

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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WARGAMING GROUP LIMITED and ACTIVISION BLIZZARD, INC.,  
Petitioner,

v.

GAME AND TECHNOLOGY CO., LTD.,  
Patent Owner.

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Case IPR2017-01082  
Patent 7,682,243 B2

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Before STACEY G. WHITE, DANIEL J. GALLIGAN, and  
SCOTT B. HOWARD, *Administrative Patent Judges*.

GALLIGAN, *Administrative Patent Judge*.

FINAL WRITTEN DECISION  
*35 U.S.C. § 318(a)*

## I. INTRODUCTION

In this *inter partes* review, Wargaming Group Limited (“Wargaming”) and Activision Blizzard, Inc. (“Activision”) (collectively, “Petitioner”) challenge the patentability of claims 1–7 of U.S. Patent No. 7,682,243 B2 (“the ’243 patent,” Ex. 1001), which is assigned to Game and Technology Co., Ltd. (“Patent Owner”).

We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision, issued pursuant to 35 U.S.C. § 318(a), addresses issues and arguments raised during the trial in this *inter partes* review. For the reasons discussed below, we determine Petitioner has proven by a preponderance of the evidence that claims 1–7 of the ’243 patent are unpatentable. *See* 35 U.S.C. § 316(e) (“In an *inter partes* review instituted under this chapter, the petitioner shall have the burden of proving a proposition of unpatentability by a preponderance of the evidence.”).

### A. Procedural History

On March 13, 2017, Wargaming filed a Petition (Paper 1 (“Pet.”)) requesting *inter partes* review of claims 1–7 of the ’243 patent on two grounds of unpatentability based on the references below.

Levine	US 2003/0177187 A1	Sept. 18, 2003	Ex. 1004
	DUNGEONS AND DRAGONS: PLAYER’S HANDBOOK: CORE RULEBOOK I v.3.5 (Julia Martin & John Rateliff eds., 2003) (“D&D Handbook”)		Ex. 1005
	JOHN POSSIDENTE & DAVE ELLIS, MASTER OF ORION II: BATTLE AT ANTARES: THE OFFICIAL STRATEGY GUIDE (M. Scott Schrum ed., 1996) (“MOO Strategy Guide”)		Ex. 1009

The grounds of unpatentability presented in the Petition are set forth in the table below.

<b>References</b>	<b>Basis</b>	<b>Claims Challenged</b>
Levine and D&D Handbook	§ 103(a)	1–7
Levine and MOO Strategy Guide	§ 103(a)	1–7

Patent Owner filed a Preliminary Response. Paper 8 (“Prelim. Resp.”). Petitioner filed a reply to the Preliminary Response. Paper 12; *see* Paper 11 (authorizing Petitioner to file reply limited to a particular issue).

We instituted trial as to claims 1–7 on the ground of unpatentability based on Levine and D&D Handbook. Paper 14 (“Dec. on Inst.”), 36. We determined, however, that Wargaming had not established a reasonable likelihood of prevailing on the ground of unpatentability based on Levine and MOO Strategy Guide. Dec. on Inst. 35. Following the Supreme Court’s decision in *SAS Institute Inc. v. Iancu*, 138 S. Ct. 1348 (2018), we modified the Decision on Institution to institute on all of the grounds presented in the Petition. Paper 47, 2.

On May 22, 2018, the parties filed a Joint Motion to limit briefing and evidence as to the ground of unpatentability based on Levine and MOO Strategy Guide. Paper 52. Specifically, the parties requested that briefing and evidence on this ground be limited to what was submitted prior to the Decision on Institution. *Id.* at 2. We granted the parties’ Joint Motion, and we stated that “we do not deem the parties to have conceded patentability or unpatentability based on Ground 2 [(Levine and MOO Strategy Guide)] or to have waived any arguments based on that ground of unpatentability.” Paper 54, 3.

During the trial, the parties filed briefs addressing whether a real party-in-interest of Petitioner was served with a complaint alleging infringement of the '243 patent more than one year before the Petition was filed. Paper 24, 25, and 28. Patent Owner also filed a Response (Paper 39,<sup>1</sup> "PO Resp."), and Petitioner filed a Reply (Paper 53, "Pet. Reply"). Wargaming also filed a Motion to Exclude Exhibit 2027 (Paper 30), to which Patent Owner filed an opposition (Paper 31) and in support of which Wargaming filed a reply (Paper 32).

Following institution, Activision filed a petition for *inter partes* review of claims 1–7 of the '243 patent and a motion for joinder. IPR2018-00157, Papers 1 and 3. We granted Activision's motion for joinder and joined Activision as a party, on the petitioner side, to this *inter partes* review. Paper 46, 19.

An oral hearing was held on July 10, 2018, a transcript of which appears in the record. Paper 64 ("Tr.").

#### *B. Real Parties in Interest*

Wargaming identifies Wargaming Group Limited (formerly Wargaming Public Company Limited) and Wargaming.net LLP as real parties-in-interest. Pet. 72.

Activision identifies the following real parties-in-interest: Activision Blizzard, Inc.; Blizzard Entertainment, Inc., Activision Publishing, Inc., and Activision Entertainment Holdings, Inc. IPR2018-00157, Paper 1, 1.

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<sup>1</sup> Paper 39 is a corrected Response that Patent Owner filed to address a clerical error that occurred in the filing of Paper 36. Petitioner did not oppose the submission of Paper 39, and we authorized Patent Owner's filing of Paper 39.

### *C. Related Matters*

Petitioner and Patent Owner cite the following judicial matters involving the '243 patent: *Game and Technology Co. Ltd v. Wargaming.net LLP*, 2:16-cv-06554 (C.D. Cal.) and *Game and Technology Co. Ltd v. Blizzard Entertainment, Inc.*, 2:16-cv-06499 (C.D. Cal.). Pet. 72; Paper 3. In addition, the Board previously denied a petition for *inter partes* review of the '243 patent filed by Activision. *Activision Blizzard, Inc. v. Game and Tech. Co.*, Case IPR2016-01918, slip op. at 18 (PTAB Mar. 21, 2017) (Paper 14).

### *D. The '243 Patent and Illustrative Claim*

The '243 patent generally relates to “providing an online game, in which ability information of a unit associated with a pilot is enabled to change as ability information of the pilot changes.” Ex. 1001, 1:23–25. The '243 patent explains that a “pilot” in a game may have associated with it certain “ability information,” such as brave point, react point, faith point, capacity point, and mentality point. Ex. 1001, 6:1–4, Fig. 5. These pilot abilities may be linked to certain abilities of a unit.

Information on the brave point (Bp) records the braveness of a pilot in a numerical value, and is associated with information on the attack power (ATP) 305 of a unit. Information on the react point (Rp) records agility or reaction of a pilot in a numerical value, and is associated with information on the evasion power (EVP) 306 of a unit. Information on the faith point (Fp) records faith about the pilot itself in a numerical value, and is associated with the defense power (DEF) 307 of a unit. Information on the capacity point (Cp) records potential capacity of a pilot in a numerical value, and may not be associated with any ability information of a unit. Information on the mentality point (Mp) records a mental ability of a pilot in a numerical value, and is associated with information on the hit power (HTP) 308 of a unit.

Ex. 1001, 6:4–18.

The '243 patent describes the use of a “sync point” to update unit ability information as pilot ability information changes. Ex. 1001, 5:7–11, 7:41–8:19. The specification of the '243 patent explains that “[t]he sync point 304 is information indicating a numeric relationship between a unit and its associated pilot, that is, information indicating a ratio or proportion of which changes in pilot ability information are applied to unit ability information.” Ex. 1001, 5:7–11. The '243 patent provides an example showing how the sync point is used to update a unit’s attack power ability information when a pilot’s brave point ability information changes. Ex. 1001, 7:51–8:19. In this example, the value of the pilot’s “brave point” increases from 80 to 90, resulting in an increase of 10. Ex. 1001, 8:1–5. This increase (10) is multiplied by 0.8, which is the sync point in the example, to arrive at 8, which is the proportional increase by which the attack power of the unit is changed. Ex. 1001, 7:60–8:15. In the example, the previous attack power of the unit was 70, so the new attack power is calculated by adding the proportional increase of 8 to the previous value 70 to arrive at 78. Ex. 1001, 8:15–19.

