

United States Court of Appeals for the Federal Circuit

ACCELERATION BAY, LLC,
Appellant

v.

ACTIVISION BLIZZARD INC., ELECTRONIC ARTS
INC., TAKE-TWO INTERACTIVE SOFTWARE, INC.,
2K SPORTS, INC., ROCKSTAR GAMES, INC.,
Cross-Appellants

BUNGIE, INC.,
Appellee

2017-2084, 2017-2085, 2017-2095, 2017-2096, 2017-2097,
2017-2098, 2017-2099, 2017-2117, 2017-2118

Appeals from the United States Patent and Trade-
mark Office, Patent Trial and Appeal Board in Nos.
IPR2015-01951, IPR2015-01953, IPR2015-01964,
IPR2015-01970, IPR2015-01972, IPR2015-01996,
IPR2016-00933, IPR2016-00934, IPR2016-00935,
IPR2016-00936, IPR2016-00963, IPR2016-00964.

Decided: November 6, 2018

PAUL J. ANDRE, Kramer Levin Naftalis & Frankel
LLP, Menlo Park, CA, argued for appellant. Also repre-
sented by JAMES R. HANNAH.

JAMES LAWRENCE DAVIS, JR., Ropes & Gray LLP, East Palo Alto, CA, argued for cross-appellants. Also represented by ANDREW N. THOMASES; DOUGLAS HALLWARD-DRIEMEIER, Washington, DC.

MICHAEL T. ROSATO, Wilson, Sonsini, Goodrich & Rosati, PC, Seattle, WA, for appellee. Also represented by JOSE CARLOS VILLARREAL, Austin, TX; RICHARD TORCZON, Washington, DC.

Before PROST, *Chief Judge*, MOORE and REYNA, *Circuit Judges*.

MOORE, *Circuit Judge*.

Patent owner Acceleration Bay, LLC (“Acceleration”) appeals the final written decisions of the Patent Trial and Appeal Board holding unpatentable claims 1–9 of U.S. Patent No. 6,829,634, claims 1–11 and 16–19 of U.S. Patent No. 6,701,344, and claims 1–11 and 16–17 of U.S. Patent No. 6,714,966. Activision Blizzard, Inc., Electronic Arts Inc., Take-Two Interactive Software, Inc., 2k Sports, Inc., and Rockstar Games, Inc. (collectively, “Blizzard”) cross-appeal portions of the Board’s decisions holding patentable claims 10–18 of the ’634 patent, as well as substitute claims 19 of the ’966 patent, 21 of the ’344 patent, and 25 of the ’634 patent. Blizzard also cross-appeals the Board’s decisions holding that the Lin article is not a printed publication under 35 U.S.C. § 102(a). For the following reasons, we affirm.

BACKGROUND

The patents at issue are directed to a broadcast technique in which a broadcast channel overlays a point-to-point communications network. *See, e.g.*, '966 patent at 4:3–5.¹ The communications network consists of a graph of point-to-point connections between host computers or “nodes,” through which the broadcast channel is implemented, represented in Figure 1. *Id.* at 4:23–26, 48–49.

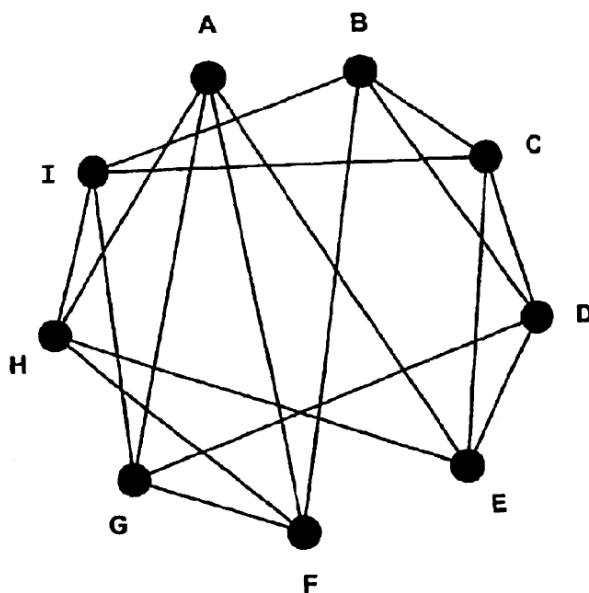


Fig. 1

Figure 1 illustrates a broadcast channel that is “4-regular, 4-connected.” *Id.* at 4:48–49. It is “4-regular” because

