

**IN THE UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF TEXAS  
AUSTIN DIVISION**

VIA VADIS, LLC and  
AC TECHNOLOGIES, S.A.,

Plaintiffs,

v.

BLIZZARD ENTERTAINMENT, INC.,

Defendant.

Civil Action No. 1:14-cv-810-LY

ORAL HEARING REQUESTED

**BLIZZARD'S MOTION FOR SUMMARY JUDGMENT  
OF NON-INFRINGEMENT AND INVALIDITY**

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**EXHIBIT LIST**<sup>1</sup>

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| Exhibit 1 | U.S. Patent No. RE40,521 (“the ’521 patent”)                                                                                               |
| Exhibit 2 | Excerpts of the Expert Report of Dr. David H. Ratner Regarding Non-Infringement by Blizzard of U.S. Patent No. RE40,521 [Filed Under Seal] |
| Exhibit 3 | Excerpts of the Expert Report of Dr. David H. Ratner Regarding Invalidity of U.S. Patent No. RE40,521                                      |
| Exhibit 4 | Excerpts of the Expert Report of Barbara Ann Frederiksen-Cross (Corrected Submitted for Plaintiffs [Filed Under Seal])                     |
| Exhibit 5 | Excerpts of the July 22, 2021 Deposition of Barbara Frederiksen-Cross                                                                      |
| Exhibit 6 | Excerpts of the July 20, 2021 Deposition of Robert Zeidman                                                                                 |
| Exhibit 7 | Excerpts of the July 26, 2021 Deposition of Jose Melendez                                                                                  |
| Exhibit 8 | Excerpts of the April 19, 2021 Deposition of Thomas Binzinger                                                                              |

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<sup>1</sup> Exhibits are to the Declaration of David R. Pekarek Krohn in Support of Blizzard’s Motion for Summary Judgment, filed herewith.

**TABLE OF ABBREVIATIONS AND CONVENTIONS**

Blizzard	Blizzard Entertainment, Inc.
Via Vadis	Via Vadis, LLC
AC Technologies	AC Technologies, S.A.
Plaintiffs	Via Vadis, LLC and AC Technologies, S.A.
'521 patent	United States Patent No. RE40,521
FRCP	Federal Rules of Civil Procedure
POSITA	Person of ordinary skill in the art

Pursuant to FRCP 56, Blizzard moves for summary judgment that claims 30-31, 33, and 40-46 of the '521 patent, asserted by Plaintiffs, are not infringed and are invalid.

## **I. INTRODUCTION**

The '521 patent describes and claims a purported solution to problems that arise when users of a networked computing system, such as an online video game system with multiple players, need to quickly access changing (i.e., mutable) data. For example, when one player moves in the game, that movement manifests as updated data in the system. The other players need to quickly access that updated data to see that same movement. The '521 patent purports to provide a system that enables users to quickly see the same changing data by using at least two “data storage means” for storing data. To ensure that the data storage means contain the same data, the Court recognized in its claim construction that the data storage means have certain essential features: (1) the data in the data storage means is “copied the same number of times throughout the system”; and (2) each data storage means must store “the other locations within the system where copies of the [data] are located.” These two restrictions enable the system to maintain data consistency (i.e., the same data) across the data storage means – when the mutable data is changed in one data storage means, that data storage means knows the number and location of the other data storage means to which it needs to send the updated data.

The system also optimizes performance by moving the data from one data storage means to another, such as from a data storage means that is responding slowly to one that can respond more quickly. But because the system must maintain that fixed number of copies of each piece of data, it cannot simply copy data to an additional data storage means; instead, the system “shifts” the data by copying it to a new data storage means and then ensuring that the data is “no longer available at one of the previous” data storage means.

The accused Blizzard applications (Blizzard Downloader and Blizzard Agent<sup>2</sup>) implement the BitTorrent protocol, which is a fundamentally different system that is concerned with different problems and works differently. BitTorrent is a peer-to-peer file distribution system that is concerned with the efficient distribution of read-only (i.e., immutable) files—such as movies—to as many users as want to receive the files. Because it is concerned with broad distribution of static files, and not with maintaining the consistency of data that is dynamically being updated, BitTorrent does not fix or limit the number of copies of data within itself, and it does not require that each location where data is stored knows all the other locations in the system where that same data is stored. Thus, there are no “data storage means” within BitTorrent.

BitTorrent also does not “shift” data; it copies files, as each user downloads and retains their own copy of the file with no requirement that the file is “no longer available at one of the previous locations.” Indeed, rather than users sharing a fixed, limited number of copies of a file, BitTorrent is designed to distribute copies to an unlimited number of users. Because it lacks “data storage means” and because it does not “shift” data, BitTorrent does not infringe the ’521 patent.

Finally, Plaintiffs’ attempt to stretch the “shifting” limitation to try to cover BitTorrent renders the claims invalid due to indefiniteness if Plaintiff’s interpretation of shifting is applied.