Of the challenged claims, claims 1, 6, and 7 are independent. Claim 1 is illustrative and is reproduced below:

1. An online game providing method for providing a pilot and a unit associated with the pilot at an online game, the method comprising the steps of:
  - controlling an online game such that a player can manipulate a pilot and a unit associated with said pilot, said pilot being a game character operated by a player, said pilot representing the player, said unit being a virtual object controlled by the player;

maintaining a unit information database, the unit information database recording unit information on said unit, in which the unit information includes ability of said unit and sync point information;

maintaining a pilot information database, the pilot information database recording pilot information on said pilot, in which the pilot information includes a unit identifier indicating said unit associated with said pilot, ability of said pilot and the ability of said unit associated with said pilot;

receiving a request for update on first pilot ability information of a first pilot;

searching for unit identifier information associated with the first pilot by referring to the pilot information database;

searching for sync point information associated with the searched unit identifier information by referring to the unit information database; and

updating and recording the first pilot ability information and unit ability information associated therewith in accordance with the searched sync point information such that said ability of unit is changed proportionally to changes in ability of the pilot by referring to said sync point,

wherein said sync point information is a ratio of which changes in said ability of pilot are applied to said ability of unit, and said steps of searching for unit identifier information and of searching for sync point information are performed by a processor.

## II. ANALYSIS

### A. 35 U.S.C. § 315(b)

#### 1. Background

Under 35 U.S.C. § 315(b), “[a]n inter partes review may not be instituted if the petition requesting the proceeding is filed more than 1 year after the date on which the petitioner, real party in interest, or privy of the petitioner is served with a complaint alleging infringement of the patent.” The Petition states that “Petitioner and real-parties-in-interest are not barred

or estopped from requesting *inter partes* review of any claim of the '243 Patent on the grounds set forth herein because they have not been served.” Pet. 72–73. In support, Petitioner cites a declaration of its general counsel, Roman Zanin, who provides testimony regarding attempted service on Wargaming entities abroad (Ex. 1011 ¶ 3) and further testifies that “Wargaming.net LLP and Wargaming Group Limited . . . were never served” (Ex. 1011 ¶ 6).

In its Preliminary Response, Patent Owner argued that the Petition, which was filed March 13, 2017, is time barred under 35 U.S.C. § 315(b) because Wargaming.net LLP, a real party-in-interest to Petitioner, “was served with a complaint alleging infringement of the '243 patent on December 14, 2015, in accordance with the laws of England and Wales” pursuant to the Hague Convention. Prelim. Resp. 4 (citing Exs. 2001 and 2002<sup>2</sup>). In support, Patent Owner cites a “Witness Statement of Service” signed by John Frederick Talbot stating that a complaint for infringement of the '243 patent was served on Wargaming.net LLP and that the “deemed date of service” under English court rules is December 14, 2015. Ex. 2002; *see also* Ex. 2002 (Supplemental), 1.

On August 11, 2017, a conference call was held with the Board and counsel for the parties to discuss Petitioner’s request to file a reply limited to addressing Patent Owner’s assertion that Wargaming.net LLP was served with a complaint for infringement of the '243 patent more than one year

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<sup>2</sup> Patent Owner filed Exhibits 2001 and 2002 with its Preliminary Response. On July 19, 2017, Patent Owner filed supplemental exhibits 2001 and 2002, which purport to include the attachments referred to in the originally-filed exhibits. *See* Paper 9, Ex. 2001 (Supplemental), Ex. 2002 (Supplemental).



before the filing of the Petition in this proceeding. We authorized Petitioner to file a reply to provide more information on this issue. *See* Paper 11.

Petitioner, in its reply to the Preliminary Response, “denies that Wargaming.net LLP was served in the manner described by Mr. Talbot,” and it submits a declaration of Mr. Costas A. Joannou (Ex. 1017), the individual upon whom Patent Owner alleges service of the complaint was made. Paper 12, 1. Mr. Joannou states that he is the vice chairman of Wargaming.net LLP’s former accounting and auditing firm. Ex. 1017 ¶ 2. Mr. Joannou testifies that he “reviewed Supplemental Exhibits 2001 and 2002 from Game and Technology” and that he “cannot recollect ever meeting Mr[.] John Talbot, confirming anything to Mr[.] Talbot, or receiving any documents from Mr[.] Talbot.” Ex. 1017 ¶¶ 3–4. Mr. Joannou further testifies that his diary entry from December 10, 2015, “shows that most likely I wasn’t in the office during the time Mr[.] Talbot says that he ‘left’ the documents with me.” Ex. 1017 ¶ 5 (citing Ex. C). Mr. Joannou also testifies as to his firm’s “long-established practice” for handling any documents received on behalf of Wargaming.net LLP or any other client, stating that he “would have immediately arranged to forward those letters via courier service to the client as this is the standard practice in our firm.” Ex. 1017 ¶ 6. Mr. Joannou provides an activity log for Wargaming.net LLP as Exhibit B to his declaration and notes that there are no courier fees after October 5, 2015 for Wargaming.net LLP. Ex. 1017 ¶ 7.

In the Decision on Institution, we stated:

The current record presents competing evidence as to whether Wargaming.net LLP was served more than one year before the filing of the Petition. We determine that this record needs to be developed further before a determination can be

made as to this issue. Thus, on this record, we do not deny institution of the Petition as time barred under 35 U.S.C. § 315(b). We reserve our determination on this issue pending further development of the record during trial.

Dec. on Inst. 7.

In an Order setting the schedule for this proceeding, we set several early deadlines for discovery and briefing on the issue of whether Wargaming.net LLP was served with a complaint more than one year before the Petition was filed. Paper 16, 4. The parties agreed to conduct depositions of Messrs. Joannou and Talbot in London on November 2, 2017. *Id.* at 3–4; Ex. 3001. Petitioner took the deposition of Mr. Talbot on November 2, 2017, and Petitioner entered the transcript in the record as Exhibit 1025. Patent Owner did not take the deposition of Mr. Joannou. *See* Paper 21 (Patent Owner’s Notice of Withdrawal of Deposition of Costas A. Joannou).

As noted above, the parties filed briefs addressing whether a real party-in-interest of Petitioner was served with a complaint alleging infringement of the ’243 patent more than one year before the Petition was filed. Paper 24, 25, and 28. On December 29, 2017, we denied without prejudice Patent Owner’s request to dismiss the Petitioner as time-barred under 35 U.S.C. § 315(b), noting that “the evidence before us is not conclusive as to whether a proper summons was included in the papers that purportedly were delivered to Wargaming.net LLP.” Paper 33, 2. Patent Owner further briefed the issue in its Response, and Petitioner briefed it in the Reply. PO Resp. 1–12; Pet. Reply 25–27.

With this background, we turn to the merits of the issue.

## 2. Discussion

Petitioner maintains that Wargaming.net LLP was not properly served with a complaint alleging infringement of the '243 patent. Paper 24, 3–10; Pet. Reply 25–27. Patent Owner argues service occurred in the following two ways: (1) personal service on Mr. Joannou as the registered agent of Wargaming.net LLP in the UK (Paper 25, 1–7), and (2) service by mail to Wargaming in Cyprus (*id.* at 7–9). We address each of these below.

### *a. Alleged personal service on Mr. Joannou*

As an initial matter, there is conflicting evidence as to whether any documents at all were delivered by Mr. Talbot to Mr. Joannou. Mr. Talbot testified in his deposition that he served documents on Mr. Joannou. Ex. 1025, 73:3–23. Mr. Talbot testified that the first page of Exhibit 2002 (Supplemental) is his “proof of service,” which he signed on December 13, 2015. Ex. 1025, 22:25–23:15, 25:24–26:3; Ex. 2002 (Supplemental) (“Witness Statement of Service”). The date of alleged service was December 10, 2015, according to Mr. Talbot’s proof of service. Ex. 2002 (Supplemental), 1.