¹ The specifications are similar but contain sections unique to each patent, such as: '966 patent at 16:24–17:26 (discussing “an information delivery service”); '344 patent at 16:29–17:11 (discussing “a distributed game environment”); '634 patent at 2:45–67 (providing a “summary of the invention”).

each node is connected to exactly four other nodes, referred to as “neighbors.” *Id.* at 4:26–30, 38–42, 49–53. It is “4-connected” because it would take the failure of four nodes to divide the graph into two separate sub-graphs. *Id.* at 4:42–47. One node sends a message to each of its three neighbors, and they send the message to their neighbors, thus broadcasting the message to each node. *Id.* at 4:30–38.

Blizzard filed six *inter partes* review (“IPR”) petitions—two for each of the ’344, ’966, and ’634 patents—based principally on two different prior art references: one set of IPRs challenged claims based on the Shoubridge article² alone or combined with a prior art book DirectPlay³ (“Shoubridge IPRs”), and another set of IPRs challenged claims based on the Lin article⁴ alone or combined with DirectPlay (“Lin IPRs”). The Board instituted IPR on each petition, on many of the grounds and claims raised,⁵ and rendered six final decisions. In the

² Peter J. Shoubridge & Arek Dadej, *Hybrid Routing in Dynamic Networks*, 3 IEEE INT’L CONF. ON COMMS. CONF. REC. 1381–86 (Montreal, 1997).

³ Bradley Bargaen & Peter Donnelly, *Inside DirectX®: In-Depth Techniques for Developing High-Performance Multimedia Applications* (Microsoft Press, 1998).

⁴ Meng-Jang Lin, et al., *Gossip versus Deterministic Flooding: Low Message Overhead and High Reliability for Broadcasting on Small Networks*, Technical Report No. CS1999-0637 (Univ. of Cal. San Diego, 1999).

⁵ The Board did not institute IPR on all challenged claims and grounds. In *SAS Institute, Inc. v. Iancu*, 138 S. Ct. 1348, 1353 (2018), the Court held that 35 U.S.C. § 318(a) prohibits the Board from instituting IPR on fewer than all challenged claims. No party, however, has asked us to reopen or remand any portion of a non-instituted

Shoubridge IPRs, the Board determined the following claims are unpatentable: '966 patent claims 1–11 and 16–17; '344 patent claims 1–11 and 16–19; and '634 patent claims 1–9. In the Lin IPRs, the Board concluded that Lin is not a printed publication under 35 U.S.C. § 102(a) and thus determined Blizzard failed to show the challenged claims are unpatentable over Lin.

Acceleration appeals portions of the Board's decisions in the Shoubridge IPRs, and Blizzard cross-appeals portions of the Board's decisions in the Shoubridge IPRs and the Lin IPRs. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

DISCUSSION

We review the Board's legal determinations de novo and its fact findings for substantial evidence. *PPC Broadband, Inc. v. Corning Optical Commc'ns RF, LLC*, 815 F.3d 747, 751 (Fed. Cir. 2016). In IPR, the Board gives claims their broadest reasonable interpretation consistent with the specification. *Id.* We review claim construction de novo except for subsidiary fact findings, which we review for substantial evidence. *Id.*

I.

Acceleration challenges three aspects of the Board's decisions. Claim 1 of the '966 patent is representative of the claim construction disputes in Acceleration's appeal (emphases added):

1. A computer network for providing an ***information delivery service*** for a plurality of ***participants***, each participant having connections to

petition, and we see no reason to independently do so. *See, e.g., PGS Geophysical AS v. Iancu*, 891 F.3d 1354, 1359–62 (Fed. Cir. 2018); *Jazz Pharm., Inc. v. Amneal Pharm., LLC*, 895 F.3d 1347, 1354–55 (Fed. Cir. 2018).

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.

Acceleration argues the Board erred by construing the term “participant” according to its plain meaning. It argues the terms “game environment” and “information delivery service,” appearing in the ’344 and ’966 patents, respectively, should have been given patentable weight. Finally, it argues the Board failed to identify a broadcast channel in Shoubridge in its anticipation and obviousness analyses. We address each argument in turn.

A.

Acceleration argues the Board erred by construing the term “participant” according to its plain meaning. It argues the proper construction of “participant” is an “application program that interacts with a logical broadcast channel which overlays an underlying network.” Appellant’s Br. 26–27.