## **II. OVERVIEW OF THE TECHNOLOGY AND ASSERTED PATENT**

As of 1999 (the time of the purported invention, as asserted by Plaintiffs), network computer systems were generally divided into client/server networks and peer-to-peer networks. (Ex. 2, ¶¶ 32-33.) In client/server networks, which constituted the vast majority of systems, multiple clients were connected to one or more servers. The servers stored data and sent data to clients in

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<sup>2</sup> Blizzard Downloader and Blizzard Agent are different applications, but for purposes of liability, they can be treated as identical.

response to client requests; clients had no direct communication with each other in such networks. (*Id.*, ¶ 34.) Because bottlenecks could occur when a server was busy, multiple servers were often used to respond to requests (with the same data replicated across the servers). (*Id.*, ¶ 35.) This solution, however, required maintaining data consistency across the servers, including updating all servers whenever data was changed. (*Id.*, ¶ 36.)

By contrast, peer-to-peer networks do not distinguish between a client or a server; each computer can directly communicate with any other computer in the network. (*Id.*, ¶ 37; *see also* Ex. 5 at 30:16-31:7 (in a peer-to-peer network, “the peers have the equal ability to communicate within the network”).) Peers exchange content simultaneously with multiple other peers, which can reduce download times. (Ex. 2, ¶ 39.) Because such systems do not rely on a central server, there is no bottlenecking problem. (*Id.*, ¶ 37.) BitTorrent is a peer-to-peer network. (*Id.*, ¶ 39.)

The ’521 patent describes a client/server network with multiple servers storing replicated data. (Ex. 1 at Col. 2:24-34.) Figure 1 of the patent shows the cluster compound CV of servers, and the clients (and users “B”) outside the cluster compound (*id.* at Col. 10:4-15). While Figure 1 shows that the clients can communicate with different storage locations within the compound, there are no communication lines connecting clients or users, as would be seen in a peer-to-peer system. (*See id.* at Fig.1; *see also* Ex. 5 at 41:20-21 (“Figure 1 does not show the clients communicating with each other, that is correct.”).)

The patent describes difficulties encountered by prior art systems in which multiple clients must access the same data from a single server. Those include: (1) bottlenecking; (2) the failure of a server; (3) the failure of the network (or portions thereof) cutting off access by clients; and (4) different user experiences due to varying transmission times (i.e., “lag”). (Ex. 1 at Col. 1:45-67.) The claimed invention aims to overcome these difficulties via the use of multiple “data storage



means” that store data “in a redundant manner.” Users’ access is optimized by selecting a particular data storage means “depending on prespecified parameters of the data transmission between data storage means and computer units” (i.e., between servers and clients). (*Id.* at Col. 2:2-41.)

Because it is aimed at providing access to mutable data, the claimed system must ensure that the data is kept consistent across all data storage means so that users accessing different storage means get the same data. It is thus an “essential characteristic of the invention” of the ’521 patent that the number of copies of each piece of data in the system must remain constant as a fixed number “nm” (number of mirrors). (*Id.* at Col. 8:18-26, 8:65-67.)<sup>3</sup> The system is thus able to ensure that when one copy of the data is updated, the other (nm-1) copies are also updated. To enable such updates, each data storage means must store all other locations in the system where the same data is stored. (*Id.* at Col. 9:3-5 (“[E]ach cell Z contains information in which clusters C and/or in which cells Z of the corresponding clusters C the other nm-1 cells Z are located.”); *id.* at Col. 22:16-20 (“In order to change the data of a field F, e.g. field F8, the client CL sends a write request WriteRQ. As in the case of a read request ReadRQ, the client CL must know the positions of the 3 mirrors SP which are responsible for the desired field F8.”).) If a cell does not know the location of all mirrors (i.e., other stored copies), it will be unable to update each of those mirrors, resulting in inconsistent data and an unusable system. (Ex. 2, ¶ 126.) To run these operations, the value of nm must be selected before the system is put into operation, not determined at runtime by an ever-changing number of clusters that join the system. (Ex. 1 at Col. 8:65-67, 15:41.) That is why the Court held that the structure disclosed in the patent that performs the function of the “data

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<sup>3</sup> The specification’s only embodiment sets nm to three (each piece of data is copied three times throughout the system). (Ex. 1 at Col. 8:27-30.) If there are more or less than nm copies of each piece of data, this is an error condition. (*Id.* at Col. 18:18-22 (discussing faults that “cause mirror compounds to duplicate, i.e. that more than run mirrors exist for one field”); Ex. 2, ¶¶ 134, 160.)

storage means” is “one or more memory cells, each cell storing: (1) one field of information; and (2) the other locations within the system where copies of the cell are located; where the information in every cell is copied the same number of times throughout the system.” (ECF No. 60 at 9.)