Mr. Joannou testifies that he “cannot recollect receiving any copies of any of the materials referred to in Exhibits 2001 or 2002” and “cannot recollect ever meeting Mr[.] John Talbot, confirming anything to Mr[.] Talbot, or receiving any documents from Mr[.] Talbot.” Ex. 1017 ¶ 4. Mr. Joannou also provides testimony further explaining his whereabouts on December 10, 2015, when service was alleged to have been made. Ex. 1017 ¶ 5. Mr. Joannou’s testimony, however, was provided on August 7, 2017, according to the signature on Exhibit 1017. This is more than one and a half years after the alleged service took place.

On one hand, therefore, we have Mr. Talbot's Witness Statement of Service, which was signed only three days after the alleged service took place on December 10, 2015, and testimony from Mr. Talbot confirming that the first page of Exhibit 2002 (Supplemental) is his "proof of service." On the other hand, we have testimony from a witness more than one and a half years after the alleged service stating that he does not recall having received documents from Mr. Talbot. We do not find either Mr. Talbot's or Mr. Joannou's testimony to lack credibility, but Mr. Joannou's testimony is inconclusive at best. Based on our review of the evidence, we credit Mr. Talbot's testimony that he delivered some documentation to Mr. Joannou. For the reasons explained below, however, we find that service was not effected in accordance with the Federal Rules of Civil Procedure.

Federal Rule of Civil Procedure 4(c)(1) provides that "[a] summons must be served with a copy of the complaint." Federal Rule of Civil Procedure 4(a)(1) provides that "[a] summons must . . . (F) be signed by the clerk; and (G) bear the court's seal." Included within Exhibit 2002 (Supplemental) is a summons signed by the clerk for the United States District Court for the Eastern District of Texas and bearing that Court's seal, but there appears to be no dispute that this signed and sealed summons was not part of the documentation delivered by Mr. Talbot to Mr. Joannou.

Mr. Joseph Zito, one of the Patent Owner's counsel in this proceeding (*see* Paper 59), executed a declaration stating the following:

I am an attorney at DNL Zito in Washington, D.C., and am lead counsel for Game and Technology Co., Ltd. in the litigation GAME AND TECHNOLOGY CO., LTD., v. WARGAMING

GROUP LIMITED, 2:16-cv-06554 BRO (SKx) in the U.S. District Court for the Central District of California.

GAT Exh 2019 is a true copy of a letter and attachments that Legal Language Services sent to me in January 2016 regarding the service of Wargaming Group Limited (previously named Wargaming.net.LLP) in the U.K..

I recently obtained the original documents from storage. I then filed a copy of the documents with the U.S. District Court for the Central District of California on November 10, 2017, and served these documents on counsel for Wargaming on November 10, 2017. GAT Exh 2020 is a copy the documents that were filed and served.

Ex. 2021 ¶¶ 1–3. Each of Exhibits 2019 and 2020 includes two copies of an unsigned and unsealed summons, but nowhere within these exhibits is a signed and sealed summons. Ex. 2019, 7–8, 21–22; Ex. 2020, 10–11, 24–25. Patent Owner’s evidence, therefore, shows that a proper summons was not delivered to Mr. Joannou.

Patent Owner acknowledges as much and argues that a “mere procedural printing error that caused the seal and signature to be missing from the copy of the summons properly served by Mr. Talbot does not render the service ineffective.” PO Resp. 7; Paper 25, 7. We disagree because, under the Federal Rules of Civil Procedure, a signed and sealed summons must be served with the complaint to effect service. Fed. R. Civ. P. 4. Patent Owner also cites various cases and authorities supporting the proposition that a Court may overlook defects in service. *See* PO Resp. 5–7; Paper 25, 5–7. We, however, have no authority to overlook defects in service of a complaint in district court litigation and deem service to have occurred. Furthermore, the parties confirmed during oral argument

that no district court has deemed service to have occurred. Tr. 14:8–12, 34:15–25.

Based on the foregoing, we determine that the delivery of documents to Mr. Joannou did not effect service on Wargaming.net LLP because the documents did not include a signed and sealed summons as required under Federal Rule of Civil Procedure 4.

*b. Alleged service by mail in Cyprus*

Patent Owner further argues that it properly served by mail a complaint alleging infringement of the '243 patent on Wargaming Group Limited in Cyprus. PO Resp. 7–10; Paper 25, 7–9. As evidence of service, Patent Owner proffers Mr. Zito's testimony that he "mailed the same documents as GAT Exh 2022, GAT Exh 2026 and Complaint to Wargaming Group Limited in Cyprus in December 2015." Ex. 2027 ¶ 2. Exhibit 2026 is a signed and sealed summons directed to Wargaming Public Company Limited. Patent Owner argues that service by mail to an entity in Cyprus is permitted under the Hague Convention and that "the mailing of a summons and complaint to Wargaming Public Company Limited is effective service on newly named Wargaming Group Limited." PO Resp. 8–9; Paper 25, 8.

In *Water Splash, Inc. v. Menon*, the Supreme Court held that, "in cases governed by the Hague Service Convention, service by mail is permissible if two conditions are met: first, the receiving state has not objected to service by mail; and second, service by mail is authorized under otherwise-applicable law." 137 S. Ct. 1504, 1513 (2017). Considering the second prong first, Patent Owner argues that Federal Rule of Civil Procedure 4(c) permits service by "[a]ny person who is 18 years old and not a party." PO Resp. 9. Patent Owner contends, therefore, that Mr. Zito's mailing of

the complaint was authorized by law because he “is the plaintiff’s attorney and is not a party to the litigation.” PO Resp. 9. This provision of Federal Rule of Civil Procedure 4(c), however, does not speak to the manner of service, and it does not authorize service by mail. Another provision of the Federal Rules of Civil Procedure does authorize service of a defendant by mail in a foreign country “using any form of mail that the clerk addresses and sends to the individual and that requires a signed receipt.” FED. R. CIV. PROC. 4(f)(2)(C)(ii). Mr. Zito testifies, however, that *he* mailed the documents to Wargaming Group Limited in Cyprus. Ex. 2027 ¶ 2. Thus, the requirement that the clerk address and send the summons and complaint was not satisfied by Mr. Zito’s mailing of documents. As Petitioner points out, there also is no evidence that Mr. Zito used a form of mail that requires a signed receipt. Pet. Reply 27; Paper 28, 2–3.

Based on the foregoing, we determine that Mr. Zito’s mailing of documents to Wargaming Group Limited in Cyprus did not effect service of a complaint alleging infringement of the ’243 patent.

*c. Other considerations*

On November 10, 2017, Patent Owner filed in the United States District Court for the Central District of California a “Notice of Service,” which is signed by Joseph Zito. Ex. 2020. This Notice describes a call made by counsel for Wargaming to counsel for Game and Technology on February 11, 2016, and states that Wargaming’s counsel “confirmed service [of] their client in the UK and in Cypr[us] (although the Cypr[us] service was informal) and stated that Wargaming would not be challenging service.” Ex. 2020, 2. This statement, however, conflicts with a contemporaneous email dated February 11, 2016, from counsel for Wargaming to counsel for

Game and Technology stating, “we still do not believe that service was properly effected on either Wargaming entity.” Ex. 1027.

The Notice of Service also says that a status conference was held on March 15, 2016,<sup>3</sup> and that “Wargaming’s counsel made an appearance on behalf of Defendant” but “did not raise any issue of improper service.” Ex. 2020, 2. Wargaming filed a Motion to Dismiss for Improper Venue on April 1, 2016. Ex. 2020, 2. Both of these dates are within one year of the March 13, 2017, filing date of the Petition and, therefore, would not bar institution of the proceeding. *See* Paper 7 (according a filing date of March 13, 2017).

### 3. Conclusion

Because neither Wargaming nor Wargaming.net LLP was served with a complaint alleging infringement of the ’243 patent more than one year before Wargaming filed the Petition, 35 U.S.C. § 315(b) does not bar institution of this *inter partes* review.