We see no legal error in the Board’s refusal to import detailed structural information into the term “participant.” *See, e.g.*, J.A. 42–44. Neither the claims nor the specifications define or expressly describe the term in this manner, a fact Acceleration conceded at oral argument. Oral Arg. at 4:20–5:10. The specifications, for example, describe “participant” without reference to an application program. *See, e.g.*, ’634 and ’966 patents at Abstract; ’634

patent at 2:45–67. We conclude, therefore, that the Board properly construed “participant.”

B.

Acceleration argues the claim terms “game environment” and “information delivery service” are limitations despite appearing in the preambles because they provide structure for the remainder of the claims. Appellant’s Br. 35–38 (citing, e.g., *Rowe v. Dror*, 112 F.3d 473, 478 (Fed. Cir. 1997); *Vizio, Inc. v. Int’l Trade Comm’n*, 605 F.3d 1330, 1341 (Fed. Cir. 2010)); Appellant’s Reply Br. 26. Acceleration alternatively argues that these terms appear in the body of the claims because there is no transition phrase denoting a preamble. *See, e.g.*, Appellant’s Br. 38; Oral Arg. at 7:22–7:36.

“A claim typically contains three parts: the preamble, the transition, and the body.” 3 Chisum on Patents § 8.06 (2018). Acceleration’s poor claim drafting will not be an excuse for it to infuse confusion into its claim scope. We conclude that “game environment” and “information delivery service” are part of the preamble of the claims. We see no beneficial purpose to be served by failing to include a transition word in a claim to clearly delineate the claim’s preamble from the body, and we caution patentees against doing so.

Because the terms at issue appear in preambles, we must determine whether the terms are limitations. A preamble limits the invention if it recites essential structure or steps, or is “necessary to give life, meaning, and vitality” to the claim. *Catalina Mktg. Int’l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002) (quoting *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305 (Fed. Cir. 1999)). “[A] preamble is not limiting ‘where a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention.’” *Id.* (citing *Rowe*, 112 F.3d at 478).

We agree with the Board that the claim terms “game environment” and “information delivery service” are non-limiting because they merely describe intended uses for what is otherwise a structurally complete invention. They do not impart any structure into or serve as antecedents for the claims at issue. Instead, they simply provide an intended use for what is otherwise a claim for a network.

C.

Finally, Acceleration argues the Board determined that the canceled claims of the ’344 and ’966 patents describe a broadcast channel and acknowledged that the specifications explain the “broadcast channel overlays a point-to-point communications network.” It argues, however, that the Board failed to determine whether Shoubridge discloses such a broadcast channel.

Acceleration again attempts to import structural limitations into claims lacking those limitations. The Board’s statement that the claims “recite[] a structurally complete invention (i.e., ‘a broadcast channel’)” did not import a broadcast channel overlaying a point-to-point network into the claims. *See* J.A. 41–42; J.A. 168. While the specifications discuss a broadcast channel overlaying a network, the claims at issue are not so limited. The specifications do not contain the sort of precise and clear language that would warrant reading a limitation to a broadcast channel overlaying a point-to-point communications network into the claims at issue. Appellant’s Br. 41 (citing ’966 patent at 4:3–5 (noting such an arrangement “is provided”); ’634 patent at 4:29–31 (same); ’344 patent at 4:3–5 (same)). The language in the specifications falls far short of the language we have found sufficient to limit claims to configurations described in the specification. *See, e.g., Blackbird Tech LLC v. ELB Elecs., Inc.*, 895 F.3d 1374, 1377 (Fed. Cir. 2018) (collecting cases, including those found to contain limiting language in the specifica-

tion such as “the present invention” and “essential element among all embodiments or connotations of the invention”). The specifications further explain “the invention is not limited except by the claims.” *E.g.*, ’344 patent at 29:23–24. Because the claims at issue do not contain the broadcast channel limitation argued for by Acceleration, the Board did not err by failing to identify such a broadcast channel in Shoubridge. We have considered Acceleration’s remaining arguments and find them unpersuasive. Accordingly, we affirm the Board’s determinations with regard to issues raised in Acceleration’s appeal.

II.

