac connecting to the VPC Automatic Peering.'" (D.I. 342 at 4) (emphasis removed).

Defendant did not object to any testimony that used the automatic-manual distinction. Thus, Defendant waived (or forfeited) its post-trial arguments that the information was undisclosed and therefore improperly admitted. *Motorola*, 121 F.3d at 1469; *Caisson*, 622 F.2d at 681; *Belmont Indus.*, 512 F.2d at 438; *Laymon*, 613 F. Supp. 2d at 517. Even if an objection had been made, Defendant's argument would not support judgment as a matter of law. When "view[ing] the record in the light most favorable to [the non-moving party]," *Williamson*, 926 F.2d at 1348, the record supports Plaintiff's argument that the automatic-manual distinction was clarifying testimony in regards to his disclosed opinions on methods of VPC Peering. Thus, the automatic-manual distinction does not serve as grounds for a judgment as a matter of law.

Second, Defendant argues that Plaintiff "suggested, for the first time at trial, that BigMac is a form of VPC Peering." (D.I. 332 at 6). Plaintiff responds with references to Dr. Medvidović's report that explain the argument that BigMac must use VPC Peering, and to testimony at trial that discusses this theory in the same way. (D.I. 342 at 3).

In a *Daubert*-summary judgment motion prior to trial, Defendant attempted to exclude Plaintiff's damage's expert Dr. Cole from offering damages theories related to BigMac because his opinion rested on BigMac using a form of VPC Peering. (D.I. 148 at 30–35). After oral argument on the motion, the parties submitted letters detailing their perspectives regarding the theory that "when VPC is used, it infringes simultaneously through both VPC Peering and BigMac, such that the value of the four functions identified by Dr. Cole comes from both VPC Peering and BigMac." (D.I. 192 at 3; D.I. 193). In Defendant's letter, it argued that Dr. Medvidović did not disclose the underlying BigMac-VPC Peering theory. Defendant did not, however, make a motion to exclude Dr. Medvidović from testifying to the issue. (D.I. 193 at 1). In ruling on the *Daubert* motion, I noted:

> Defendant argues that Plaintiff's experts should not be permitted to present this theory at trial. While Defendant can reraise this issue at an appropriate time, I decline to address it now as it does not affect my conclusion regarding the motion [to exclude Dr. Cole's testimony] at hand. I also believe additional information and argument from the parties on the matter would be helpful.

(D.I. 219 at 30 n.17 (citation omitted)).

Prior to trial, Defendant did not raise the issue of Dr. Medvidović testifying to an undisclosed BigMac-VPC Peering theory. Nor did Defendant object to anything during Dr. Medvidović's trial testimony based on the grounds of the supposed undisclosed BigMac-VPC Peering theory. (*See* Tr. 320:25–427:25 (Dr. Medvidović's direct testimony); D.I. 363 at 3–4). It was not until Defendant made its Rule 50(a) motion—after Dr. Medvidović testified and after Plaintiff rested its case—that "Amazon wants to renew its objection that both BigMac and

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infringing the '147 patent and CloudFront infringing through its use of BigMac is a new theory that Dr. Medvidović had not disclosed." (Tr. 891:24–892:3). Although this preserved the argument to reraise it on a Rule 50(b) motion, it did not retroactively create an evidentiary objection that Plaintiff would have had a fair opportunity to address.

While the Third Circuit held that, in certain circumstances, a motion *in limine* can preserve an issue for a Rule 50(b) motion, the necessary circumstances are not present here. *Lightning Lube v. Witco Corp.*, 4 F.3d 1153, 1173–74 (3d Cir. 1993); *Repola v. Morbark Indus., Inc.*, 934 F.2d 483, 488–89 (3d Cir. 1991). It is unreasonable for Defendant to believe that its argument in the supplemental letter to its *Daubert* motion was a motion *in limine* to exclude all testimony on the BigMac-VPC Peering theory—a requirement for the evidentiary preservation exception to apply. *Lightning Lube*, 4 F.3d at 1173. The letter was submitted at the request of the Court to resolve an issue related to theories of damages, not theories of infringement, and specifically the exclusion of Dr. Cole's testimony on damages. (D.I. 190). This is also not a situation where "counsel reasonably may conclude that the court has the motion under continuous advisement and that it need not be restated." *Repola*, 934 F.2d at 488. In response to Defendant's incidental mention of Dr. Medvidović's testimony on the theory, I specifically stated that "Defendant can reraise this issue at an appropriate time." (D.I. 219 at 30 n.17). The appropriate time would have been during Dr. Medvidović's testimony. Defendant did not do that. Thus, Defendant's pre-trial motion did not preserve its evidentiary objections.

Although Defendant identifies evidence presented at trial which counters Plaintiffs BigMac-VPC Peering theory (D.I. 363 at 3), there was substantial evidence offered by both parties. Thus, it was the role of the jury to weigh the credibility of the evidence and resolve conflicts in it. *Williamson*, 926 F.2d at 1348.

iv. shardcasting theory

Defendant argues, "Dr. Medvidović also asserted a new theory that BigMac infringes based on shardcasting."[12] (D.I. 332 at 7). Defendant's post-trial briefing points to three specific issues: (1) the admission of PTX-262, (2) Dr. Medvidović's testimony, relying on the source code in PTX-262, to argue the shardcasting theory, and (3) Mr. MacCárthaigh's deposition designation discussing the source code. (*Id.*; D.I. 363 at 5). Plaintiff responds by arguing that Defendant waived the evidentiary objection by failing to object at trial. (D.I. 342 at 6–7). Plaintiff cites to portions of the record which, it argues, shows Defendant had been aware of the theory. (*Id.*).

In a *Daubert* ruling, I limited Dr. Medvidović's testimony to theories "based on use of VPC and/or Transit Gateway."[13] (D.I. 219 at 32).[14] During trial, Defendant argued that the prior "through the use of" ruling[15] should preclude PTX-262 (D.I. 269 at 2) and portions of Matthew Baldwin's deposition testimony (D.I. 264 at 1). Defendant did not simultaneously object to Mr. MacCárthaigh's deposition designations based on the "through the use of" ruling. Defendant only sought to preclude Mr. MacCárthaigh's deposition "as being excluded by the Court's September 20 rulings regarding Hyperplane (*see* D.I. 259, at 3)." (D.I. 264 at 1). When Defendant brought up these issues the morning of the first day of trial, saying "there could be objections" if Plaintiff

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[12] Defendant argues that Plaintiff introduced a portion of the source code (PTX-262) that contained a "shardcasting" function, and then Plaintiff attempted to argue that "shardcasting" satisfies the "broadcasting" claim requirement. (D.I. 332 at 7). "Shardcasting," a specific type of "sharding," is a mechanism for sending and storing data across multiple machines. (*See id.*; D.I. 342 at 6–7).
[13] Defendant refers to this ruling as the "through the use of" order. (D.I. 264 at 1; D.I. 269 at 2). Thus, I do too.
[14] My *Daubert* opinion was based on the theories disclosed in Dr. Medvidović's report. As part of my explanation, I stated that his infringement contentions "only describe the accused products as infringing through the use of VPC and/or Transit Gateway." (D.I. 219 at 32).
[15] At the same time Defendant advanced this argument, Defendant also sought to prelude the introduction of this evidence based on Federal Rules of Evidence 402 and 403 and Plaintiff's stipulation (D.I. 233) narrowing the case by withdrawing Transit Gateway. (D.I. 269 at 2).

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"rehash[ed] [settled] issues," I informed Defendant that "it's impossible to rule out all objections in advance. So things that need to be objected to need to be objected to at the correct time." (Tr. 5:11–17).

Contrary to Defendant's post-trial arguments (D.I. 363 at 5), Defendant stated, "No objection" (Tr. 378:19), when Plaintiff sought to admit PTX-262, the source code, into evidence (*id.* at 378:3–18). Defendant did not object to Dr. Medvidović's testimony on the source code in PTX-262 or his testimony on the shardcasting theory generally. Nor, at any time during trial, did Defendant object to Mr. MacCárthaigh's deposition designations based on the "through the use of" order.

Defendant waived (or forfeited) its post-trial arguments on the shardcasting theory by failing to preserve its arguments through proper evidentiary objections. *Motorola*, 121 F.3d at 1469; *Caisson*, 622 F.2d at 681; *Belmont Indus.*, 512 F.2d at 438; *Laymon*, 613 F. Supp. 2d at 517.

v. load balancing theory

Defendant argues that Plaintiff's load balancing theory was improper because the theory was based on "vague expert testimony that did not address the specific asserted limitations." (D.I. 332 at 8–9). Defendant argues Plaintiff used the theory to improperly "distill[] the case to a single question" of whether BigMac has load balancing. (*Id.*). Plaintiff responds by stating that its load balancing theory was properly disclosed prior to trial and was supported by evidence presented at trial. (D.I. 342 at 7).