#### B. Level of Ordinary Skill in the Art

Citing the testimony of its declarant, Mr. Garry Kitchen, Petitioner argues:

A person of ordinary skill in the art (“POSITA”) would have had (1) at least a four-year Bachelor of Science degree in computer science or a commensurate degree OR at least 5 years of professional experience as a video game designer/developer; and (2) a working understanding of computer programming and the videogame industry.

Pet. 8 (citing Ex. 1003 ¶ 74). Patent Owner contends that “[t]he skilled artisan at the time of the invention would have had (1) a Bachelor of Science

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<sup>3</sup> Although the Notice of Service states that the status conference occurred on March 15, 2017, we understand that it occurred in 2016.



degree in computer science or commensurate degree or five years of professional experience in the field of computer game development, and (2) significant familiarity with role playing game mechanics.” PO Resp. 16.

Neither party explains in detail why its proposed level of ordinary skill in the art should be adopted nor how the different levels affect the parties’ analyses. The parties’ assertions as to education level and experience in lieu of education are very similar. Petitioner points out that the ’243 patent is not limited to role playing games and disputes Patent Owner’s asserted level of ordinary skill in that regard. Pet. Reply 2 (citing Ex. 1001, 1:17–22, 3:37–40). We agree with Petitioner on this point because the ’243 patent states that “it will be apparent to those of ordinary skills in the related art that the technical spirits of the present invention may be applied to not only an online RPG but also an online racing game in which a game makes progress through two and more player characters.” Ex. 1001, 3:35–40. As such, we determine that a person of ordinary skill in the art need not have significant familiarity with role playing game mechanics. Rather, we are persuaded by Petitioner’s contention that a person of ordinary skill in the art would have had “a working understanding of computer programming and the videogame industry.” Pet. 8 (citing Ex. 1003 ¶ 74).

Based on the evidence of record, including the testimony of Petitioner’s declarant, the subject matter at issue, and the prior art of record, we determine that the skill level of a person of ordinary skill in the art would have been that of a person having: (1) a four-year Bachelor of Science degree in computer science or a commensurate degree or five years of professional experience as a video game designer/developer; and (2) a

working understanding of computer programming and the videogame industry. Ex. 1003 ¶ 74. We note, however, that our conclusions would not differ regardless of which party's proposed level of ordinary skill we adopted.

### *C. Claim Construction*

In an *inter partes* review, claim terms in an unexpired patent are interpreted according to their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b). In applying a broadest reasonable construction, claim terms generally are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *See In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). This presumption may be rebutted when a patentee, acting as a lexicographer, sets forth an alternate definition of a term in the specification with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994).

The Decision on Institution provided discussions addressing the broadest reasonable interpretations of various claim terms. Dec. on Inst. 8–17. Based on the parties' arguments during the trial, we provide the following analysis with respect to the broadest reasonable interpretations of several claim terms.

#### *1. "Unit"*

With respect to the term "unit," each independent claim recites "said unit being a virtual object controlled by the player." In a section entitled "Explanation of Terms used in the Present Specification," the '243 patent states:

A unit used in the present specification is an object operated by a control of a gamer, and the unit may be an object for continuing a game substantially, for example, a robot character. The unit may be a target for the gamer to import his/her feelings. Also, a concept of item belonging to the gamer may be applied to the unit.

Ex. 1001, 3:12–18.

Based on the claim language and the disclosure of the '243 patent, we agreed with Petitioner that the term “unit” encompasses “an object operated by control of a gamer,” noting also that it must be a virtual object, as expressly recited in the claims. Dec. on Inst. 11.

In its Response, Patent Owner contends that this interpretation “is taken out of proper context of the ‘243 Patent” and “is broad enough to read on almost any object in the game, regardless of whether such object is being ‘piloted’ or steered by a pilot.” PO Resp. 21–22. According to Patent Owner, “[t]he specification makes clear that the piloted ‘unit’ may be either ‘a robot character or a vehicle character,’ namely that which is piloted by a ‘pilot.’” PO Resp. 23 (citing Ex. 1001, 1:40–43). Patent Owner also cites Figure 3 of the '243 patent, which is an example of a unit information database. PO Resp. 24; *see also* Ex. 1001, 3:51–54 (“FIG. 3 is a diagram illustrating an example of internal configuration of a unit information database according to an embodiment of the present invention . . .”). Patent Owner argues that the listings under “unit kind” in Figure 3 are names of known robot characters: Evangerion, Mazinger, and TaekwonV. PO Resp. 24–28 (citing Ex. 2032 ¶¶ 44–45, 53–57; Exs. 2004 and 2005). As such, Patent Owner argues that, “consistent with the meaning of ‘pilot’ in the context of the ‘243 Patent, the broadest reasonable interpretation of

‘unit’ is *a mount having motion controlled by the pilot.*” PO Resp. 22 (citing Ex. 1001, 3:9–10; Ex. 2032 ¶ 48).

We disagree with Patent Owner’s reasoning and its proposed interpretation. The claims expressly recite that the unit is “a virtual object controlled by the player.” The plain language of the claims, therefore, requires that the unit be controlled by the player, not by the pilot. Furthermore, the claims do not recite that the claimed “unit” is a “piloted unit,” as Patent Owner attempts to read the claims. *See* PO Resp. 21–23. For example, as we pointed out in the Decision on Institution, the ’243 patent describes a “pet unit” as distinct from a “robot unit”:

Also, the present invention may further include a Support Manbow of a pilot such as a pet unit that accompanies a robot unit as another unit of the pilot, and helps a game progress. Ability information of the Support Manbow may also interoperate with change of ability information of the pilot and change. That is, at least one unit interoperating with ability information of the pilot may be included.

Ex. 1001, 7:14–20, *quoted in* Dec. on Inst. 11. Patent Owner argues, “To the extent the ’243 Patent makes mention of a ‘pet,’ computer game pets in the context of the ’243 Patent are fully autonomous.” PO Resp. 45 (citing Ex. 1001, 7:14–20; Ex. 2032 ¶ 114). Neither Patent Owner nor its declarant, Dr. Claypool, provides any elaboration explaining why this is the case, and the specification of the ’243 patent contradicts this assertion. In particular, it states that “[a] unit used in the present specification is an object operated by a control of a gamer.” Ex. 1001, 3:12–13; *see Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005) (*en banc*) (“[T]he specification is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.”) (internal

quotation and citation omitted). Because the specification states that a unit is operated by control of a gamer and because a “pet unit” is an example of a “unit,” it follows that a “pet unit” is operated by control of a gamer and, thus, is not fully autonomous. Ex. 1001, 3:12–15, 7:14–16.

Furthermore, we see nothing in the claims that requires the “unit associated with said pilot” to be a unit on which a pilot rides, such as “a mount.” As discussed above, the specification of the ’243 patent makes clear that a “pet unit” is “another unit of the pilot” and that the ability information of the pet unit “may also interoperate with change of ability information of the pilot and change.” Ex. 1001, 7:14–20. Thus, the claimed “unit” whose ability information is updated according to the claims may be a “pet unit” even if the claimed “pilot” is “a player-operated game character that controls the motion of a mount, such as a character-controlled robot or a character-controlled vehicle,” as Patent Owner asserts. *See* PO Resp. 19–20 (emphasis omitted). The claims require only a single unit whose ability is updated, and, if that unit is the pet unit, the pilot’s mount’s ability need not be updated to be within the scope of the claims.

Patent Owner also argues:

[A]ny “object” used by an avatar in a computer game would be encompassed under Petitioner’s proposed construction of “unit.” In the context of RPG computer games, this might include a sword, a shield, a ball, or any other item (*i.e.*, object) wielded by (*i.e.*, operated by control of) an avatar. Plainly, however, the context ‘243 Patent does not support such an expansive interpretation of “unit” that is unassociated with a “pilot” in control thereof.