Claim 10 of the ’634 patent, and substitute claim 19 of the ’966 patent, J.A. 81, are representative of the issues in Blizzard’s cross-appeal (emphases added):

10. A non-routing table based broadcast channel for participants, comprising:

a communications network that provides peer-to-peer communications between the participants connected to the broadcast channel; and

for each participant connected to the broadcast channel, ***an indication of four neighbor participants of that participant***; and

a broadcast component that receives data from a neighbor participant using the communications network and that sends the received data to its other neighbor participants to effect the broadcasting of the data to each participant of the broadcast channel, wherein the network is m-regular and m-connected, where m is the number of neighbor participants of each participant, and further wherein the number of participants is at least two greater than m thus resulting in a non-complete graph.

19. (Proposed Substitute for Claim 7) 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,

further wherein the number of participants is at least two greater than m thus resulting in a non-complete graph,

further wherein the connections are peer-to-peer connections,

further wherein the network is formed through a broadcast channel that overlays an underlying network,

further wherein the information delivery service is provided by at least one information delivery service application program executing on each computer of the computer network that interacts with the broadcast channel,

and further ***wherein participants can join and leave the network using the broadcast channel.***

Blizzard cross-appeals three issues. First, it argues the Board erroneously concluded that Lin is not a printed publication under § 102(a). Second, it argues the Board erroneously determined '634 patent claims 10–18 were not anticipated or rendered obvious by Shoubridge.

Third, it argues the Board erred in determining that various amended claims were patentable over the prior art. We consider each in turn.

A.

Whether a reference qualifies as a printed publication under § 102 is a legal conclusion based on underlying fact findings.⁶ *Jazz Pharm., Inc. v. Amneal Pharm., LLC*, 895 F.3d 1347, 1356 (Fed. Cir. 2018); accord *Cooper Cameron Corp. v. Kvaerner Oilfield Prod., Inc.*, 291 F.3d 1317, 1321 (Fed. Cir. 2002). One such fact question is public accessibility, which we review for substantial evidence. *Jazz Pharm.*, 895 F.3d at 1356. “Because there are many ways in which a reference may be disseminated to the interested public, ‘public accessibility’ has been called the touchstone in determining whether a reference constitutes a ‘printed publication’” *Id.* (quoting *In re Hall*, 781 F.2d 897, 898–99 (Fed. Cir. 1986)). A reference is considered publicly accessible if it was “disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art, exercising reasonable diligence, can locate it.” *Id.* at 1355–56 (citing *In re Wyer*, 665 F.2d 221, 226 (CCPA 1981)). As petitioner, Blizzard had the burden to prove Lin is a printed publication. *See id.* at 1356.

The Board found that Lin was not publicly accessible before the critical date. *See* J.A. 10–22; J.A. 114–127; J.A. 141–153. Based on the testimony of Glenn Little, a Systems Administrator at the Computer Science and Engineering (“CSE”) department of the University of California, San Diego (“UCSD”), the Board found that Lin had been uploaded to the CSE Technical Reports Li-

⁶ Because the applications for each of the patents at issue were filed before March 16, 2013, the pre-Leahy-Smith America Invents Act version of § 102 applies.

brary’s website as of November 23, 1999, which is not challenged on appeal. *See, e.g.*, J.A. 11–13. As the Board explained, according to Mr. Little, “the CSE department regularly maintains electronic technical reports and records concerning those reports, and a staff member assigns a unique identifier to each report based on the year it was uploaded and the relative order it was uploaded in comparison to other papers.” J.A. 11.

The Board then correctly noted that “public accessibility” requires more than technical accessibility. J.A. 13. Because there was no evidence that Lin was disseminated to the public, the Board focused on whether an interested skilled artisan, using reasonable diligence, would have found Lin on the CSE Technical Reports Library website. J.A. 13–14 (citing *Voter Verified, Inc. v. Premier Election Sols., Inc.*, 698 F.3d 1374, 1380–81 (Fed. Cir. 2012)). The Board found that despite some indexing and search functionality on the website, Lin was not publicly accessible. *See* J.A. 15–19. It found the website allowed a user to view a list of technical reports indexed only by author or year and that there was no evidence as to how many reports were in the Library’s database in 1999. *See* J.A. 16–17, 22. The Board determined that at best, Blizzard’s evidence “suggests that an artisan might have located Lin by skimming through potentially hundreds of titles in the same year, with most containing unrelated subject matter, or by viewing all titles in the database listed by author, when the authors were not particularly well known.” J.A. 17. The Board also found the website’s advanced search form to be deficient. It found that while the advanced search form appeared to allow a user to search keywords for author, title, and abstract fields, evidence demonstrated that functionality was not reliable. J.A. 18–19, 22. In sum, the Board determined that Blizzard “has not shown sufficiently that the UCSD CSE Technical Reports Library was searchable or indexed in a meaningful way so that a person of ordinary skill in the

art would have located Lin.” J.A. 22. The Board, therefore, concluded Lin is not a printed publication under § 102(a). J.A. 22.