Neither party devotes much space in their briefing to this issue. It appears that Defendant has two lines of argument for why the load balancing argument was improperly admitted. First, there is an evidentiary argument that testimony on load balancing should not have been admitted because it was not relevant to the claims and was not thoroughly explained in Plaintiff's experts'

reports. (*Id.*). Second, there is an argument that Plaintiff misrepresented the evidence during closing arguments. (*Id.*).

Defendant forfeited any arguments based on evidentiary issues. At trial, Defendant never objected to the load balancing theory or any discussion of it. The only objection that Defendant identified was related to an exhibit offered during trial. (D.I. 363 at 5, citing Tr. 964:15–969:9). Defendant's cited objection was that the exhibit was not listed on the exhibit list in the pretrial order (D.I. 332 at 8 (citing (Tr. 964:15–969:6), and, secondarily, was not authentic. (*Id.*). Therefore, Defendant cannot argue, for the first time in post-trial motions, that the testimony or other evidence was improperly admitted. *Motorola*, 121 F.3d at 1469; *Caisson*, 622 F.2d at 681; *Belmont Indus.*, 512 F.2d at 438; *Laymon*, 613 F. Supp. 2d at 517.

Defendant did not object to anything Plaintiff stated in its closing argument until Defendant filed the current motion. (*See* Tr. 1172:4–1203:9, 1230:24–1235:1 (Plaintiff's closing), 1204:4–1230:16 (Defendant's closing)). Defendant cannot argue, for the first time in post-trial motions, that Plaintiff's argument was improper. *Motorola*, 121 F.3d at 1469; *Caisson*, 622 F.2d at 681; *Belmont Indus.*, 512 F.2d at 438; *Laymon*, 613 F. Supp. 2d at 517. Defendant's objections are forfeited.

But even if Defendant had preserved the objection, Plaintiff's statements in closing argument were proper.[16] During the weeklong trial, Plaintiff built a case from the theory that the accused products infringed through the use of VPC Peering. To argue VPC Peering infringed, Plaintiff looked to other technologies used by or with VPC Peering, including BigMac and load balancing. Plaintiff's closing argument must be considered in light of the trial testimony.

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[16] One of the reasons that courts do not take kindly to the raising of forfeited arguments is that a timely objection often can be fairly resolved with some less drastic remedy than granting a new trial or reversing a jury verdict.

Plaintiff's closing infringement argument relied on the accused products' use of, and the interactions between, multiple technologies. The specific uses of load balancing—something that the parties presented conflicting evidence on—were necessary to connect the accused products to their uses of other technologies and explain how the products met the claim limitations. Thus, when Plaintiff ended its closing argument by emphasizing the conflicting evidence on load balancing, Plaintiff's argument was that load balancing was necessary, but not sufficient by itself, for a finding of infringement.

I thus find that Defendant has failed to prove that Plaintiff's infringement case was made with any improper argument. Defendant's improper argument theory, therefore, provides no basis for any relief and does not support its overall argument that Plaintiff failed to prove infringement at trial.

c. Plaintiff did not fail to prove any element of infringement

Defendant argues that Plaintiff failed to prove infringement. Defendant identifies four claim limitations and one timing issue that it argues Plaintiff did not prove. (D.I. 332 at 17–21). Defendant asserts that it is entitled to a new trial or judgment as a matter of law based on any one of these five arguments. (Id.). Plaintiff responds that the five issues were evidentiary disputes, and it argues that Defendant's "disagreement with the jury's resolution of these factual disputes in favor of [Plaintiff] is not valid grounds for JMOL or a new trial." (D.I. 342 at 7).

i. broadcast channel

Each asserted claim requires a "broadcast channel," which I construed as, "An overlay network of interconnected computer/participants where each computer/participant receives all data broadcasted on the network." (D.I. 332 at 17–18 (quoting D.I. 81 at 3)). Defendant argues that Plaintiff failed to show that VPC Peering and BigMac meet the claim requirements for "broadcast

channel" because there was "undisputed evidence at trial that showed each participant in VPC and BigMac networks does not receive all broadcast data." (*Id.* at 18). Plaintiff responds by citing portions of Dr. Medvidović's testimony which "applied the Court's construction of broadcast channel and broadcasting and explained how the accused products meet those constructions by sending all broadcasted data to each participant." (D.I. 342 at 8).

I agree with Plaintiff. The Court "must not determine credibility of witnesses, and must not substitute its choice for that of the jury between conflicting elements in the evidence." *Perkin-Elmer*, 732 F.2d at 893. Plaintiff presented substantial evidence that the accused products used broadcast channels. The disputed part of the "broadcast channel" construction is whether all participants receive all broadcasted data. Dr. Medvidović testified: "[E]ach one of the participants receives all of the data through the process of kind of receiving some of the data, sending it out through its connections, receiving others through other connections." (Tr. 392:10–12; *see* Tr. 390:14–396:6; *see also* Tr. 348:13–349:4, 355:7–21, 360:8–19; 374:23–380:6 (discussing PTX-262 (source code))). Each party's expert presented testimony on the claim requirement, and the jury was free to resolve conflicting evidence. Considering "the evidence in a light most favorable to the non-mover," *Perkin-Elmer*, 732 F.2d at 893, it was not unreasonable for the jury to determine that the accused products satisfy the claim requirements for "broadcast channel" because all participants receive all the data, either directly or indirectly.

ii. broadcasting

Defendant claims that both asserted claims require "broadcasting," which Defendant argues the parties agree requires "that data is sent to every other participant on the network." (D.I. 332 at 18). Defendant argues that Plaintiff failed to prove infringement because it offered testimony that data could be sent to specific users and it did not refute the testimony offered by

Defendant. (*Id.*). Plaintiff responds with the same argument it advanced for "broadcast channel," citing portions of Dr. Medvidović's testimony which explained how the accused products meet the claim constructions for broadcasting. (D.I. 342 at 8).

Defendant claims that "the parties agree" to the meaning of "broadcasting." (D.I. 332 at 18). However, Defendant's only cited support for this is a reference to claim 12 of the '966 patent and claim 6 the '147 patent. (*Id.* at 18 n.90). Neither dependent claim 12 nor independent claim 1 of the '966 patent use the term "broadcasting" at all. (('966 patent, col. 30, lines 2–13, 37–39). While claim 6 of the '147 patent does require "broadcasting" ('147 patent, col. 29, lines 12–25), no one asked me to construe the term "broadcasting" and so I did not construe it. (*See* D.I. 81 (claim construction order)). Defendant acknowledged this lack of construction during its opening statement at trial. (Tr. 145:18–24). I will not construe the term for the first time in a post-trial opinion. Nonetheless, it seems likely that a person of ordinary skill in the art would understand the plain and ordinary meaning of "broadcasting" to be a necessary action of the "broadcast channel."[17] Thus, as part of the jury's conclusion that "broadcast channel" was met, "broadcasting" was also met.

None of Defendant's arguments on broadcasting change this conclusion. The testimony of Plaintiff's technical expert, Mr. Bims, which Defendant argues demonstrates that data is sent to "a specific destination address" (D.I. 332 at 18), is not inconsistent with the "broadcast channel" requirement. This section of Mr. Bims' testimony discussed the general concept of "broadcast, not broadcast channel." (Tr. 229:19). Other aspects of Plaintiff's evidence directly supported its theory for how data is sent to all participants on a broadcast channel. (*See* Tr. 374:23–380:6

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[17] "Broadcast channel" was construed to mean "An overlay network of interconnected computers/participants where each computer/participant receives all data *broadcasted* on the network." (D.I. 81 at 3 (emphasis added)).

(discussing PTX-262 (source code)); *see also* Tr. 360:8–19, 390:14–396:6). In a case like this with substantial evidence presented by both parties, it is the role of the jury to resolve conflicts between the evidence presented. *Pitts*, 4 F.3d at 155; *Perkin-Elmer*, 732 F.2d at 893.

For the reasons stated above, I find that Plaintiff's evidence is "substantial evidence" from which a reasonable jury could conclude that the accused product meets the claim requirement for "broadcasting." *Perkin-Elmer*, 732 F.2d at 893.

iii. m-regular

Both asserted claims require the networks to be "m-regular," which I construed as meaning "a state the network is configured to maintain, where each participant is connected to exactly 'm' neighbor participants." (D.I. 332 at 19 (quoting D.I. 81 at 2)). Defendant argues that Plaintiff has failed to prove infringement because evidence showed that the user determines the number of VPC connections that BigMac can have, allowing for a non-m-regular connection. (*Id.*). Defendant argues that it is entitled to "post-trial relief" because Dr. Medvidović offered contradictory testimony regarding the number of connections VPC Peering and BigMac can have. (*Id.* at 19–20).