PO Resp. 22–23 (citing Ex. 2032 ¶ 49). We see no reason why an object that is associated with a pilot in a game cannot be a “unit,” as claimed. The specification of the ’243 patent states that “a concept of item belonging to

the gamer may be applied to the unit.” Ex. 1001, 3:17–18. A pilot’s sword, therefore, appears to be within the scope of a “unit associated with said pilot,” assuming, of course, that it satisfies the claimed requirement of “being a virtual object controlled by the player.”

Patent Owner also entered into evidence a Claim Construction Order from the United States District Court for the Central District of California. Ex. 2035. In that Order, which addresses several terms in the ’243 patent, including “pilot,” “unit,” and “sync point information,” the District Court construed “unit” to mean “a mount, such as a vehicle or a robot, which is controlled by the pilot.” Ex. 2035, 22. In that case, the plaintiff (Patent Owner) argued that “unit” be given its plain and ordinary meaning or, in the alternative, be construed as “a virtual object having mobility that can be controlled by the player through the pilot.” Ex. 2035, 20. The defendant argued that “unit” should be defined as “mount (either a robot character or a vehicle character) which is piloted by the pilot.” Ex. 2035, 20. In the Order, the Court explained that, during the claim construction hearing, the plaintiff stated that it did not object to construing “unit” as a “mount . . . which is controlled by the pilot,” but the plaintiff objected to including the phrase “(either a robot character or a vehicle character).” Ex. 2035, 20–21. After considering statements made by the plaintiff in IPR proceedings, the Court construed the term “unit” as “a mount, such as a vehicle or a robot, which is controlled by the pilot.” Ex. 2035, 22.

In the context of claim construction under the broadest reasonable interpretation standard, the Federal Circuit has stated that “[t]here is no dispute that the [Patent Trial and Appeal Board (board)] is not generally bound by a prior judicial construction of a claim term.” *Power Integrations*,

*Inc. v. Lee*, 797 F.3d 1318, 1326 (Fed. Cir. 2015)). The Federal Circuit further advised, however, that “[t]he fact that the board is not generally bound by a previous judicial interpretation of a disputed claim term does not mean . . . that it has no obligation to acknowledge that interpretation or to assess whether it is consistent with the broadest reasonable construction of the term.” *Id.* Pursuant to the Federal Circuit’s guidance, we assess whether the District Court’s construction of “unit” is consistent with the broadest reasonable interpretation of that term.

We note that, in the District Court, the parties agreed generally that a “unit” is a “mount . . . which is controlled by the pilot,” and, therefore, the District Court’s claim construction analysis focused on the parties’ disagreement about whether a unit must be a vehicle or a robot or whether those were just examples of a unit. Ex. 2035, 21–22. The District Court determined that the claims, the specification, and the prosecution history of the ’243 patent do not support requiring a “unit” to be a vehicle or a robot. Ex. 2035, 22. We agree with the District Court’s conclusion in this regard. As the District Court noted, the claims do not recite the words “robot” or “vehicle,” and the specification of the ’243 patent lists a “robot character” merely as an example of a unit. Ex. 2035, 21 (citing Ex. 1001, 3:12–15). The District Court also noted that the ’243 patent describes a “pet unit,” which would be excluded if a “unit” could only be a robot or a vehicle. Ex. 2035, 21 (citing Ex. 1001, 7:14–16). We also agree with this finding of the District Court because, as we discuss above, a “pet unit,” as described in the ’243 patent, is within the scope of the claimed “unit.” We, therefore, agree with the District Court’s resolution of the dispute between the parties. However, the District Court’s claim construction, which was largely an

agreed construction of the parties, is not the broadest reasonable interpretation. In particular, as discussed above, the claims recite that the unit is “controlled by the player,” not by the pilot. We also do not agree that a unit must be a “mount” under the broadest reasonable interpretation because, as discussed above, the ’243 patent states that “a concept of item belonging to the gamer may be applied to the unit,” suggesting that an object such as a pilot’s sword is within the scope of the claimed “unit.” Ex. 1001, 3:17–18. The “mount” language, however, was agreed upon by the parties and, therefore, not specifically analyzed by the District Court. *See* Ex. 2035, 20–22.

Having considered the full record developed during trial as well as the District Court’s construction of the term “unit,” we see no reason to deviate from our initial determination as to the broadest reasonable interpretation of “unit.” Dec. on Inst. 11. In particular, we determine that the claims themselves sufficiently define a unit as “a virtual object controlled by the player.”

## 2. “Pilot”

Each independent claim uses the term “pilot” and recites “said pilot being a game character operated by a player, said pilot representing the player.” In the Decision on Institution, we determined that, “[b]ecause each independent claim defines the term ‘pilot,’ no further construction is necessary.” Dec. on Inst. 9.

Patent Owner argues that a definition of “pilot” that encompasses any player character is overly broad and is taken out of context of the ’243 patent. PO Resp. 17 (citing Ex. 1001, 1:37–40, 3:9–10, 3:12–15; Ex. 2032 ¶¶ 35–36). According to Patent Owner, the plain meaning of “pilot”



involves controlling the motion of a ship or an aircraft, for example, and “the term ‘pilot,’ as used in the ‘243 Patent, differs from the plain meaning of ‘pilot’ only in that the character-controlled object (*i.e.*, ‘unit’) piloted by the game character pilot is not limited to a ship or aircraft.” PO Resp. 17–18, 20 (citing Ex. 2003; Ex. 2032 ¶¶ 37, 41). Patent Owner argues, therefore, that the broadest reasonable interpretation of “pilot” is “a player-operated game character that controls the motion of a mount, such as a character-controlled robot or a character-controlled vehicle.” PO Resp. 19–20 (emphasis omitted). Furthermore, the District Court construed “pilot” to mean “a player-operated game character that operates the motion controls of a separate unit” based on what the Court characterized as “clear and unmistakable disavowal of claim scope” by Patent Owner in proceedings before the Board. Ex. 2035, 19–20.

Although both Patent Owner’s proposed construction and the District Court’s construction are encompassed by the broadest reasonable interpretation of “pilot,” we conclude that these interpretations do not delineate the scope of the term “pilot,” under its broadest reasonable interpretation in light of the ’243 patent’s disclosure. As to Patent Owner’s proposed construction, we do not agree that a pilot must be able to control a “mount.” The word “mount” appears nowhere within the ’243 patent, and we see no reason to incorporate this limitation into the claims in the absence of any intrinsic evidence.

The District Court based its construction on statements the plaintiff made in proceedings before the Board.

A review of the prosecution history resolves the parties’ dispute as to this claim term. During IPR proceedings for the ’243 patent, Plaintiff argued that “the term ‘pilot’ as used in the ’243

patent is a player-operated game character that operates the motion controls of a mount.” . . . Plaintiff made this argument to the PTAB in an effort to distinguish the claimed invention from the prior art references Matsui and Battlecry. . . . These statements by Plaintiff during the IPR constitute a clear and unmistakable disavowal of claim scope requiring that the term “pilot” means a player-operated game character that operates the motion controls of a mount.

Ex. 2035, 19–20 (citations omitted). The District Court construed “pilot” to be “a player-operated game character that operates the motion controls of a separate unit,” rather than a “mount,” “to better match the precise language of the disclaimer made during the IPR proceedings.” Ex. 2035, 20 n.6. In reaching its determination, the District Court cited the Federal Circuit’s holding that “statements made by a patent owner during an IPR proceeding can be considered during claim construction and relied upon to support a finding of prosecution disclaimer.” *Aylus Networks, Inc. v. Apple Inc.*, 856 F.3d 1353, 1361 (Fed. Cir. 2017), *cited in* Ex. 2035, 20. The Federal Circuit, however, has also stated that “the PTO is under no obligation to accept a claim construction proffered as a prosecution history disclaimer, which generally only binds the patent owner.” *Tempo Lighting, Inc. v. Tivoli, LLC*, 742 F.3d 973, 978 (Fed. Cir. 2014). In this case, Patent Owner’s statements in IPR proceedings do not delineate the scope of the claims for purposes of this proceeding where those statements are not supported by the intrinsic record. Stated differently, Patent Owner cannot avoid prior art by redefining a claim term after issuance simply by argument without amending the claim. In the section entitled “Explanation of Terms used in the Present Specification,” the ’243 patent states:

A pilot used in the present specification is a player character representing a gamer who imports his/her feelings in a

game to continue the game. *The gamer may control motions of a unit through the pilot.*

Ex. 1001, 3:7–10 (emphasis added). The specification, therefore, uses permissive language rather than restrictive language to describe the gamer’s control of a unit through a pilot. As such, we determine that the broadest reasonable interpretation does not require the pilot to control the motion of a separate unit, although it certainly can.