For additional optimization, data stored on a first data storage means can be “shifted” to a second data storage means that can better serve the clients, i.e., if the second device’s data transmission performance is superior to that of the first. (Ex. 1 at Col. 2:42-53, 4:51-56.) Because the number of copies of the data in the system must remain constant (i.e., *nm* copies), when data is “shifted,” it is done by making a new copy and ensuring that another copy that is deleted or removed from the system (such as due to a data storage means failure). (*Id.* at Col. 8:18-26, 8:65-67; *id.* at Col. 26:12-67.) Consistent with maintaining a fixed number of copies of data, the parties stipulated that “shifting” means “data is copied to a new location and no longer available at one of the previous locations.” (ECF No. 60 at 6.)

### **III. OVERVIEW OF THE ACCUSED BLIZZARD SYSTEM**

Plaintiffs assert that the BitTorrent protocol, as implemented in Blizzard’s Downloader and Agent programs, practices the patented method.

BitTorrent, which was invented by Bram Cohen in 2001, is an open source peer-to-peer file distribution program that provides each user with its own copy of an immutable file, such as a movie. (Ex. 2, ¶ 38.) To facilitate this distribution, BitTorrent divides the file into pieces. A user seeking to download the file first downloads a “.torrent file,” which describes all the file pieces that the user must download. (*Id.*, ¶ 39.) The user then contacts a “tracker,” which provides the user with a list of some of the available devices that are either downloading the file (“peers”) or already have all of the pieces (“seeders”). (*Id.*) The set of peers exchanging these pieces is known as a “swarm.” (*Id.*) The user can then request file pieces from seeders and peers.

In the accused Blizzard system, users could download a game file from both a content delivery network (CDN) and, optionally, from other peers using a BitTorrent implementation. Users could opt out of using BitTorrent's peer-to-peer sharing and obtain the game file directly from CDNs. Or, if they chose to use BitTorrent, they could download needed file pieces from CDNs or peers, while simultaneously sharing file pieces with other peers. Accordingly, the state of data distribution across the system was dynamic and constantly changing as peers joined and left the system and as peers obtained pieces of the game file from different sources.

To ensure that a peer shares pieces that other peers need, BitTorrent uses a function called "choking." (*Id.*, ¶¶ 164-66, 168.) If a first peer is unwilling to share file pieces with a second peer, the second peer can "choke" the first peer by refusing to share file pieces with the first peer. "Choking" is a temporary setting that impacts only the communication between those two peers; when the connection between two peers is "choked," those two peers can be actively exchanging file pieces with any number of other peers. (*Id.*) Through this choking mechanism, Cohen created a system that encourages the reciprocal sharing of file pieces.

#### **IV. BLIZZARD DOES NOT INFRINGE THE ASSERTED CLAIMS.**

##### **A. The Accused Method Lacks the Claimed "Data Storage Means."**

To prevail on a motion for summary judgment of non-infringement, a defendant must show that no genuine issue exists as to whether the accused products are "encompassed by the claims." *Wavetronix LLC v. EIS Elec. Integrated Sys.*, 573 F.3d 1343, 1358 (Fed. Cir. 2009) (internal quotations and citation omitted).

A means-plus-function limitation "literally covers an accused device if the relevant structure in the accused device performs the identical function recited in the claim and that structure is identical or equivalent to the corresponding structure in the specification." *Intellectual Sci. &*

*Tech., Inc. v. Sony Elecs., Inc.*, 589 F.3d 1179, 1183 (Fed. Cir. 2009) (internal citation omitted). “Data storage means” is a means-plus-function limitation. (ECF No. 60 at 7.)

Plaintiffs assert that “the Blizzard Seed Servers that ran Blizzard’s Downloader software; and the multiple BitTorrent peers operating under control of Blizzard’s Downloader/Agent software, the CDNs Blizzard used, and any combination thereof” constitute a “data storage means.” But the Court’s construction of “data storage means” requires “one or more memory cells, each cell storing: (1) one field of information; and (2) the other locations within the system where copies of the cell are located; where the information in every cell is copied the same number of times throughout the system.” (ECF No. 60 at 9.) Plaintiffs have not identified anything in BitTorrent that meets these requirements. (*See* Ex. 2, ¶¶ 118-34.) There is no relevant dispute as to how the accused system operates. Rather, Plaintiffs’ infringement positions are predicated on a reinterpretation of the Court’s claim construction, which should be rejected as a matter of law.

#### **1. The “Other Locations” Requirement Is Not Satisfied.**

The “data storage means” must store “the other locations within the system where copies of the cell are located.” (ECF No. 60 at 9.). A POSITA would understand this to refer to *all* other locations within the system where copies of the cell are located. As Plaintiffs’ expert concedes, the software needs to “make sure that all of [the copies] had been updated.” (Ex. 5 at 69:10-15; *see also* Ex. 6 at 100:4-101:1 (that “each cell knows where the other copies are located” is important “so that if data gets updated in one cell, it gets updated in all the cells where that data is located”).) Storing all other locations of the copies is easily done in the claimed client-server method because there is a fixed number (i.e., *nm*) of data storage means. (Ex. 1 at Col. 8:65-67.) BitTorrent’s peer-to-peer system, however, in which the number of peers is constantly in flux and an unlimited number of peers can download the pieces of a file, does not meet this limitation.