Plaintiff responds that Dr. Medvidović discussed the m-regular limitation and how BigMac meets this requirement. (D.I. 342 at 8). Plaintiff argues that Dr. Medvidović's discussion on users' ability to set the number of connections was related to manual VPC Peering, which, Plaintiff argues, is not relevant to whether the claim element is met. (*Id.* at 8–9).

At trial, Plaintiff's expert Dr. Medvidović provided testimony explaining his opinion on how the accused products meet the m-regular requirement through the use of load balancing and shardcasting, technologies that relied on BigMac. (Tr. 380:7–381:16). Referring to PTX-252, PTX-274, and PTX-257, Dr. Medvidović explained how BigMac uses ENI to create an equal

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number of connections through load balancing; thus, Dr. Medvidović argued, the accused products meet the m-regular requirement. (Tr. 281:18–290:10). As part of this, Dr. Medvidović also explained his opinion that the default number of connections is five. (Tr. 285:25–289:15).

None of the inconsistencies that Defendant identifies are such clear inconsistencies that a reasonable jury could not find that Plaintiff demonstrated, with substantial evidence, that the m-regular requirement was met. Dr. Medvidović's testimony only described an ability for users to change the default number of connections, not an ability to avoid the m-regular requirement. (Tr. 288:20–290:10). A reasonable jury could believe Dr. Medvidović's testimony that the m-regular requirement is met was consistent with his testimony that users can set a maximum number of connections. When supported by his theory that "overlay network connections . . . and physical connections" are different (Tr. 488:5–7), Dr. Medvidović's testimony regarding the number of connections a Virtual Machine ("VM") in a BigMac VPC can have to customer VPCs was not inconsistent with his other testimony that discussed physical connections. This dispute is one that goes to the credibility of the witnesses and the evidence presented, which is a conflict left for the jury to decide. *Pitts*, 4 F.3d at 155; *Perkin-Elmer*, 732 F.2d at 893.

A reasonable jury could find that Plaintiff's evidence proved that the accused products met the m-regular requirement. As the jury's conclusion was reasonable based on the substantial evidence presented at trial, judgment as a matter of law is not warranted.

iv. healing

Claim 6 of the '147 patent requires "broadcasting from the first computer a connection port search message indicating that the first computer needs a connection" ('147 patent, col. 29, lines 20–23), a process Plaintiff refers to as "healing." (D.I. 332 at 20; *see* '147 patent, col. 29, line 12). Defendant argues that Plaintiff did not show VPC Peering or BigMac meet this requirement

because there was no evidence that the Port Search Messages originates from a participant in the broadcast channel. (*Id.*). Defendant argues that Plaintiff failed to prove infringement as it relates to BigMac because Plaintiff argued that BigMac "heals" through a mechanism other than broadcasting.[18] (*Id.* at 20–21). Defendant argues that Plaintiff did not address whether VPC Peering connections are healed. (*Id.*). Plaintiff responds by arguing that Dr. Medvidović testified how the accused products meet the healing requirement, and by identifying evidence presented at trial that, it argues, supports its healing theory. (D.I. 342 at 9–10).

Contrary to Defendant's focus on the Port Search Messages, Dr. Medvidović testified that multiple steps, beyond just Port Search Messages, were involved in the "healing" process. (*See* Tr. 401:2–423:18). At trial, Dr. Medvidović described what healing is and its relationship to the broadcast channel and m-regularity (Tr. 397:18–408:14), how health-check messages are sent between computers on the network through FREP Packets (Tr. 408:15–410:9), how connection port search messages identify and replace missing connections (Tr. 410:10–419:7), and how computers are connected to maintain m-regularity (Tr. 419:8–423:18). Dr. Medvidović began by explaining that health check messages in VPC and CloudFront are sent over a broadcast channel (Tr. 407:22–25), then discussing how there "are two examples of messages" that CloudFront and VPC use in the healing process (Tr. 406:18–407:5, 409:8–9). FREP Packets, one type of message, are used to send the results of an individual VM's health checks. (Tr. 409:6–410:4). Port Search Messages, the other type of message, are used when a VM in the broadcast channel cannot receive other health check messages or needs to be removed. (Tr. 410:20–24). Dr. Medvidović testified

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[18] Defendant argues that this alternative theory of healing should be excluded because it was not disclosed prior to trial. (D.I. 332 at 21). Defendant's undisclosed healing argument is part of its larger argument on an undisclosed theory regarding infringement of claim 6 of the '147 patent. (D.I. 332 at 20). As addressed above, Plaintiff's arguments were properly disclosed.

that Port Search Messages are sent "to find another Top to be able to rebalance the network." (Tr. 412:18–19). There is no reason to believe that Dr. Medvidović's testimony connecting health check messages to the broadcast channel only applied to one type of health check message.

Plaintiff provided evidence that accused products heal through BigMac by providing testimony from Dr. Medvidović explaining how the BigMac source code enables BigMac to complete the healing requirement. (Tr. 404:9–407:5). Plaintiff's burden was to show that VPC and CloudFront infringed through the use of VPC Peering and BigMac. Plaintiff met this burden for the healing element by offering evidence that both accused products use a broadcast channel for healing (Tr. 401:5–9, 407:22–23, 408:7–12) and evidence that BigMac enables healing (Tr. 404:9–407:5). As previously addressed, Plaintiff's infringement theory rested on VPC Peering and BigMac working together for data transfers between VPCs. Thus, there was no obligation for Plaintiff to identify whether VPC Peering connections are healed.

This testimony, supported by multiple exhibits including the source code, created substantial evidence from which a reasonable jury could conclude that the accused products meet the healing requirement of the infringement claim.

v. patent expiration

The '966 patent expired on November 10, 2021, and the '147 patent expired on July 20, 2022. (D.I. 149-1, Ex. 11 ¶ 249). Defendant argues it is entitled to a new trial or judgment as a matter of law because Plaintiff did not prove that CloudFront or VPC infringed the asserted patents prior to the expiration of either patent. (D.I. 332 at 21). Specifically, Defendant argues that the only evidence Defendant's products infringed was during the 2024 Olympics, after the patents had expired. (*Id.*). Plaintiff responds by arguing that it offered evidence showing that Defendant

introduced various technologies into VPC and CloudFront during the relevant period, and the new

technologies used relied on BigMac to function. (D.I. 342 at 10).

Plaintiff points to testimony it offered at trial that explained that certain outside

technologies—such as Regional Edge Caches, NAT Gateway, Privatelink, and Gateway Load

Balancer—were introduced into the accused products at various times from 2015 to 2017. (Tr.

342:17–345:2, 358:6–359:14, 430:2–9). The introduction of these technologies during the relevant

time frame was supported by Defendant's corporate documents that showed the dates the

technologies were released. (*See* D.I. 343-2, Ex. 5 (PTX-257) at 4, 7–10). Dr. Medvidović

testified that these new technologies relied on BigMac to function and were implemented into the

accused products to enable or improve certain infringing features.[19] (Tr. 353:16–354:6).

Defendant's technical documents (*see id.*, Ex. 3 (PTX-254), and deposition testimony from

Defendant's employees confirmed Dr. Medvidović's testimony on how the technologies

functioned (*see* Tr. 260:21–17, 270:18–273:19, 273:21–277:13). Plaintiff argues that this evidence

demonstrates that the infringing aspects of VPC and CloudFront were used prior to the patents'

expiration, and that BigMac enabled the infringing features. This evidence goes beyond Plaintiff's

example of the 2024 Olympics—an example that was clearly intended to convey how the accused

products have day-to-day uses, not as evidence to show date of infringement.

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[19] Dr. Medvidović explained how Regional Edge Caches are used to increase the speed for locating
available VMs during the healing process. (Tr. 403:12–24). He explained that NAT Gateway
relies on BigMac for functionality and is used to implement Elasticast in VPCs to "spread [data]
across all the instances that it's attached to." (Tr. 368:4–17). He testified that Gateway Load
Balancer relied on BigMac for functionality and works to balance the work across all participants
in a network. (Tr. 353:16–17, 354:2–6). Dr. Medvidović explained how Private Link allows
information to be sent across privately sent across VMs using BigMac and VPC Peering. (353:23–
25, 366:5–13).

Plaintiff argues that the accused products infringed prior to the expiration of the patents because there was no evidence presented at trial demonstrating that any infringing functionality was added to the accused products after the patents expired. (D.I. 342 at 11). Defendant does not refute this in its reply; instead, Defendant argues that it is Plaintiff's burden to prove timing of infringement. (D.I. 352 at 5–6). Defendant is correct that it is a plaintiff's burden to prove infringement during the relevant time period.