In our Decision on Institution, we determined that each of the independent claims defines the term “pilot” by reciting “said pilot being a game character operated by a player, said pilot representing the player.” Dec. on Inst. 9. We maintain that no further construction is necessary. We also note, however, that the combination of D&D Handbook and Levine teaches a “pilot” according to both Patent Owner’s proposed construction and the District Court’s construction, as discussed further below.

### 3. “Ability”

As discussed above in Section I.D, the ’243 patent describes using a “sync point” to update unit ability information as pilot ability information changes. Each independent claim recites “ability of said unit” and “ability of said pilot,” and the claims recite updating these abilities “such that said ability of unit is changed proportionally to changes in ability of the pilot by referring to said sync point.” Because the claims require unit ability changes to be proportional to pilot ability changes according to a sync point, which is a ratio, it is clear that “ability of said unit” and “ability of said pilot” must be numeric. The parties disagree as to what is encompassed within the term “ability.”

Petitioner contends the term “ability” as used in the ’243 patent means “a numeric representation of an attribute.” Pet. 10–11 (citing Ex. 1001,

5:22–27, 6:19–22, Figs. 3–5, claim 5; Ex. 1003 ¶ 98). In the Preliminary Response, Patent Owner argued that “[t]he broadest reasonable interpretation of ‘ability’ consistent with specification is a characteristic of the pilot or unit’s *performance*.” Prelim. Resp. 17 (citing Ex. 1001, 5:2–3, 5:50–51). According to Patent Owner,

[t]he examples of abilities of the unit that are in sync with the abilities of the unit [sic, pilot] are all performance characteristics of unit that are related to performance characteristics of the pilot: The unit’s attack power is related to the pilot’s braveness; the unit’s defense power is related to the pilot’s faith; the unit’s evasion power is related to the pilot’s ability to react; and the unit’s hit power is related to the pilot’s mentality.

Prelim. Resp. 17–18 (citing Ex. 1001, 6:67–7:13, Fig. 5).

In the Decision on Institution, we stated:

We do not agree with Patent Owner that an “ability” according to the specification is limited to a characteristic of the pilot’s or unit’s performance. One pilot ability identified by Patent Owner is a pilot’s “faith,” which the ’243 patent calls the “faith point (Fp).” *See* Prelim. Resp. 18; Ex. 1001, 7:5–6. The ’243 patent states that “[i]nformation on the faith point (Fp) records faith about the pilot itself in a numerical value, and is associated with the defense power (DEF) 307 of a unit.” Ex. 1001, 6:10–12. At least as to this “ability,” it is unclear how “faith about the pilot” describes a performance characteristic of the pilot, as opposed to simply an attribute of the pilot.

Dec. on Inst. 12. Based on the record at that stage of the proceeding, “we determine[d] that the broadest reasonable interpretation of the term ‘ability’ encompasses ‘a numeric representation of an attribute,’” as proposed by Petitioner. Dec. on Inst. 12. Although we did not adopt Patent Owner’s proposed construction for “ability,” we nonetheless determined that the asserted prior art teaches an “ability” within that construction. “[E]ven if the term ‘ability’ were limited to a performance characteristic, as Patent Owner

proposes, hit points in D&D Handbook represent at least some measure of a character's performance because they 'represent how much damage a character can take before falling unconscious or dying.'" Dec. on Inst. 24 (citing Ex. 1005, 139<sup>4</sup>).

In its Response, Patent Owner argues that construing "ability" as an "attribute" results in an overly broad construction because "[a]ny and all attributes' of a character in a computer game would be encompassed under" this construction. PO Resp. 35. Patent Owner argues that "[t]he skilled artisan in RPGs . . . would have understood 'ability' to connote a basic, foundational ability, for example as defined in the glossary of *D&D*." PO Resp. 30 (citing Ex. 1005, 308). According to Patent Owner, "[t]he '243 Patent relates to an online RPG that draws inspiration from *D&D*." PO Resp. 31. Patent Owner likens certain of the '243 patent's abilities, such as brave point, react point, faith point, and mentality point, to certain abilities in D&D Handbook, such as Strength, Dexterity, Wisdom, and Intelligence. PO Resp. 31–33. Patent Owner's arguments suggest that, because D&D Handbook describes the term "ability" in terms of "the six basic character qualities," nothing else in D&D Handbook is within the scope of an "ability." The claim term "ability," however, must be interpreted in view of the specification of the '243 patent, not by how a different reference uses the term.

As an initial matter, we agree with Patent Owner that defining "ability" to include any attribute may be overly broad because there are attributes that may have nothing to do with an ability, such as physical

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<sup>4</sup> In this Decision, citations to D&D Handbook are to the exhibit pages assigned by Petitioner rather than to the page numbers of the reference itself.

characteristics like hair color and eye color. Beyond the plain meaning of “ability”—what a pilot or unit is able to do—it is difficult to define the precise metes and bounds of this language. This difficulty is highlighted by Patent Owner’s own argument, raised for the first time at oral argument, that “ability” in the ’243 patent means “skill.” Tr. 47:5–8. It is not clear, however, how this definition encompasses the “abilities” of the ’243 patent. For example, the ’243 patent describes that “the brave point (Bp) records the braveness of a pilot in a numerical value” and that “the faith point (Fp) records faith about the pilot itself in a numerical value.” Ex. 1001, 6:4–6, 6:10–11. We do not see how braveness and faith are skills. They appear, rather, to be attributes of the pilot.

When asked how “faith point” in the ’243 patent is a skill, Patent Owner stated:

It affects a skill. Because the faith, in the context of the patent, and I've seen it used in different context in other games, including in the prior art, that it in the context of the patent, it is supposed to affect a skill, you know, affect a skill level. If you have high faith points, for example, you might have -- that might affect a skill in a certain way. It might increase your ability to carry out a separate skill.

Tr. 47:18–48:3. When asked if Patent Owner’s proposed “construction is a skill or something that impacts a skill,” Patent Owner responded, “that is correct.” Tr. 48:4–6. The evolution of Patent Owner’s proposed constructions for “ability”—from “performance characteristic” (Prelim. Resp. 17–18) to “a basic, foundational ability, for example as defined in the glossary of *D&D*” (PO Resp. 30) to “skill” (Tr. 47:5–8) to “something that impacts a skill” (Tr. 48:4–6)—exemplifies the difficulty in ascribing a

precise meaning to this claim term. Other than providing examples of pilot and unit abilities, the '243 patent does not provide any definition of the term.

Based on the record developed during trial, we determine that we need not expressly define the term “ability” to determine whether Petitioner has proven unpatentability. Petitioner relies on D&D Handbook’s disclosure of “hit points” to teach pilot and unit abilities. *See* Pet. 15, 30, 38. D&D Handbook discloses that “[h]it points represent how much damage a character can take before falling unconscious or dying.” Ex. 1005, 139. We determine that “hit points” as described in D&D Handbook are within the scope of “ability,” as that term is used in the '243 patent, because “hit points” reflect something the character is able to do, i.e., an “ability,” namely taking damage. Thus, although the term “ability” is not defined in the '243 patent, its plain and ordinary meaning—what someone or something is able to do—encompasses D&D Handbook’s disclosure of “hit points.”

We determine that no further construction is necessary.