While Ms. Frederiksen-Cross asserts that “each peer or Blizzard Seeder running under the control of Blizzard’s Downloader/Agent maintains information related to other locations within the system where copies of the cell containing the piece and certain location information are located,” she does not provide any analysis for the Blizzard Seeder, but only states that the “peers running under control of the Blizzard Downloader have in-memory structures” storing this information. (Ex. 2, ¶ 120 (citing Ex. 4, ¶ 127).) She further asserts that “HTTP servers like the Blizzard CDN necessarily store the ID of the computer they are communicating with,” but she does not explain what an “ID” is in this context; while the information about where a request to a server came from is necessary to fulfilling that request, that does not mean that the server stores that information. (*Id.* (citing Ex. 4 at Ex. C at 17).) Nor does she assert that the CDN server has any indication of what data is being stored by each peer in the swarm. (*Id.*) In addition, while Ms. Frederiksen-Cross asserts that the “Blizzard Seed servers” “store a list of peers and in association with the peer list, additional information about those peers including the pieces the connected peer is storing,” the description of the code identified in her report relates only to peers, not the “Blizzard Seed servers.” (*Id.* (citing Ex. 4 at Ex. C at 18).) Therefore, even under Ms. Frederiksen-Cross’s own analysis, only the peers, and not the Blizzard Seeder (or the CDNs) could potentially be “data storage means.”<sup>4</sup>

And while Ms. Frederiksen-Cross generally points to information regarding the peers’ IP addresses and the URLs of the CDN servers as meeting this requirement, the accused system does

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<sup>4</sup> While Ms. Frederiksen-Cross further asserts that “[t]he data stored on these storage means comprise cells wherein each cell stores copies of pieces of the game/patch and also stores the locations within the Blizzard game/patch distribution system where other cells are located,” a POSITA would understand “memory cell” to refer to a physical structure, not a piece of logic implemented in software. (Ex. 2, ¶ 121 (citing Ex. 4 at Ex. C at 16).)

not know which peers have which file pieces, as that information is constantly changing as peers download pieces of a file. (Ex. 2, ¶ 123.) Nor can a URL identify the location where data may be stored or even a specific machine; many CDNs, including those used by Blizzard, use DNS resolution to redirect requests to a URL to particular geographically located machines, and thus different requestors for the same URL may in fact be given different IP addresses. (*Id.*)

Additionally, the peers in a BitTorrent swarm do not store *all* other locations where that data is stored. (*Id.*, ¶¶ 124-25.) Rather, when a peer requests a list of peers from a tracker, it receives a subset of the peers participating in a swarm, and even then it may only open connections to a subset of that returned list and find out what pieces are stored by those specific peers. (*Id.*; Ex. 6 at 135:9-18 (agreeing that when the tracker returns a peer list, “that’s not necessarily a list of all the other peers in the swarm”).) Thus, even under Ms. Frederiksen-Cross’s analysis, each peer is only informed about the location of data stored by the subset of peers with which it communicates, not all the peers in the swarm and not all the peers that have pieces of a file. (Ex. 2, ¶ 124.) There is no need for each peer to store the locations of all copies of the file pieces in the swarm because the static file pieces do not change, so updates do not need to be sent to the other storage locations. Accordingly, the accused BitTorrent system does not meet the “other locations” requirement and, thus, does not infringe.

## **2. The “Same Number” Requirement Is Not Satisfied.**

The Court’s construction of “data storage means” requires that “the information in every cell is copied the same number of times throughout the system.” (ECF No. 60 at 9.) As discussed above, the invention in the ’521 patent requires a fixed number (*nm*) of copies of a data in the system to maintain data consistency, such that if one copy of the data is updated, the other *nm*-1 copies are also updated. (Ex. 1 at Col. 8:65-67; Ex. 5 at 69:12-15 (“the software obviously, when

updating the data, needs to know how many copies of a particular field its updating exist[] in order to be able to make sure that all of them had been updated”); *id.* at 106:17-19 (“in order to evaluate if ... all updates were consistent, it would need to know the number of those nodes that had been sent the command”).) If the number of copies (mirrors) of the data are not kept constant, the system fails, as it relies on *nm* being constant. (Ex. 2, ¶ 132.)<sup>5</sup>

BitTorrent does not require each file or file piece to be copied the same number of times throughout the system. It is designed to distribute, without limitation, as many copies of files and file pieces as there are people requesting them. (*Id.*, ¶ 134.) In this open-ended distribution system, the peers in a BitTorrent system are constantly in different and dynamic states as to what data they are holding. Therefore, this claim limitation is not met and the Blizzard system does not infringe.

Plaintiffs’ expert, Ms. Frederiksen-Cross, re-interprets the Court’s construction to argue that this limitation is met, even when there are different numbers of file pieces stored throughout the system. Her arguments conflict with the Court’s construction of “data storage means,” which requires that “the information in every cell is copie[d] the same number of times throughout the system.” (ECF No. 60 at 9.)