This case involves an unusual set of arguments related to the timing of infringement. As part of the license defense, Defendant argued that The Boeing Company used Defendant's VPC and CloudFront products prior to December 2014. (Tr. 844:5–852:7). This argument required Defendant to prove, among other things, that VPC and CloudFront infringed the patents prior to 2014. The jury determined that Defendant did not meet the burden of proving the license defense, but that determination did not require the jury to find that VPC and CloudFront did not infringe prior to 2014.[20] Thus, the evidence Defendant offered in support of its license defense, including examples of Defendant's own use of the products during the time period, provides additional support to Plaintiff's argument.

Considering the evidence presented by both parties, I find that Plaintiff presented substantial evidence which a reasonable jury could use to conclude that Defendant infringed prior to the patents' expiration.

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[20] The jury's verdict was not logically inconsistent. Plaintiff's arguments against Defendant's license defense were focused on (1) Defendant's failure to identify The Boeing Company's use of the specific VPC and CloudFront services that used VPC Peering and BigMac, and (2) Defendant's failure to distinguish The Boeing Company's use of the products from subsidiaries or affiliates' use of the products. (Tr. 873:18–877:23, 884:5–887:17, 1099:3–12). As such, the jury could have rejected Defendant's license defense for reasons unrelated to whether VPC and CloudFront infringed prior to 2014.

For the reasons stated above, I deny Defendant's motion for judgment as a matter of law based on the argument that Plaintiff failed to prove infringement at trial.

2. A Reasonable Jury Could Find Plaintiff Proved Damages at Trial

Plaintiff filed suit on July 6, 2022. The '966 patent expired November 10, 2021; the '147 patent expired on July 20, 2022. (*See* D.I. 283 at 18; *see also* 219 at 2, 22–27). At trial, Plaintiff's damages period for CloudFront was limited to March 13, 2019, to the expiration of the patents, and for VPC was from July 6, 2022, to expiration of the '147 patent.[21] (D.I. 283 at 18). The jury's $30.5 million damages award consisted of $29.5 million for CloudFront's infringement and $1 million for VPC's infringement. (D.I. 286).

Defendant argues that Plaintiff failed to apportion damages generally and failed to prove damages for CloudFront. (D.I. 332 at 10–17). Defendant proposes that, if the Court sustains the infringement findings, a remittitur limiting damages to $255,000 to account for a one-time royalty payment for "170 days of damages for CloudFront, based on its use of VPC, and for 15 days of damages for use of VPC."[22] (*Id.* at 17). At most, Defendant claims damages should be limited to

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[21] I note an issue that neither party raises. The final verdict form is imprecise in its transition from Question 5 to Question 6. The transition suggests that damages could be awarded for VPC's infringement of the '966 patent. (D.I. 286 at 3). Neither party objected to this aspect of the final verdict form. (*See* Tr. 1131:3–1145:6). The final jury instructions made it clear that the '966 patent had expired on November 10, 2021, before the start of the damages period for VPC. (D.I. 283 at 18). Similarly, the final jury instructions were clear that the damages period for VPC's infringement of the '147 patent was only fifteen days. (*Id.*). Although I note the issue, I do not think I need to take any action in regard to it. Aside from rare exceptions not raised here, "juries are presumed to follow their instructions." *Richardson v. Marsh*, 481 U.S. 200, 211 (1987). "By altering the jury's verdict, the District Court [would] err[] in assuming that the jury ignored its instructions and acted improperly." *Hawa Abdi Jama v. Esmor Corr. Servs.*, 577 F.3d 169, 184 (3d Cir. 2009).

[22] Defendant's argument is based on testimony from its damages expert, Lauren Kindler. During trial, Ms. Kindler testified that the evidence does not show that CloudFront infringed through the use of VPC until February 2022. (Tr. 1065:19–1066:14, 1066:20–22). Although Ms. Kindler discussed CloudFront's use of VPC, it appears "VPC" was either used as a proxy for VPC Peering or as an argument that Plaintiff's theory of infringement (that CloudFront used VPC) did not begin until February 2022. Ms. Kindler then testified that "for VPC peering, that damages period . . .

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the $1 million the jury awarded for VPC damages alone, excluding damages for the CloudFront theory. (*Id.*).

a. Plaintiff did not improperly rely on VPC Peering to calculate damages

Defendant argues that since Plaintiff failed to prove that VPC Peering infringed, Plaintiff improperly relied on evidence concerning VPC Peering to calculate damages. (*Id.* at 10–11). Defendant claims that the testimony of Mr. Gunderson, one of Plaintiff's damages experts, was improperly admitted at trial based on the Court's September 12th order which precluded his damages testimony unless both the VPC Peering and BigMac infringement theories were proven. (*Id.* at 11). Plaintiff responds that Defendant's argument is "based entirely on its incorrect claims that '[Plaintiff] did not attempt to show VPC Peering infringed at trial.'" (D.I. 342 at 11 (citing D.I. 332 at 10)).

The opinion accompanying the September 12 Order stated that "preclusion [for failure to apportion] is only proper in the scenario where one, but not the other, of these [VPC Peering and BigMac] services is found to be a basis for infringement." (D.I. 219 at 30). As previously addressed, Plaintiff presented substantial evidence from which a reasonable jury could conclude that VPC and CloudFront infringed through the use of both VPC Peering and BigMac. *See supra* at pp. 11–30. Thus, damages could properly be calculated with reference to VPC Peering and Mr. Gunderson's testimony was not inconsistent with what I stated in the September 12 Opinion. "Once a district court has determined the expert's methodology is reliable, challenged testimony

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starts July 6th, 2022" and ends on July 20, 2022. (Tr. 1066:15–17). It is not clear whether Ms. Kindler intended "VPC Peering" to refer to Defendant's VPC product or if she was attempting to allocate damages specifically for the use of VPC Peering. As such, it is unclear how Defendant's proposal apportions damages or avoids double counting damages for the fifteen days of overlap between the two damages amount. This was not explained in Defendant's post-trial briefing. (D.I. 332 at 17; D.I. 352 at 6–11).

does not become unreliable simply because a party believes an expert should have presented information to the jury differently." *Willis Elec. Co. v. Polygroup Ltd.*, 166 F,4th 1363, 1377 (Fed. Cir. 2026).

b. Plaintiff properly used the hypothetical negotiation date

Defendant argues that Plaintiff contradicted the hypothetical negotiation date by presenting evidence that points to varying dates infringement beginning on. (D.I. 332 at 11). Therefore, Defendant argues, Plaintiff's reliance on the hypothetical negotiation date resulted in a miscalculation of damages. (*Id.* at 11–12). Plaintiff argues that Defendant stipulated to the hypothetical negotiation date and did not object to that date when used during trial. (D.I. 342 at 12–13). Thus, Plaintiff argues, Defendant waived its argument regarding the date of infringement. (*Id.*).

I find that Plaintiff is correct on the issue of hypothetical negotiation date. The parties had stipulated that the hypothetical negotiation would have occurred in August of 2011, and that the negotiation would have been between Plaintiff and Boeing. (D.I. 211-1, schedule A, ¶¶ 22–23). "A stipulation of fact that is fairly entered into is controlling on the parties and the court is generally bound to enforce it." *Ring & Pinion Serv. Inc. v. ARB Corp. Ltd.*, 743 F.3d 831, 836 (Fed. Cir. 2014). Defendant does not assert that the stipulation was not freely and fairly entered into, nor did Defendant attempt to withdraw the stipulation. Thus, it was not improper for Plaintiff to use the stipulated hypothetical negotiation date.

Defendant's argument that Dr. Medvidović presented contradictory testimony on when infringement began is unconvincing. The parties stipulated to the 2011 hypothetical negotiation date and the stipulation was presented to the jury. (Tr. 704:21–25). Dr. Medvidović testified that certain infringing functionalities used by VPC and CloudFront, which he discussed at trial, were

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introduced in 2015, well after the stipulated hypothetical negotiation date of 2011. (Tr. 490:1–491:22). He testified that his report stated his overall opinion that the first infringement was based on the release of VPC Peering in 2011, but he asserted that that opinion in his report was based on functionality he had not discussed at trial.[23] (*Id.*; *see also* Tr. at 342:17–345:2, 430:2–9, 604:3–18). The Federal Circuit has explained that "testimony based on correct underlying data is not rendered inadmissible merely because the expert could have described [his] characterization to the jury more precisely." *Willis Elec. Co.*, 166 F.4th at 1378. Thus, it was the jury's role, not the Court's, to consider any contradictory testimony when determining the credibility of each witness and the weight of each witness's testimony. *Pitts*, 4 F.3d at 155; *Perkin-Elmer*, 732 F.2d at 893.

c. Plaintiff apportioned damages

Defendant argues that Plaintiff did not apportion damages between VPC Peering and BigMac. (D.I. 332 at 11–12). Defendant argues that Plaintiff's damages for CloudFront were based on "all data transfer" done by CloudFront, which Defendant asserts improperly included data transfers through the infringing products and data transfer completed through non-infringing means. (*Id.* at 12–14). Defendant raises an issue with Mr. Gunderson's calculation of expenses without providing evidence that each expense was completely attributable to VPC Peering or BigMac. (*Id.* at 14–16).