#### 4. “Level”

Petitioner contends a person of ordinary skill in the art “would have understood ‘ability’ to include the pilot’s ‘level.’” Pet. 11; *see also* Pet. 11–12 (citing Ex. 1001, 6:58–60, 6:62–67, Fig. 5; Ex. 1003 ¶ 99). By contrast, Patent Owner argues that claim 2’s recitation that “the pilot information database further includes level information of said pilot and said unit” means that “the pilot’s ‘ability’ and the pilot’s ‘level’ are different values that are each included in the pilot information database” and, therefore, that “[t]he ‘level’ of the pilot is not an ‘ability’ of the pilot.” Prelim. Resp. 18.

Because claim 2 recites that “the pilot information database further includes level information of said pilot and said unit,” this “level information” is required in addition to “ability of said pilot” in claim 1. The ’243 patent also describes “level” and “ability” as distinct concepts. *See* Ex. 1001, 4:57–5:37 (describing unit information database), 5:38–6:30 (describing pilot information database). Although certain ability information may correspond to a particular level, we are not persuaded that a level itself is an ability as those terms are used in the ’243 patent. The term “level” requires no further construction.

#### 5. “Sync point”

Each of independent claims 1, 6, and 7 recites “said ability of unit is changed proportionally to changes in ability of the pilot by referring to said sync point, wherein said sync point information is a ratio of which changes in said ability of pilot are applied to said ability of unit.” In the Decision on Institution, we addressed the parties’ pre-institution positions in detail and determined that

the limitations of independent claims 1, 6, and 7 reciting “said ability of unit is changed proportionally to changes in ability of the pilot by referring to said sync point, wherein said sync point information is a ratio of which changes in said ability of pilot are applied to said ability of unit” require *changes* to unit ability that are proportional to *changes* in pilot ability.

Dec. on Inst. 16–17.

In addition to the express language of the claims, the specification of the ’243 patent confirms this understanding in its example of updating the brave point of the pilot and doing a corresponding update of the attack power of the unit using a sync point of 0.8. Ex. 1001, 7:51–8:19. According to the ’243 patent,



where the numerical value of “brave point (Bp)” information for pilot identifier “pIDxxxx01” is “80” and this value is to be increased by “10”, the updated numerical value of this pilot’s “brave point (Bp)” information is “90”. Also, a numerical value of “attack power (ATP)” information of the associated unit “uIDxxxx01” is increased by a proportion of the amount added to the “brave point (Bp)” information of pilot identifier “pIDxxxx01[.]” In this case, the increase to the “brave point (Bp)” of pilot identifier “pIDxxxx01” was “10” and the sync point information associated with unit identifier “uIDxxxx01” is “0.8”, the proportional increase of the “attack power (ATP)” of unit identifier “uIDxxxx01” is determined by multiplying “0.8” by “10” to get “8”. Therefore, the new “attack power (ATP)” for unit identifier “uIDxxxx01” is found by adding the previous value of “70” (as seen in FIG. 3) and the proportional increase of “8” to get “78”. The updated “78” is recorded.

Ex. 1001, 8:1–19. This passage provides a useful explanation of what it means for the “ability of unit [to be] changed proportionally to changes in ability of the pilot by referring to said sync point,” as recited in the independent claims.

The District Court construed “sync point information” to be “a *pre-defined* ratio of which changes in an ability of a pilot are applied to change abilities of the associated unit.” Ex. 2035, 28 (emphasis added). We agree that a “sync point” must be pre-defined for it to be used to update the unit ability according to changes in the pilot ability.

Based on the record developed during trial, we maintain our preliminary determination that the limitations of independent claims 1, 6, and 7 reciting “said ability of unit is changed proportionally to changes in ability of the pilot by referring to said sync point, wherein said sync point information is a ratio of which changes in said ability of pilot are applied to said ability of unit” require *changes* to unit ability that are proportional to

*changes* in pilot ability. *See* Dec. on Inst. 16–17. The claims themselves define “sync point information” to be “a ratio of which changes in said ability of pilot are applied to said ability of unit,” and we agree with the District Court that this ratio is “pre-defined.”

#### *6. Remaining Terms*

Based on the record before us, we determine that the remaining terms of the challenged claims do not require express constructions.

#### *D. Principles of Law*

A patent claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) any secondary considerations, if in evidence. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

#### *E. Obviousness over Levine and D&D Handbook*

Petitioner contends claims 1–7 of the ’243 patent are unpatentable under 35 U.S.C. § 103(a) as having been obvious over the combined teachings of Levine and D&D Handbook. Pet. 7, 12–59.

#### *1. Levine*

Levine relates to “computer network systems that facilitate multi-person interaction within multiple immersive environments,” and it

discloses that “Massively Multiplayer Online Games (MMOGs) provide an immersive, interactive model of imaginary realms.” Ex. 1004 ¶¶ 3, 14. Levine describes various characteristics of MMOGs and discloses that “[t]he rules of many MMOGs are based on paper and dice role-playing games popularized in the dice game Dungeons and Dragons.” Ex. 1004 ¶ 14. Levine also discloses that, “at the center of every persistent-state, massively multi-player game lies its database 104,” which “manages the persistence of object state across the game world: from login to login, session to session, Avatar to Avatar, property to property, it keeps a record of all significant state changes.” Ex. 1004 ¶ 211.

## *2. D&D Handbook*

D&D Handbook describes the Dungeons & Dragons Roleplaying Game, which is referred to in Levine as discussed above. Ex. 1005; *see* Ex. 1004 ¶ 14.

## *3. Independent Claim 1*

Independent claim 1 is directed to “[a]n online game providing method for providing a pilot and a unit associated with the pilot at an online game.” Petitioner contends, and we agree, Levine teaches an online game. Pet. 22 (citing Ex. 1004 ¶ 21). For example, Levine discloses “a system, method and computer program product for a computing grid for massively Multiplayer on-line games.” Ex. 1004 ¶ 21. Although D&D Handbook does not describe a computer game, Petitioner contends a person of ordinary skill in the art “would have found it obvious to create an online RPG by combining the game rules taught by D&D with the online gaming platform taught by Levine.” Pet. 13 (citing Ex. 1003 ¶ 104; Ex. 1004 ¶¶ 21, 35, 163). Petitioner contends a person of ordinary skill in the art “would have been

motivated to do so because Levine expressly teaches the application of D&D rules to Massively Multiplayer Online Games.” Pet. 13 (citing Ex. 1004 ¶ 14; Ex. 1003 ¶ 105). Petitioner further asserts that persons of ordinary skill in the art “would have understood D&D rules to be well-suited for videogames because many successful games had implemented them.” Pet. 13 (citing Ex. 1003 ¶ 105).

We are persuaded by Petitioner’s contentions. Levine expressly discloses that “[t]he rules of many MMOGs are based on paper and dice role-playing games popularized in the dice game Dungeons and Dragons.” Ex. 1004 ¶ 14. Patent Owner argues that, “[w]ith the advent of computing, the tabletop world of *D&D* naturally morphed into electronic form.” PO Resp. 13 (citing Ex. 2032 ¶ 28). Thus, Patent Owner’s argument supports Petitioner’s position that it would have been obvious to combine Levine and D&D Handbook. We find, therefore, that a person of ordinary skill in the art would have been motivated to combine the MMOG game platform of Levine and the rules taught in D&D Handbook.

*a. Controlling an online game – “pilot” and “unit”*

Claim 1 recites “controlling an online game such that a player can manipulate a pilot and a unit associated with said pilot, said pilot being a game character operated by a player, said pilot representing the player, said unit being a virtual object controlled by the player.”

Petitioner contends D&D Handbook teaches a player character representing a gamer and controlled by the gamer. Pet. 22, 25–26. We agree because D&D Handbook discloses, “As a player, you use this handbook to create and run a character.” Ex. 1005, 9. Petitioner also contends Levine’s disclosure of avatars teaches a game character operated

by a player. Pet. 22–23, 25. We agree because Levine discloses that “a new character is termed an avatar within the instance of the interactive, multi-user gaming application” and further describes avatars as “client controlled objects.” Ex. 1004 ¶¶ 393, 658.

Petitioner also contends D&D Handbook teaches an animal unit that is associated with the player character and controlled by the gamer.