Ms. Frederiksen-Cross first asserts that “[e]ach peer stores a single copy of each valid piece it receives.” (Ex. 4, ¶ 126.) To the extent she contends that this means that each received piece is stored the same number of times—once—per peer, that does not satisfy the claim limitation. The Court’s construction is clear that the claim refers to the number of copies stored *throughout the system*, not the number of times stored in a particular device. (Ex. 2, ¶ 129.)

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<sup>5</sup> For example, the `do_final_selfCheck` procedure has a loop that iterates from 1 to *nm*-1. (Ex. 1 at Col. 15:41). If *nm* is a constantly changing value, or is a different value for different sets of clusters, the `do_final_selfCheck` procedure will not be able to maintain consistency of the data across the distributed system. (Ex. 2, ¶ 132.)

Ms. Frederiksen-Cross then asserts that at a point in time, a file piece will have been downloaded a specific number of times. She asserts that based on this “slice-of-time perspective, some *subset of pieces*, at any moment in time, will also have been downloaded the same number of times.” (Ex. 4, ¶ 126 (emphasis added).) This argument again ignores the Court’s claim construction because, even if true, other file pieces, outside of the cherry-picked subset, would be stored in cells a different number of times. The Court’s construction, however, requires that “the information in *every* cell is copie[d] the same number of times throughout the system” (ECF No. 60 at 9 (emphasis added)), and this limitation is not met if only true for a subset chosen at the Plaintiffs’ whim. (Ex. 2, ¶ 130-132.) Indeed, Ms. Frederiksen-Cross admits as much in the example she provides, where some file pieces are stored 20 times and others are stored 24 times. (Ex. 4, ¶ 126.)

Finally, Ms. Frederiksen-Cross asserts that this “same number” limitation is met when every piece is copied to every peer in the swarm. The position is similarly flawed. (*Id.*, Ex. 2 ¶ 133.) This scenario would require a steady state, where all peers in the swarm have all file pieces, and no new peers join the swarm; once another peer joins the swarm and is sent a single piece, then the “same number” requirement is violated. (*Id.*) And, of course, there is no such steady state in BitTorrent, where the number of copies of each piece of the file is in flux, and Plaintiffs have not provided evidence to the contrary. (Ex. 5 at 84:19-85:3 (conceding that in BitTorrent, the value of *nm* “would be variable across time,” i.e., it “will grow as more copies of the pieces are created and it will shrink if peers leave the network”); *id.* at 89:10-90:6 (“I suppose, you know, a new player could come along and want to download it again ... and you would start the whole cycle over”)). Peers join and leave the swarm in a constantly changing process. In the accused Blizzard systems, peers leave the swarm 30 seconds after obtaining the complete game file and peers can join the swarm at any time. Moreover, peers can leave a swarm after downloading just



some of the pieces of a file, which would preclude the system from ever reaching a steady state where all file pieces are copied the same number of times across the system. (Ex. 2, ¶ 134.)

Even if it were theoretically possible for there to be a “slice-of-time” in which the “same number” requirement might be met during a swarm, “it is not enough to simply show that a product is *capable* of infringement; the patent owner must show evidence of *specific instances* of direct infringement.” *Fujitsu Ltd. v. Netgear Inc.*, 620 F.3d 1321, 1329 (Fed. Cir. 2010) (emphasis added); *Parallel Networks Licensing, LLC v. Microsoft Corp.*, 777 F. App’x 489, 493 (Fed. Cir. 2019).<sup>6</sup> Ms. Frederiksen-Cross, however, never points to any actual evidence of any instance where any pieces of information are stored the same number of times throughout the system; she just theorizes that it could happen. (Ex. 2, ¶¶ 128-34.) Thus, Plaintiffs have failed to identify a “data storage means” as required by all asserted claims of the ’521 patent.

## **B. The Accused Blizzard System Does Not Satisfy the “Shifting” Limitation.**

### **1. “Shifting” Requires that Data Be Globally Unavailable.**

Blizzard’s system also does not meet the limitation of “shifting redundantly stored data independent of an access of the computer unit to the data as a function of the determined prespecified parameters of data transmissions between the data storage means,” which is required by all asserted claims. “Shifting” was construed as “copied to a new location and no longer available at one of the previous locations.” (ECF No. 60 at 6, 39.) This requirement is necessary because the system of the ’521 patent requires a fixed number (“nm”) of data storage means. As Plaintiffs’ experts concede, copying alone is not shifting. (Ex. 5 at 109:7-9 (agreeing that “if the field is merely copied from point A to point B, that wouldn’t be shifting”); *see also* Ex. 6 at 111:4-6

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<sup>6</sup> The only exceptions to this rule are where a device *necessarily* infringes or the claim language only requires the *capacity* for infringement. *Fujitsu*, 620 F.3d at 1329; *ACCO Brands, Inc. v. ABA Locks Mfr. Co.*, 501 F.3d 1307, 1313 (Fed. Cir. 2007). Neither exception applies here.