The Board did not err in concluding Lin is not a printed publication. Substantial evidence supports its findings that Lin was not publicly accessible, including that Lin was not indexed in a meaningful way and that the website’s advanced search form was deficient. Mr. Little testified he does not know how the search works or how keywords are generated, that he never searched for Lin using the advanced search form, and that it was not the CSE department’s practice to verify the advanced search capability for title and abstract when a new article was uploaded. *See* J.A. 18; J.A. 7034–35. Mr. Little also admitted it was possible the search function did not work. J.A. 7035–36. Acceleration presented evidence that a recent advanced search for keywords in the title and abstract of Lin failed to produce any results. J.A. 7035–36; J.A. 7991–94. Blizzard argues these results are unauthenticated hearsay and are based on searches conducted years after the critical date, but Mr. Little testified that as to the website, “[i]t’s pretty much the same, actually, between [1999] and now. We’re running the same software.” J.A. 7031 at 19:15–20:23; *see also* J.A. 18–19. We will not disturb the Board’s weighing of the evidence. Substantial evidence supports the Board’s finding that there “is insufficient evidence of record to support a finding that a person of ordinary skill in the art in 1999 could have located Lin using the CSE Library website’s search function.” *See* J.A. 19.

In light of these facts, this case is not analogous to *In re Lister*, 583 F.3d 1307 (Fed. Cir. 2009), as Blizzard claims. In *Lister*, we explained that “[a] reasonably diligent researcher with access to a database that permits the searching of titles by keyword would be able to attempt several searches using a variety of keyword combinations,” and thus concluded that the manuscript at issue

was publicly accessible as of the date it was included in “databases that permitted keyword searching of titles.” 583 F.3d at 1315–16. Unlike in *Lister*, here the record supports the Board’s finding that the CSE Library website’s advanced search function did not successfully permit keyword searching of titles, a key feature in *Lister*. *See id.* The Board’s fact finding that, with available reports indexed only by author or year, Lin was not meaningfully indexed, is supported by substantial evidence.

Blizzard argues we need not even consider the website’s search functionality because Lin was indexed by title for a given year, author name, and unique sequence number, which is sufficient for public accessibility under *In re Hall*, 781 F.2d 897 (Fed. Cir. 1986). We do not agree.

The test for public accessibility is not “has the reference been indexed?” We have explained that where indexing is concerned, whether online or in tangible media, the “ultimate question is whether the reference was ‘available to the extent that persons interested and ordinarily skilled in the subject matter or art, exercising reasonable diligence, can locate it.’” *Voter Verified*, 698 F.3d at 1380; *accord In re Klopfenstein*, 380 F.3d 1345, 1348 (Fed. Cir. 2004) (“Even if the cases cited by the appellants relied on inquiries into distribution and indexing to reach their holdings, they do not limit this court to finding something to be a ‘printed publication’ *only* when there is distribution and/or indexing. Indeed, the key inquiry is whether or not a reference has been made ‘publicly accessible.’”). Here, the Board found that although Lin was indexed by author and year, it was not *meaningfully* indexed such that an interested artisan exercising reasonable diligence would have found it, which is a proper consideration under our precedent. *See, e.g., In re Cronyn*, 890 F.2d 1158, 1161 (Fed. Cir. 1989) (“We conclude that in the present case, as in *Bayer* and

unlike *Hall*, the three student theses were not accessible to the public because they had not been either cataloged or indexed in a meaningful way. . . . Here, the only research aid was the student's name, which, of course, bears no relationship to the subject of the student's thesis."). In light of the Board's fact findings, which are supported by substantial evidence, we agree that Lin is not a printed publication under § 102.

B.