Plaintiff responds that Mr. Gunderson only relied on "CloudFront's usage of VPC data transfer functionality" which only includes Defendant's infringing use of VPC. (D.I. 342 at 15). Plaintiff also argues Mr. Gunderson relied on Dr. Medvidović's opinion that "CloudFront always used BigMac when it transfers data using VPC" and other evidence presented during trial which

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[23] The relatively last-minute narrowing of the case meant that some theories and accused products were dropped, and, it appears, that was the stated basis for Dr. Medvidović's change to the date of first infringement. (*See* Tr. 490:17–24, 491:9–22).

demonstrated that VPC Peering works within BigMac. (*Id.* at 15–16). Plaintiff responds to the expense argument by explaining that Mr. Gunderson removed non-infringing expenses from the calculation. (*Id.* at 17).

Mr. Gunderson calculated a royalty base of $336.9 million. (Tr. 748:16–17). This royalty base included three components: (1) $226.2 million attributed to third-party customers of CloudFront, (2) $99.7 million attributed to consumer, digital, and other ("CDOs") customers of CloudFront, which Mr. Gunderson limited to Prime Video, Twitch, and Luna (Tr. 721:13–17), and (3) $11 million attributed to "VPC itself." (Tr. 748:19–23). Mr. Gunderson explained that the numbers were apportioned.

For third-party customers, Mr. Gunderson explained that he calculated the royalty base by using Defendant's North American CloudFront Profit and Loss spreadsheet. (Tr. 751:4–752:13). Mr. Gunderson explained he only included costs from March 13, 2019, to July of 2022 to reflect the infringement period. (Tr. 752:14–18). "Costs" represented the "value that has been given for those services" by Defendant. (Tr. 748:8–9). The costs included the value Defendant believed it received from services that were used internally or otherwise were not directly attributable to externally generated revenue. (Tr. 747:24–748:10). Of the costs recorded during this date range, Mr. Gunderson testified that he used three specific costs reflected on the spreadsheet—the IP transit, the backbone, and intergroup variable costs—because they were the only costs that were attributable to CloudFront data transfer. (Tr. 752:14–25). Mr. Gunderson explained that he included the IP transit and the backbone costs based on Mr. Gasper's testimony and he included the intergroup variable costs based on Mr. Gasper's testimony and discussions with technical experts. (Tr. 753:1–7). Mr. Gunderson explained that there were other cost categories on the spreadsheet which he did not include in his calculations because the costs either did not deal with

data transfer or there was not enough evidence to be sure the cost was attributable completely to data transfer. (Tr. 753:12–22). This calculation resulted in a royalty base of $226.2 million for the portion representing third-party use. (Tr.784:19–20).

To calculate the royalty base for the CDOs, Mr. Gundersen explained that he used spreadsheets provided by Defendant that included the gigabytes transferred for Prime Video, Twitch, and Luna, and the "internal infrastructure market rate." (Tr. 758:7–20). Mr. Gunderson explained that he included all CDO data transfer for the three services in his calculation based on Dr. Cole and Dr. Medvidović's testimony regarding all data transfers of this type using CloudFront. (Tr. 754:20–755:3). Mr. Gunderson identified the total gigabytes of data transferred during the relevant period of infringement, and he multiplied both the gigabytes transfers in and gigabytes transfers out by the internal infrastructure market rate. (Tr. 755:4–756:9). Mr. Gunderson testified that by using the internal infrastructure market rate, he apportioned the total gigabytes of data transferred to reflect use of CloudFront. (Tr. 754:8–10). Mr. Gunderson explained that this calculation was a conservative amount as it did not include all CDOs and it did not attempt to account for the highly discounted rates. (Tr. 757:6–24). This calculation resulted in a royalty base of $99.7 million for the portion representing CDO use. (Tr.784:20–21).

To calculate the portion of the royalty base attributable to VPC, Mr. Gunderson explained that he relied on public information for the data transfer pricing per region and information provided by Defendant for data use by region and average discount per region. (Tr. 759:11–23, 760:12–15). Mr. Gunderson explained that for each of the four regions Defendant identified, he multiplied the July usage by the price per region and then adjusted according to the average discount Defendant identified. (Tr. 759:11–23). Mr. Gunderson explained that this calculation resulted in $51 million, which he then prorated to account for the 15 days of use between when

the infringement began and when the patent expired, resulting in a total of $24.8 million. (Tr. 760:2–6). Mr. Gunderson then used the apportionment rate Dr. Cole identified[24] which resulted in $11 million for the royalty base attributable to VPC. (Tr. 760:6–9).

Ultimately, the issue of apportionment rests on each party's arguments regarding the relationships between VPC Peering, BigMac, CloudFront, and VPC. As previously addressed, Plaintiff presented substantial evidence from which a reasonable jury could conclude that CloudFront necessarily uses VPC, and since VPC necessarily uses VPC Peering for VPC data transfers, CloudFront necessarily uses VPC Peering. *Supra*, pp. 12–18. Similarly, Plaintiff presented substantial evidence from which a reasonable jury could conclude that the VPCs used in Defendant's CloudFront product necessarily use BigMac for VPC data transfers within an individual VPC network. *Supra*, pp. 12–18. Thus, Plaintiff properly apportioned for CloudFront and VPC's infringement "through the use of" VPC Peering and BigMac. By calculating a royalty base comprised of three components—third-party use of CloudFront, CDO use of CloudFront, and VPC itself—Mr. Gunderson was able to apportion each component to reflect VPC data transfers. (Tr. 748:16–760:9). Mr. Gunderson's trial testimony supports Plaintiff's argument that his

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[24] Dr. Cole explained that he used Defendant's publicly available document that explained the ten features of VPC. (Tr. 568:18–25, 570:2–17). After reviewing the ten features described in the document and referencing the source code and other testimony, Dr. Cole determined that the "IP Addressing" and the "Flow Logs" features "had a lot of overlap." (Tr. 572:18–23). Dr. Cole explained that he combined these two features, for a total of nine features of VPC, to avoid overcounting. (Tr. 572:24–573:5). Using Dr. Medvidović's testimony on infringement, Dr. Cole identified four of the VPC features—"IP Addressing/Flow Logs; Ingress Routing; Network Manager; [and] Traffic Mirroring"—which depend on infringement. (Tr. 573:6–9). Dr. Cole testified that these four features were "the foundational features of VPC" such that the product would not work without them. (Tr. 573:10–20). Dr. Cole argued that since these four features were necessary for the VPC product to function, they likely create more value to VPC than the other features. (Tr. 574:5–15). However, Dr. Cole explained that he took a "conservative" approach "out of an abundance of caution" and gave "them all the same weight." (Tr. 574:16–20). As such, Dr. Cole determined that four ninths, or 44.44%, of the VPC product was attributable to Defendant's infringement. (Tr. 574:21–25).

calculations were based only on CloudFront's usage of VPC data transfer—the type of data transfer that Plaintiff argued throughout the trial infringes on the patents through the use of BigMac and VPC Peering—and did not include any uses of CloudFront that involved other VPC features. (*See* Tr. 758:21–759:4, 806:12–807:18). Mr. Gunderson also testified that he removed expenses when necessary. (Tr. 751:11–12, 753:8–22). Thus, Mr. Gunderson's calculations properly accounted for only the infringing aspects of VPC data transfers.

"It [is] clear . . . when assessing the reliability of [Mr. Gunderson's] methodology that [Mr. Gunderson] did not include in [his] analysis [products] that fell outside the scope of [the accused claims]." *Willis Elec. Co.*, 166 F.4th at 1378. Defendant was free to, and did, cross-examine Mr. Gunderson regarding this testimony (Tr. 766:11–780:6); and Defendant was free to, and did, offer evidence rebutting Mr. Gunderson's calculation and apportionment (Tr. 859:7–862:21). *Willis Elec. Co.*, 166 F.4th at 1386. "That competing experts reached different royalty conclusions does not establish the unreliability of either analysis; disagreement alone, without a separate basis for finding unreliability, merely leaves the question of which analysis to credit to the jury." *Id.* at 1375; *Pitts*, 4 F.3d at 155; *Perkin-Elmer*, 732 F.2d at 893. Based on the evidence presented at trial, the jury could have concluded that Mr. Gunderson persuasively calculated a reasonable royalty.