(“adding a mirror without removing a mirror ... would not be shifting”); *id.* at 112:15-16 (“Just the copying by itself I don’t believe would be shifting.”).)

In the accused BitTorrent distribution system, file pieces are copied to users downloading the file. Users retain their copies of the file pieces even after sharing with others. There is no limit on the number of copies that can be made, and therefore the file pieces do not need to be shifted. When the accused Blizzard system distributes copies of file pieces among a set of peers, those pieces *remain available* at the peer from which they were copied, as well as at every other peer that contained those pieces. (Ex. 2, ¶ 156.) Because the data remains available, there is no “shifting.”

In asserting that BitTorrent infringes, Ms. Frederiksen-Cross disregards the Court’s construction of “shifting” and instead defines the term as “no longer available to a peer attempting to access the data via data transmission means” (Ex. 2, ¶ 157 (citing Ex. 4, ¶ 192)). That construction is not only divorced from the Court’s construction, but also from how a POSITA would understand the term “shifting.” (*Id.*)<sup>7</sup> Ms. Frederiksen-Cross does not explain whether the data must be no longer available to *all* peers “attempting to access” the data to be considered “no longer available,” or if data will be considered “no longer available” if it is no longer available to just *one* peer “attempting to access” the data. (*Id.*) Ms. Frederiksen-Cross’s position is contrary to that of

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<sup>7</sup> In her deposition, Ms. Frederiksen-Cross conceded that “[a]ccess is not in the claim language specifically.” (Ex. 5 at 207:21.) In light of this, she “clarified” that the interpretation applied in her report (no longer available to a peer attempting to access the data) was just an “example.” (*Id.* at 205:12-211:24.) Her (clarified) understanding was that the construction only required that the data was no longer available to at least one other peer (whether it was attempting to access the data or not). (*Id.* at 205:24-206:4.) This new interpretation is different than the construction in her report and, again, not supported by the intrinsic evidence or the Court’s construction.

Plaintiffs' validity expert, who assumed that the construction required data to be unavailable "to whomever it was available to before." (Ex. 7 at 166:6-13.)

Plaintiffs' "shifting" argument, based on the "viewpoint" of one peer, is also contrary to the '521 patent, which describes the scenarios in which shifting occurs, such as when there is "Failure of a cluster C or individual cells Z" or "Removal of a cluster C from a cluster compound." (Ex. 1 at Col. 26:16-17.) In both scenarios, the cluster or cells are *entirely and permanently unavailable*, not just unavailable to a particular client attempting to access them. (Ex. 2, ¶ 159.) The specification also describes that shifting can occur due to "Inadequate data transmission performance of a cluster C." (Ex. 1 at Col. 26:18.) In this scenario, a message is sent to all other cells "of the compound operating as mirrors SP to remove the corresponding mirror SP.... This makes itself invalid or is declared invalid by the corresponding cluster...." (*Id.* at Col. 26:52-60.) A POSITA would understand that making the mirror "invalid" would make it *globally unavailable*, not just unavailable to particular clients or clusters attempting to access it. (Ex. 2, ¶ 159.)

Indeed, if, after data has been copied, it is made unavailable to some clusters, but is still available to other clusters, then an "essential characteristic of the invention," namely, "that each cell in the cluster compound CV is available in a redundant manner, i.e. nm times in nm clusters C," has been violated. (Ex. 1 at Col. 8:65-67.) If a cluster to which the data is not available is asked how many cells contain the data, it would have a different answer than if a cluster to which the data is available is asked. This is treated by the patent as an error condition requiring correction. (*See, e.g., id.* at Col. 18:18-41.) Plaintiffs' proposed revision of the "shifting" construction therefore cannot be correct.

## 2. Choking Does Not Meet the “Shifting” Limitation.

Plaintiffs identify BitTorrent’s “choking” functionality as allegedly satisfying the “shifting” limitation. But choking does not satisfy this limitation, and BitTorrent does not infringe, because it does not make data unavailable. (Ex. 2, ¶¶ 162, 164.) Instead, choking is a temporary designation that two peers will not exchange file pieces; those peers, however, can and will continue to exchange file pieces with other peers in the swarm. (*Id.*, ¶ 165; Ex. 5 at 158:7-15 (“In the sense that a particular peer may be communicating with multiple other peers, choke status would have some likelihood of changing moment to moment with respect to at least one of those peers....”); Ex. 6 at 204:4-19 (confirming that “[w]hen peer A chokes peer B, it makes the information on peer A unavailable to peer B,” but “not unavailable to peer C”); *id.* at 115:2-116:9 (testifying that even if a particular network connection in Figure 4 was removed, data would not become unavailable, because “there would be no place...where the data would no longer be available, and...the other cell clusters also have access to one of the cell clusters that has” the previously copied field of data); Ex. 7 at 135:1-2, 136:12-19, 142:16-21 (testifying that cutting the line between two clusters of Figure 4 “doesn’t imply whether or not the data is no longer available at one of the previous locations”).)