Blizzard argues the Board erroneously determined claims 10–18 of the '634 patent are patentable over Shoubridge. Independent claim 10 contains the limitation, "for each participant connected to the broadcast channel, *an indication* of four neighbor participants of that participant." The Board construed "indication" according to its ordinary meaning as "something that serves to indicate," J.A. 253–54, which is not disputed on appeal. Blizzard disputes the Board's application of the term to Shoubridge. Specifically, it argues its expert, Dr. David Karger, explained "a participant must know the identities of its neighbors in order to send messages to them," and the Board applied an unspecified narrower construction that requires something more than each participant "know[ing] the identities of its neighbors" in determining Shoubridge did not disclose or render obvious this limitation. Cross-Appellants' Br. 58–60.

We see no error in the Board's construction or application of "indication." The Board did not err in determining that "an 'indication' requires more than the existence of neighbors," and substantial evidence supports its finding that Shoubridge does not disclose "something that serves to indicate" despite the fact that Shoubridge discloses nodes connected to each other. J.A. 254; J.A. 271–72.

Blizzard also argues the Board abused its discretion by failing to consider paragraphs 193–205 of Dr. Karger's reply declaration because it constituted new evidence for

its obviousness argument that could have been presented in the petition. *See, e.g.*, Cross-Appellants’ Br. 60 (citing J.A. 40569–74 ¶¶ 193–205)). It argues the declaration directly responds to Acceleration’s construction of “indication” and explains a skilled artisan’s understanding of the prior art regarding this limitation. It also argues it raised backup obviousness arguments for claims 1–18 over Shoubridge in its petition. We review the Board’s evidentiary rulings for abuse of discretion. *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1078 (Fed. Cir. 2015).

The Board did not abuse its discretion in declining to consider the cited paragraphs in Dr. Karger’s reply declaration. *See* J.A. 271–72. The declaration raises a new obviousness argument for this limitation that could have been made in the petition. The Board correctly noted this argument was not made in the petition, which proposed that Shoubridge rendered obvious a number of *other* claim limitations. Blizzard, as petitioner, had an opportunity to present this argument in its petition, but chose not to. *See SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348, 1355 (2018) (noting “the petitioner is master of its complaint”); *id.* at 1358 (noting the statute “makes the petition the centerpiece of the proceeding both before and after institution”). As we recently explained,

[i]t is of the utmost importance that petitioners in the IPR proceedings adhere to the requirement that the initial petition identify “with particularity” the “evidence that supports the grounds for the challenge to each claim.” 35 U.S.C. § 312(a)(3). “All arguments for the relief requested in a motion must be made in the motion. A reply may only respond to arguments raised in the corresponding opposition or patent owner response.” 37 C.F.R. § 42.23(b). Once the Board identifies new issues presented for the first time in reply, neither this court nor the Board must parse the reply brief to determine which, if any, parts of that brief are re-

sponsive and which are improper. As the Board noted, “it will not attempt to sort proper from improper portions of the reply.” Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,767 (Aug. 14, 2012).

Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd., 821 F.3d 1359, 1369 (Fed. Cir. 2016). We conclude that the Board did not abuse its discretion in not considering the cited paragraphs of the reply declaration in its analysis.

C.

Finally, Blizzard argues that certain substitute claims are unpatentable. The Board held substitute claims 19 of the '966 patent, 21 of the '344 patent, and 25 of the '634 patent patentable. These substitute claims contain the limitation “participants can join and leave the network using the broadcast channel.” Blizzard argues the Board inconsistently and erroneously construed the join-leave limitation. It argues the Board applied the correct construction when analyzing whether the motions to amend identified written description support in the original disclosure for the new limitation, but that it applied an unspecified, narrower construction when comparing the claims to the prior art.

We see no error in the Board’s analysis of this limitation. Blizzard provided no construction below, or on appeal, for this claim limitation. The Board, therefore, properly focused on the ordinary meaning to determine the prior art did not disclose or render obvious joining the network “using the broadcast channel.” We see no error or inconsistent treatment of this claim limitation in the Board’s analyses concerning written description and invalidity. We have considered Blizzard’s remaining arguments and find them unpersuasive. Accordingly, we affirm the Board’s determinations with regard to issues raised in Blizzard’s cross-appeal.

CONCLUSION

We conclude the Board properly construed “participant” according to its plain meaning and gave no patentable weight to the terms “game environment” and “information delivery service.” We also conclude substantial evidence supports the Board’s findings underlying its conclusion that Lin is not § 102 prior art, and that the Board did not err in determining certain claims and substitute claims are patentable over the prior art. Accordingly, we affirm.

AFFIRMED**COSTS**

No costs.