For the reasons stated above, I find that Plaintiff had properly proved damages at trial and had properly apportioned the damages according to a theory of infringement with which the jury ultimately agreed. A judgment as a matter of law based on damages is not warranted. Similarly, remittitur on CloudFront damages is not proper because Plaintiff presented substantial evidence which a reasonable jury could use to conclude that CloudFront, as used in Plaintiff's calculations, reflected the damages attributable to VPC Peering and BigMac.

3. A Reasonable Jury Could Find that Defendant Did Not Prove Its License Defense

At trial, Defendant asserted its "license defense," arguing that it was protected from infringement claims by virtue of the 2010 Boeing-Amazon Agreement. (D.I. 149-1, Ex. 3). Before trial, I ruled that the 2010 Boeing-Amazon Agreement bars infringement claims against Defendant for services that Boeing used before selling the asserted patents in December of 2014. (D.I. 219 at 20–22). The 2010 Boeing-Amazon Agreement only applied to services used by Boeing, not its affiliates. (*Id.* at 20). Defendant argues that it is entitled to judgment as a matter of law because Plaintiff did not contest Defendant's testimony or business record that supported the argument that Boeing used VPC and CloudFront prior to December 2014. (D.I. 332 at 22–23).

Plaintiff responds that it was Defendant's burden to prove its license defense. (D.I. 342 at 20). Plaintiff argues that "any basis which a reasonable jury could have rejected the defense is sufficient to dictate denial" of the motion. (*Id.* (internal quotation omitted). Plaintiff asserts that, even if Defendant showed one of the specific products was used, Defendant had not presented evidence to show The Boeing Company, as opposed to one of its affiliates or subsidiaries, used the product(s). (*Id.* at 22–24).

I find that a reasonable jury could conclude that Defendant did not meet its burden of proving that the 2010 Boeing-Amazon Agreement barred the infringement claims. While Defendant argues that its witness Mr. Gasper offered "uncontradicted and unimpeached" testimony that the Boeing Company used VPC Peering and CloudFront (D.I. 332 at 22), it was the jury's role to determine the credibility and value of the testimony. *Pitts*, 4 F.3d at 155; *Perkin-Elmer*, 732 F.2d at 893. Given Mr. Gasper's admission that the records he was relying upon may have used "VPC" and "CloudFront" to reference non-infringing uses of the products or to reference other products and services (Tr. 887:4–10), the jury could have reasonably concluded

this evidence was not sufficient to show that Boeing generally or The Boeing Company specifically used the infringing products.

Thus, Defendant's license defense arguments do not support its motion for judgment as a matter of law.

4. A Reasonable Jury Could Find that Plaintiff Proved Willful Infringement

The jury found that Defendant's CloudFront product willfully infringed both asserted claims. Defendant argues that it is entitled to judgment as a matter of law because no reasonable jury could find that it knew of the infringement. (D.I. 332 at 21). As support, Defendant cites to the Court's summary judgment ruling which granted a judgment of no willfulness for the non-CloudFront products. (*Id.* at 22 (citing D.I. 219 at 28)). Defendant argues that the evidence of the March 2019 letter[25] and testimony that Defendant did not interview engineers who worked for it shows, at most, Defendant only knew of the existence of the patents, not of the infringement. (*Id.*).

Plaintiff responds by summarizing the timeline of events between the parties to argue that it placed Defendant on notice of infringement. (D.I. 342 at 19). Plaintiff argues that it was not required to explain to Defendant the details of why CloudFront infringed in order for Defendant to be on notice. (*Id.* at 19–20).

Defendant's argument that the Court previously granted summary judgment on the issue is misleading. Summary judgment of no willful infringement was only granted for the '344 patent— a patent that was not in dispute by the time of trial. (D.I. 219 at 28). Aside from the '344 patent, my opinion on summary judgment stated:

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[25] As the parties refer to this as the "2019 letter," I do too. This letter, sent from Plaintiff to Defendant, states Plaintiff's belief the Defendant's CloudFront product infringed a number of patents owned by Plaintiff. (D.I. 330-1, Ex. 1 (PTX-85)). Defendant then responded to Plaintiff's letter with an email stating Defendant would "review your allegations and get back to you when appropriate." (*Id.*, Ex. 2 (PTX-87)). There was no further communication after that.

The 2019 Letter provides actual notice of infringement of the other four patents by CloudFront. Viewing the 2019 Letter and the other evidence in the light most favorable to Plaintiff, as I must, I believe a triable issue as to willfulness exists. I deny Defendant's motion with respect to CloudFront's infringement of the'966, '147, '634, and '069 patents.

(*Id.*) As such, the summary judgment ruling regarding the '966 and the '147 patents—the only two patents relevant to the jury's finding and current motions—counter Defendant's arguments.

Defendant's arguments against notice are unconvincing. Plaintiff only argued willfulness after the 2019 letter was received and did not attempt to improperly argue notice prior to Defendant receiving the letter. *See SRI International Inc. v. Cisco Systems, Inc.*, 930 F.3d 1295, 1309–10 (Fed. Cir. 2019), *rev'd in part on other grounds*, 14 F.4th 1323 (Fed. Cir. 2021). The 2019 letter did not require "multiple logical leaps . . . to conclude that Defendant knew of [the accused product's] relationship to the Asserted Patents." *See IPA Technologies v. Microsoft Corp.*, 2024 WL 1797394, *17 (D. Del. Apr. 25, 2024). Likewise, Defendant has not raised serious concerns over the validity of the patents; thus, Defendant cannot claim that it was not on notice because the 2019 letter did not discuss validity. *See Erfindergemeinschaft UroPep GbR v. Eli Lilly & Co.*, 2017 WL 2190055 (E.D. Tex. May 18, 2017), *aff'd* 739 Fed. App'x 643 (Fed. Cir. 2018). Plaintiff went beyond simply arguing that Defendant received notice by presenting evidence that showed Defendant's conduct and response after receiving the 2019 letter. *Bayer Healthcare LLC v. Baxalta Inc.*, 989 F.3d 964, 988 (Fed. Cir. 2021).

"[T]he concept of 'willfulness' requires a jury to find no more than deliberate or intentional infringement." *SRI Int'l, Inc. v. Cisco Sys.*, 14 F.4th 1323, 1329 (Fed. Cir. 2021) (quoting *Eko Brands, LLC v. Adrian Rivera Maynez Enters.*, 946 F.3d 1367, 1378 (Fed. Cir. 2020). The jury was instructed that:

> To prove willful infringement, [Plaintiff] must first persuade you [Defendant] infringed at least one of the two asserted claims, and [Defendant] must have failed to prove its license defense.

[Plaintiff] must then persuade you by a preponderance of the evidence that [Defendant] intentionally ignored or recklessly disregarded that claim. You must base your decision on [Defendant]'s knowledge and actions at the time of infringement. Evidence that [Defendant] had knowledge of the patent at the time of infringement by itself is not sufficient to show willfulness. Rather, to show willfulness, you must find that [Defendant] engaged in additional conduct evidencing deliberate or reckless disregard of [Plaintiff]'s patent rights.

In deciding whether [Defendant] willfully infringed, you should consider all the facts surrounding the infringement.

(D.I. 283 at 11; Tr. 1164:19–1165:10).

At trial, Plaintiff offered into evidence the 2019 letter and a deposition with Mr. Sanford, Defendant's Senior Corporate Counsel. (Tr. 509:15–515:13). Mr. Sanford acknowledged that the 2019 letter was received by Defendant in 2019, that the 2019 letter accused Defendant's CloudFront product of infringing the '147 and '966 patents, and that Plaintiff had requested to meet with Defendant regarding the claims. (Tr. 510:3–512:24). Mr. Sanford described how he was responsible for managing pre-litigation correspondence, including sending a response that stated Defendant "will review your allegations and get back to you when appropriate." (Tr. 513:7–16). Mr. Sanford explained that Defendant did not ask its engineers to assess whether the patents were being infringed, did not respond to Plaintiff to ask for more information, did not explain to Plaintiff why Defendant did not believe it infringed, and did not attempt to enter license discussions with Plaintiff. (Tr. 513:17–515:4).