In fact, a “choke” message indicates only that a peer will *temporarily* stop copying data to the choked peer; the peer may later send an “unchoke” message and continue copying data to the previously choked peer. (*Id.*, ¶ 168.) As a POSITA would consider “no longer available” to mean that data is *permanently* unavailable, BitTorrent’s temporary “choking” is not “shifting.” (*Id.*)

Plaintiffs’ interpretation also does not require any relationship between copying the data and its unavailability; in Plaintiffs’ view, any copying anywhere in the system followed by any choking anywhere in the system *at any point later in time* would constitute “shifting.” (Ex. 6 at

112:17-113:13, 205:8-11 (testimony that there is no specific time frame and that data becoming unavailable two days after copying would still be “shifting”).) That interpretation is contrary to the ’521 patent’s “essential characteristic” of maintaining a fixed number of copies throughout the system. (Ex. 1 at Col. 8:65-67.) In a BitTorrent swarm, data is being copied and peers are being choked and unchoked constantly, and unrelatedly. A POSITA would not understand that copying and unrelated choking to be “shifting” as required by the asserted claims. (Ex. 2, ¶ 171.)

Regardless, choking does not meet the “shifting” limitation even under Ms. Frederiksen-Cross’s tortured interpretation. When a peer receives a “choke” message from another peer, the receiving (choked) peer knows that the sending (choking) peer will not send it data; the choked peer will thus not send a “request” message to the choking peer for any data. (*Id.*, ¶ 169.) Therefore, the choked peer is not a “peer attempting to access the data via data transmission means,” under Ms. Frederiksen-Cross’s interpretation; in fact, the choked peer will likely request the data from a different peer in the swarm. The data is therefore not “unavailable” even under Plaintiffs’ theory, and the accused system does not infringe. (*Id.*)

### **3. Banning, Dropping, and Exiting a Swarm Do Not Meet the “Shifting” Limitation.<sup>8</sup>**

Ms. Frederiksen-Cross also asserts that data purportedly can become unavailable: (1) if “the Blizzard Downloader/Agent causes a peer to be dropped from the swarm for reasons such as of the amount of data it has copied, or copying more than it uploaded, or coping in excess of a data limit” and (2) “if a peer is banned.” (*Id.*, ¶ 163 (citing Ex.4 ¶¶ 195-96.)) She does not, however, cite code or documentation for her assertion that peers might be dropped or banned. (*Id.*, ¶ 167.)

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<sup>8</sup> These theories were not provided in Plaintiffs’ infringement contentions, and Blizzard opposes Plaintiffs’ motion to amend its contentions. (ECF No. 156.) As Plaintiffs’ motion is currently pending, Blizzard includes a discussion of these theories out of an abundance of caution.

Exhibit C to her report states, “[a] peer in the network can elect to timeout and ultimately disconnect from another peer if that peer has failed to communicate by providing piece data or piece data requests for some amount of time.” (*Id.* (citing Ex.4 Ex. C at 86).) The cited code, however, which is part of the file “peer\_connection.cpp” (relating to the connections between peers), does not make the data at the disconnecting peer unavailable. (*Id.*) Instead, the code only closes the connection between the two peers; the data on each peer remains available to other peers in the swarm. (*Id.*) Therefore, for the same reasons choking of peers does not make data unavailable on a data storage means, the purported banning and dropping behaviors discussed by Ms. Frederiksen-Cross do not meet the “shifting” limitation. (*Id.*)

While Ms. Frederiksen-Cross further asserts that a peer may be banned if it delivers a piece that “fails verification, or a peer whose trust score had fallen too low,” this appears to be a specific instance of choking, and as such, does not meet the “shifting” limitation for the same reasons described above. (*Id.*, ¶ 182 (citing Ex.4, ¶ 205).) Regardless, banning is limited to the connection between the particular peers, and therefore the data on the “banned” peer is not unavailable, as it remains available to other peers in the swarm. (*Id.*) Further, to the extent the data fails verification because it is corrupted, the data was never available from that peer prior to being banned. (*Id.*)

Finally, Ms. Frederiksen-Cross asserts that the unavailability requirement is met when a peer disconnects from the swarm after downloading of all of the pieces. (Ex. 4, ¶ 204.) But this theory suffers from some of the same issues as Ms. Frederiksen-Cross’s other theories. In particular, she does not assert any relationship between the copying of data and its unavailability. (Ex. 2, ¶ 178.) Nor does she indicate that there is a one-to-one ratio of copying and unavailability. (*Id.*) This means that the number of mirrors for a piece of data would not remain constant, which the ’521 patent recognizes as an error condition. (*Id.*)

## V. THE ASSERTED CLAIMS ARE INVALID FOR INDEFINITENESS.

Patents must “conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.” 35 U.S.C. § 112(b). The Supreme Court held this to mean that a claim, when viewed in light of the intrinsic evidence, must “inform those skilled in the art about the scope of the invention with reasonable certainty.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 910 (2014). If not, the claim is invalid as indefinite. *Id.* at 901.

Under Plaintiffs’ interpretation, independent claim 30 and its dependent claims are indefinite because a POSITA would not be able to understand the scope of the “shifting” limitation. As discussed above, under Plaintiffs’ infringement theory, “shifting” can occur when the copying of the data and the data becoming unavailable are causally and temporally unrelated. Ms. Frederiksen-Cross agreed that “if there was a copy followed by a crash a year later,” “that would be shifting,” although later clarifying that the hypothetical crash would have to be “caused by the function of the pre-specified data parameters.” (Ex. 5 at 113:9-17, 114:22-115:2.) As Mr. Zeidman testified, “there’s nothing in the patent to preclude it being any specific amount of time” after the data is copied to it becoming unavailable at a prior location; “I see no reason why it can’t be [two weeks]”; and, when asked “Can it be two years?,” responding, “I suppose so.” (Ex. 6 at 222:4-14; *see also* Ex. 7 at 237:23-238:5 (testifying that unavailability five years after the copy would be shifting).) Thus, at the time data is copied, a POSITA could not know whether the data has been “shifted” because years could pass before the data becomes unavailable at a prior location, leaving in limbo the question of whether the “shifting” limitation might later be met. (Ex. 3, ¶¶ 116-21.) Plaintiffs’ interpretation therefore cannot satisfy the reasonable certainty requirement.

As Dr. Ratner explained, in a proper implementation, moving data would be accomplished by making the copying of the data and the subsequent deletion or unavailability of the data an atomic function, meaning either both operations succeed, and the data is shifted, or both operations fail, and the state of the system reverts to its previous state and no shift occurs. (*Id.*, ¶ 117.) But in the '521 patent, under the scope that Plaintiffs have asserted, shifting data can be accomplished by two separate and unconnected events: data being copied and data becoming unavailable at some later, disconnected point in time. This renders the shifting limitation indefinite. (*Id.*)

In his deposition, Thomas Binzinger, the named inventor of the '521 patent, was asked about the copying of data from one cell to another cell. (Ex. 8 at 145:17-23.) Although the copying of data was not accompanied by the data becoming unavailable at the original location, Mr. Binzinger said “it is possible that this would be shifting” because “at a later point in time, the original content could become unavailable.” (*Id.* at 145:17-146:8.) When asked whether the data was shifted before the original data became unavailable, Mr. Binzinger was unable to answer, stating “Are we talking about a microsecond or ten minutes, for example, for the time frame.” (*Id.* at 146:9-17.) When presented with a time frame of “two days” before the data became unavailable, Mr. Binzinger could not clarify whether the data would be considered to have been shifted. (*Id.* at 146:18-147:16.) In fact, Mr. Binzinger could not state whether data would be shifted even if the original data never became unavailable “just looking at this system at a [sic] exact state point of time, without taking into consideration dynamics....” (*Id.* at 147:1-9.)

Courts have held that limitations requiring “forward-looking assessments” do not provide reasonable certainty regarding claim scope. For example, in *Medicines Co. v. Mylan, Inc.*, 853 F.3d 1296, 1303 (Fed. Cir. 2017), the Federal Circuit rejected a patentee’s argument that a



limitation relating to batch consistency was satisfied whenever an accused infringer consistently produced batches having Asp9 levels below 0.6%. *Id.* The court reasoned:

Under [patentee's] interpretation, proof of infringement would necessitate forward-looking assessments of whether an accused infringer's production of future or 'potential' batches would be likely to generate Asp9 levels greater than 'about 0.6%.' To illustrate, if a defendant using the same compounding process produced fifty batches each having an Asp9 level below 0.6 percent, each of those fifty batches would infringe. But the defendant would not know whether any of the batches infringed until all fifty batches had been produced because if even one of those batches was determined to have an Asp9 level higher than 0.6 percent, none of the batches would infringe. For an ongoing commercial compounding process, this approach cannot provide 'reasonable certainty' regarding the scope of the asserted claims.

*Id.* Similarly, here, a POSITA might have no idea whether or when data would become unavailable at the time it was copied, and thus would not know whether they infringed claim 30 (or any of the asserted dependent claims that depend from it). Summary judgment of invalidity for indefiniteness is warranted if Plaintiff's interpretation of shifting is applied. *See, e.g., Halliburton Energy Servs., Inc. v. M-ILLC*, 514 F.3d 1244, 1254-55 (Fed. Cir. 2008) ("When a proposed construction requires that an artisan make a separate infringement determination for every set of circumstances in which the composition may be used, and when such determinations are likely to result in differing outcomes (sometimes infringing and sometimes not), that construction is likely to be indefinite.").

## VI. CONCLUSION

For the foregoing reasons, Blizzard respectfully requests summary judgment of non-infringement and invalidity of all asserted claims.

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Respectfully submitted,

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**CERTIFICATE OF SERVICE**

I hereby certify that on the 10th day of August 2021, I electronically filed the foregoing with the Clerk of the Court using the CM/ECF system, which will send notification of such filing to all counsel of record.

/s/ Daniel T. Shvodian

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