Plaintiff put on a thin case for willful infringement. I nevertheless find that a reasonable jury could conclude that Defendant was put on notice of infringement and essentially did nothing in response other than brushing Plaintiff off. Plaintiff points to substantial evidence that was presented at trial—including Plaintiff's 2019 letter, Defendant's response to the letter, Defendant's statement it would investigate the allegations, deposition testimony from Defendant describing a limited investigation, Defendant's continued use of infringing products, and Defendant's failure to offer any good-faith belief of invalidity or non-infringement during the relevant period—which

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a reasonable jury could use to find willfulness. (*See* D.I. 342 at 19). Thus, I deny Defendant's motion for judgment as a matter of law based on willful infringement.

For the reasons explained above, Defendant's motion for judgment as a matter of law is denied.

B. Defendant's Motion for a New Trial Is Denied

In the alternative to judgment as a matter of law, Defendant argues that the Court should grant a new trial. (*See* D.I. 332). Except for unique arguments in favor of a new trial based on damages and its license defense, Defendant offers the same arguments in favor of a new trial as it asserted for its motion for a judgment as a matter of law. (*See id.*).

By simply stating that its judgment as a matter of law arguments support a new trial, Defendant has failed to develop the arguments according to the standard for a new trial and thus has waived these arguments it offered in the alternative. To the extent these arguments were developed and preserved, they are denied for essentially the same reasons that judgment as a matter of law on the same issues are denied. For the reasons explained above, Defendant has not shown that any of its arguments advanced in support of a judgment as a matter of law would create "a miscarriage of justice . . . if the verdict were to stand." *Williamson*, 926 F.2d at 1352–53. Thus, none of these reasons serve as grounds for a new trial.

1. The Damages Verdict Does Not Create a Miscarriage of Justice

As unique arguments for its motion for a new trial, Defendant asserts that it is entitled to a new trial for two different damages-based reasons. (D.I. 332 at 17).

First, Defendant argues that it is entitled to a new trial if Plaintiff will not accept the remittitur offer. (*Id.*). Since I have already determined that remittitur is not appropriate in this case, Defendant's first argument fails.

Second, Defendant argues that it is entitled to a new trial because Plaintiff's expert Mr. Gunderson's five-page Third Supplemental Report offered an untimely theory on damages which prejudiced Defendant. (*Id.* at 17). Specifically, Defendant argues that Mr. Gunderson's opinion relied "on all 'movement of data' between CloudFront and VPC," "incorrectly assumed, without evidence, that all data transfer to and from CloudFront is done by VPC Peering or BigMac," and "incorrectly assumed certain expenses were 100% attributable to infringing functionalities." (*Id.* at 12, 14). Defendant had raised these arguments in a pre-trial letter. (*See* D.I. 228). As explained in my pre-trial ruling, the arguments raised "factual challenges to his opinion," and "I [was] not convinced that [Defendant] had insufficient time to be able to conduct an effective cross examination and to present contrary opinions from its expert." (D.I. 259 at 3–4).

I think my pre-trial ruling was sound. Mr. Gunderson's damages theory was built from Plaintiff's theory that CloudFront always uses VPC, and VPC always uses VPC Peering and BigMac for data transfers between VPCs. As I have discussed, Plaintiff timely disclosed these theories and presented substantial evidence at trial which a reasonable jury could use to find for Plaintiff. Mr. Gunderson's testimony also explained that he apportioned for VPC and why he did not need to apportion for CloudFront. (Tr. 806:12–807:14). Thus, nothing about Mr. Gunderson's testimony creates "a miscarriage of justice." *Williamson*, 926 F.2d at 1352–53.

2. Plaintiff's Litigation of the License Defense Does Not Create a Miscarriage of Justice

Defendant argues that it is entitled to a new trial based on Plaintiff's misrepresentation of the 2010 Boeing-Amazon Agreement as requiring the use of specific VPC Peering and BigMac technologies rather than the VPC and CloudFront products overall. (D.I. 332 at 23–25). Defendant raises concern over Plaintiff's misuse of the 2010 Boeing-Amazon Agreement to exclude Defendant's evidence while violating pre-trial stipulations regarding dates of infringement. (*Id.* at

24–25). Plaintiff responds to Defendant's misrepresentation arguments by referencing the jury instructions which described what Defendant would need to prove to be successful on its defense. (D.I. 342 at 21–22).

Although Plaintiff interchanged the concepts of "products" and "services," the jury was properly instructed based on jury instructions modeled after Defendant's proposal (D.I. 283 at 9–10 (Final jury Instruction No. 4.1; D.I. 274 at 18–20 (Plaintiff's proposed Final Jury Instructions), 21–22 (Defendant's proposed Final Jury Instructions)). Defendant did not raise this argument during trial. (*See* D.I. 363 at 13–14; D.I. 332 at 23–25). Thus, Defendant forfeited this argument. *Motorola*, 121 F.3d at 1469; *Caisson*, 622 F.2d at 681; *Belmont Indus.*, 512 F.2d at 438.

Any contradictory dates presented by Plaintiff's witnesses went to the determination of credibility and weight of the evidence—a factor for the jury to consider. *Pitts*, 4 F.3d at 155; *Perkin-Elmer*, 732 F.2d at 893. It is not this Court's role to decide the reliability of witnesses or determine factual disputes in a jury trial. Plaintiff presented adequate evidence, even when taking Defendant's arguments as true that Plaintiff's evidence contradicted itself or its overall arguments, such that a reasonable jury could conclude that Plaintiff's arguments were more convincing. This is particularly true where it is the Defendant's burden to prove the elements of the defense, not the Plaintiff's. Thus, I find that there was not a miscarriage of justice that warrants a new trial on this issue.

For the reasons explained above, Defendant's motion for a new trial is denied.

C. Plaintiff's Motion for Enhanced Damages Is Denied

Plaintiff argues, "The specific facts of this case warrant enhancement of treble damages" as permitted by 35 U.S.C. § 284. (D.I. 328 at 3–4). To support this argument, Plaintiff provides an analysis of the facts of the case under the nine *Read* factors, arguing that seven of the nine

factors favor enhanced damages. (*Id.* at 4 (citing *Read Corp. v. Portec, Inc.*, 970 F.2d 816 (Fed. Cir. 1992))). Defendant argues that enhanced damages are inappropriate in this case. Defendant argues that even "when egregious misconduct is established, however, courts are not obligated to award enhanced damages." (D.I. 339 at 2–3). Although Defendant notes that a rigid analysis and reliance on the *Read* factors is not necessary, Defendant provides its own counter analysis of the *Read* factors, arguing that the factors do not support an award of damages. (*Id.* at 3–4).

While Defendant is correct that strict analysis of the *Read* factors is no longer required, *Halo Electronics Inc. v. Pulse Electronics, Inc.*, 579 U.S. 93, 107 (2016) ("eschew[ing] any rigid formula for awarding enhanced damages"), I will use them to frame the events of the case and to properly address the parties' arguments, which were based on the factors. The *Read* factors include:

> (1) whether the infringer deliberately copied the ideas or design of another; (2) whether the infringer, when he knew of the other's patent protection, investigated the scope of the patent and formed a good-faith belief that it was invalid or that it was not infringed; (3) the infringer's behavior as a party to the litigation; (4) Defendant's size and financial condition; (5) closeness of the case; (6) duration of defendant's misconduct; (7) remedial action by the defendant; (8) Defendant's motivation for harm; and] (9) whether defendant attempted to conceal its misconduct.

Read, 970 F.2d at 827 (internal citations omitted and cleaned up). An analysis of the *Read* factors follows.

1. Factor One weighs against enhanced damages

Plaintiff does not address *Read* factor one. (*See* D.I. 327). As Defendant notes, Plaintiff has not presented any evidence of deliberate copying that would support enhanced damages. (D.I. 339 at 5). Thus, I find factor one weighs against enhanced damages.

2. Factor Two weighs in favor of enhanced damages

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For *Read* factor two, Plaintiff argues that Defendant had no good-faith belief of non-infringement or invalidity. (D.I. 328 at 4–8). As acknowledged by Defendant, this factor is typically resolved by a jury's verdict of willfulness. (D.I. 339 at 6). Based on the discussion above which supported the jury's finding of willful infringement, there is a presumed finding that Defendant did not have a reasonable basis for believing it was not liable. Thus, I find that factor two weighs in favor of enhanced damages.

3. Factor Three weighs against enhanced damages

For *Read* factor three, Plaintiff argues that Defendant pursued five non-viable defenses. (D.I. 328 at 8–13). First, Plaintiff notes that Defendant pursued an anticipation defense, offered limited support for the defense, then dropped the defense in its opposition to Plaintiff's Summary Judgment Motion on the issue. (D.I. 328 at 8–10). Second, Plaintiff argues that Defendant asserted an inherency defense that was disposed of on summary judgment because there was a lack of evidentiary support. (*Id.* at 10–11). Third, Plaintiff states that Defendant offered an obviousness defense without proper expert opinions to support it, and the defense was ultimately disposed of on summary judgment in favor of Plaintiff. (*Id.* at 11). Fourth, Plaintiff argues that Defendant asserted an invalidity defense against the '966 Patent, that Defendant would not commit to whether it would pursue the defense at trial, and that Defendant ultimately dropped the defense five days before trial at the request of the Court. (*Id.* at 11–12). Finally, Plaintiff notes that "the jury quickly rejected" Defendant's license defense. (*Id.* at 13).

In response, Defendant argues that none of its defenses were frivolous and the withdrawal of three of the defenses "simplified the proceedings and streamlined the case." (D.I. 339 at 12). Defendant notes that there was only one discovery dispute during this litigation, at which the Court ruled against Plaintiff. (*Id.* at 11).

Plaintiff has not presented any evidence that Defendant knowingly advanced repetitive, irrelevant, frivolous, or otherwise bad faith defenses. While Defendant could have attempted to support its defenses with additional evidence or withdrawn the defenses earlier, these shortcomings do not support a finding that Defendant acted in bad faith during the litigation process. This conclusion is particularly true given Plaintiff's withdrawal of multiple patent claims (*see* D.I. 188; D.I. 211; D.I. 237), an action that often changes a defendant's defense strategy. Thus, I find factor three weighs against enhanced damages.

4. Factor Four weighs in favor of enhanced damages

For *Read* factor four, Plaintiff argues that Defendant's size and financial benefit from infringement weigh in favor of enhanced damages. (D.I. 328 at 14–15). Plaintiff provides evidence that Defendant "was the largest provider of cloud computing in the world" and that one of the infringing products "is one of [Defendant's] signature cloud computing services." (*Id.* at 14 (citing D.I. 330-1, Ex. 9 (Kindler Rpt.) ¶¶ 16–17)).

Defendant does not dispute its size or financial condition, instead, it argues that this factor is given "the most weight when it disfavors enhanced damages—for example, when 'the infringer is in such a perilous financial condition that an award of enhanced damages might put it out of business.'" (D.I. 339 at 13) (citing *Idenix Pharms. LLC v. Gilead Scis., Inc.*, 271 F. Supp. 3d 694, 701 (D. Del. 2017)).

While courts is this District have given significant weight to this factor when it disfavors an enhanced award, they have also found the factor weighs in favor of enhanced damages when a defendant's size and financial condition insulate it from being "materially impacted by an award of enhanced damages." *nCUBE Corp. v. SeaChange Int'l, Inc.*, 313 F. Supp. 2d 361, 390 (D. Del. 2004); *see TruePosition Inc. v. Andrew Corp.*, 568 F. Supp. 2d 500, 528 (D. Del. 2008). Although

the parties dispute over the availability of non-infringing alternatives (D.I. 328 at 14–15; D.I. 339 at 14), this is not a necessary consideration for the factor. Thus, I find factor four weighs modestly in favor of enhanced damages.

5. Factor Five weighs against enhanced damages

For *Read* factor five, Plaintiff argues that this was not a close case because the jury returned a verdict quickly and the Court's summary judgment and the *Daubert* rulings demonstrate the weakness of Defendant's case. (D.I. 328 at 15–16). Defendant counters by citing the Court's summary judgment ruling which limited Plaintiff's claims and ruled in favor of Defendant on many issues. (D.I. 339 at 15 (citing D.I. 219)).

As discussed above, many of the issues in this case rested on conflicting theories of infringement that were supported by evidence on both sides. Although the jury returned a verdict for Plaintiff after a short deliberation, the case overall was not a clear-cut dispute in favor of Plaintiff. Thus, I find factor five weighs against enhanced damages.

6. Factor Six weighs in favor of enhanced damages

For *Read* factor six, Plaintiff argues that Defendant willfully infringed from the time of the 2019 letter until the '966 Patent's expiration. (D.I. 328 at 16). Defendant argues that the length of the infringement was due to Plaintiff's delay in bringing the suit. (D.I. 339 at 18–19).

In the context of enhanced damages, Courts in this District have ruled that "the duty to investigate the patent once notified of infringement rests on the alleged infringer." *Lucent Techs, Inc. v. Newbridge Networks Corp.*, 168 F. Supp. 2d 269, 275 (D. Del. 2001). As such, Defendant willfully infringed for approximately forty months. Thus, I find factor six weighs in favor of enhanced damages.

7. Factor Seven is neutral

For *Read* factor seven, Plaintiff argues that Defendant failed to take remedial action to mitigate its infringement. (D.I. 328 at 17). Defendant argues that this factor should weigh against enhanced damages because it had multiple good faith defenses and it had no duty to immediately stop using the product upon receiving notice. (D.I. 339 at 19).

Although there may be scenarios where Defendant's arguments prevail, the arguments are substantially weakened in this case where evidence showed that Defendant failed to investigate the infringement after receiving the 2019 letter. (*See* Tr. 509:15–515:13). Considering that Defendant had multiple defenses that survived summary judgment, but that Defendant did not adequately investigate the infringement after receiving notice, I find factor seven to be neutral.

8. Factor Eight weighs against enhanced damages

For *Read* factor eight, Plaintiff argues that Defendant's motivation for harm supports enhanced damages. (D.I. 328 at 16–17). Defendant responds by noting that Plaintiff has not alleged or provided evidence demonstrating that Defendant's infringement was based on a motivation to harm Plaintiff. (D.I. 339 at 17–18).

Without a claim that Defendant's actions were intended to cause Plaintiff harm, Defendant's motivations can best be understood as "pursuant to a financial motive [which] does not distinguish this case from the garden-variety infringement case." *Idenix Pharms.*, 271 F. Supp. 3d at 702 (internal citations omitted). Thus, I find factor eight weighs against enhanced damages.

9. Factor Nine weighs against enhanced damages

Plaintiff does not address *Read* factor nine. (*See* D.I. 327). As Defendant notes, Plaintiff has not presented any evidence that Defendant sought to conceal its infringement after receiving Plaintiff's letter. (D.I. 339 at 6). Thus, I find factor nine weighs against enhanced damages.

On balance, the *Read* factors weigh against enhanced damages. The arguments do not persuade me that the facts of this case are close to egregious. Therefore, despite the jury's finding of willful infringement, I do not think enhanced damages are warranted.

D. Plaintiff's Motion for Pre-Trial Damages Is Granted

Plaintiff seeks pre-judgment interest at the prime rate, compounded quarterly, beginning March 13, 2019, the date the damages window began, through October 7, 2024, the date judgment was entered. (D.I. 328 at 17–18). "[Defendant] does not oppose using the prime rate compounded quarterly for prejudgment interest." (D.I. 339 at 24 n.119). However, Defendant argues that prejudgment interest should begin on July 6, 2022, the date Plaintiff filed the complaint, because Plaintiff was unduly delayed in filing the claim. (*Id.* at 23–24).

Defendant claims that the delay caused prejudice by increasing damages and pre-judgment interest and denying Defendant the opportunity to mitigate damages. (D.I. 339 at 21–22). Defendant argues that it "would have taken all appropriate actions to mitigate damages and pre-judgment interest" if Plaintiff had followed up on its 2019 letter. (*Id.* at 22).

"Prejudice is not shown where a defendant merely argues that its damages are higher due to the delay in filing the suit." *VB Assets, LLC v. Amazon.com Servs. LLC*, 751 F. Supp. 3d 391, 418 (D. Del. 2024) (internal citations omitted). "[T]o show that delay was undue, a defendant must, at least generally, show that it was prejudiced." *Kaufman v. Microsoft Corp.*, 34 F.4th 1360, 1375 (Fed. Cir. 2022). A party claiming that it could have acted differently is not enough to show prejudice. *Id.* Thus, Defendant has not met its burden to demonstrate the delay caused prejudice.

Accordingly, I will award Plaintiff pre-judgment interest, beginning March 13, 2019, using the prime rate compounded quarterly.

E. Plaintiff's Motion for Post-Trial Damages Is Granted

The Parties agree that post-judgment interest for the amount awarded at trial should begin on October 7, 2024, the date judgment was entered, and the "post-judgment interest for additional awards, including pre-judgment interest, enhanced damages, costs, and attorneys' fees, starts from the date the Court quantifies those amounts." (D.I. 353 at 11; D.I. 339 at 24). Thus, I will award Plaintiff post-judgment interest, beginning on the date when and if each "additional award" is quantified by the Court, at the Treasury bill rate as defined in § 1961(a), compounded annually.

IV. CONCLUSION

An appropriate order will issue.