Pet. 23–24, 26–27. In particular, Petitioner cites D&D Handbook’s disclosure of animals that are associated with various characters, such as a mount associated with a paladin, an animal companion associated with a druid, and an animal familiar associated with a sorcerer. Pet. 23 (citing Ex. 1005, 39, 48, 49, and 56). For purposes of this Decision, we focus on Petitioner’s contentions with respect to a sorcerer’s familiar.

With respect to control of animals, Petitioner cites various disclosures in D&D Handbook, including that “[f]amiliars are magically linked to their masters.” Ex. 1005, 56, *quoted in* Pet. 23. D&D Handbook describes that “[a] familiar is a normal animal that gains new powers and becomes a magical beast when summoned to service by a sorcerer or wizard.” Ex. 1005, 56; *see also* Ex. 1005, 58 (“A sorcerer can obtain a familiar. . . . A familiar is a magical beast that resembles a small animal and is unusually tough and intelligent. The creature serves as a companion and servant.”). Petitioner asserts that “D&D teaches the player manipulating and controlling her animal unit through her character.” Pet. 26 (citing Ex. 1003 ¶ 137); *see also* Pet. 26 (asserting “[persons of ordinary skill in the art] would have found it obvious that players control animal units through their characters”).

Petitioner further contends Levine discloses objects in a “virtual environment” and, therefore, teaches “virtual objects.” Pet. 27–28 (citing

Ex. 1004 ¶ 154). We agree because Levine describes “states” in a “virtual environment” and discloses that “the term ‘object state’ does not refer to objects in the sense of object oriented programming, but refers to objects that represent entities (e.g., people, animals, castles, buildings, etc.)”

Ex. 1004 ¶ 154. Petitioner argues that, “[i]n an online game implemented based on D&D, [persons of ordinary skill in the art] would have found it obvious for the player to control her character and associated animals, as taught by D&D, where the animal unit is a virtual object controlled by the player through her Avatar.” Pet. 29 (citing Ex. 1003 ¶ 142).

Patent Owner argues Petitioner has not shown that D&D Handbook teaches “a pilot and a unit associated with said pilot,” but these arguments rely on Patent Owner’s proposed constructions for “pilot” and “unit,” which we do not adopt. *See* PO Resp. 42–50. With respect to the claimed “unit,” Patent Owner argues:

Familiars in *D&D*, such as for a Sorcerer or Wizard, are not units to be piloted. In *D&D*, a familiar is separately controlled by the player, and is not a separate unit controlled by the player character. In other words, the player takes a separate role of the familiar, akin to a separate player character, rather than controlling the familiar through the player character.

PO Resp. 43 (citing Ex. 1001, 3:9–10; Ex. 2032 ¶ 106). Patent Owner, therefore, agrees that a player controls the familiar but disagrees that the player controls the familiar through a character, such as a sorcerer. As discussed above in Section II.C.1, however, the claims recite that the unit is “controlled by the player,” but the claims do not require the unit to be controlled by the player *through the pilot*.

Patent Owner also argues that “the familiars and animal companions cannot be considered ‘units’ because they are not mounts that are piloted

(i.e., having their motions controlled or steered) by the player character.”  
PO Resp. 49. As discussed above in Section II.C.1, we do not agree that the claimed “unit” must be a “mount.” Furthermore, D&D Handbook’s “familiar” is analogous to a “pet unit,” as described in the ’243 patent. As discussed above Section II.C.1, a “pet unit” is a type of “unit.” According to Patent Owner, “the ’243 Patent is inspired by *D&D* and its computerized progeny, in which a player takes the role of ‘player character.’” PO Resp. 13. In light of this, it is perhaps no surprise that the ’243 patent would include a “pet unit” of a pilot given that D&D describes animals associated with characters, such as a familiar associated with a sorcerer.

We are persuaded by Petitioner’s contention that the combination of D&D Handbook and Levine renders obvious a “unit being a virtual object controlled by the player.” The parties agree that a familiar in D&D Handbook is controlled by the player. Pet. 26; PO Resp. 43. As discussed above, we find Levine teaches “virtual objects.” Ex. 1004 ¶ 154. Thus, implementing the teachings of D&D Handbook in an online game platform as taught by Levine would result in the familiar being “a virtual object controlled by the player.” See PO Resp. 13 (“With the advent of computing, the tabletop world of *D&D* naturally morphed into electronic form.”).

As to the claimed “pilot,” Patent Owner argues “Petitioner has not pointed to any disclosure in *D&D* that the Paladin (or another character) actually *controls the motion* of a mount or some vehicle-type (*i.e.*, riding) animal.” PO Resp. 49 (citing Ex. 2032 ¶ 126). Patent Owner further argues, “Even assuming that *D&D* were provided in an online gaming platform, like Levine, the Petitioner has provided no evidence that the player character of the modified game would *control motions of the mount or riding animal.*”

*Id.* These arguments rely on Patent Owner’s proposed construction of “pilot” as “a player-operated game character that controls the motion of a mount, such as a character-controlled robot or a character-controlled vehicle,” which we do not adopt. *See supra* § II.C.2.

We find D&D Handbook’s disclosure of a sorcerer teaches a “game character operated by a player” and “representing the player,” as recited in each independent claim. D&D Handbook discloses, “As a player, you use this handbook to create and run a character.” Ex. 1005, 9. One such type of character described in D&D Handbook is a sorcerer. *Id.* at 55–59.

We further find that D&D Handbook teaches “a player-operated game character that controls the motion of a mount,” as proposed by Patent Owner. In particular, as Petitioner points out, “[a]ll characters may further learn the ‘Ride’ skill, which allows the character to ‘ride a mount, be it a horse, riding dog, griffon, dragon, or some other kind of creature suited for riding.’” Pet. 24 (quoting Ex. 1005, 84; citing Ex. 1003 ¶ 132). D&D Handbook describes various riding actions, including “Guide with Knees,” “Leap,” and “Control Mount in Battle.” Ex. 1005, 84. Patent Owner argues that some of these actions may not be successful in controlling the mount. PO Resp. 48. D&D Handbook, however, still teaches a character controlling the motion of a mount even if a character is not always successful in doing so. Furthermore, because the “mount” that the character rides is a separate unit, D&D Handbook also teaches “a player-operated game character that operates the motion controls of a separate unit” under the District Court’s construction of “pilot.”

Having considered the record developed during trial, we find the combination of D&D Handbook and Levine teaches “controlling an online



game such that a player can manipulate a pilot and a unit associated with said pilot, said pilot being a game character operated by a player, said pilot representing the player, said unit being a virtual object controlled by the player.”

*b. Pilot ability, unit ability, and sync point information*

The remaining limitations of claim 1 involve maintaining pilot and unit information databases having certain information, including pilot “ability” information, unit “ability” information, and “sync point information,” and updating that information. In this section, we discuss Petitioner’s contentions and Patent Owner’s arguments with respect to ability and sync point information, and in the next section, we will address the database requirements of the claims, for which Petitioner relies primarily on Levine’s teachings.

Petitioner contends D&D Handbook teaches several examples of ability information for characters (i.e., pilots) and for animals (i.e., units) and sync points between these abilities. Pet. 13–21, 30, 38. One such ability Petitioner identifies is “hit points.” *Id.* at 14–15, 30, 38. According to D&D Handbook, “[h]it points represent how much damage a character can take before falling unconscious or dying.” Ex. 1005, 139. D&D Handbook further discloses that “[t]he familiar has one-half the master’s total hit points (not including temporary hit points), rounded down, regardless of its actual Hit Dice. For example, at 2nd level, Hennet has 9 hit points, so his familiar has 4.” Ex. 1005, 56. Petitioner argues that, “[i]f Hennet reaches level 3 and his hit points increase by 2, his familiar’s hit points would increase by 1/2 that amount (i.e., 1 point), so that Hennet now has 11 hit points, and his familiar has 5.” Pet. 15 (citing Ex. 1005, 56; Ex. 1003 ¶ 113).

Patent Owner argues that hit points are “statistics” but “are not abilities.” PO Resp. 50, 52. As discussed above in Section II.C.3, we find that “hit points” are within the scope of “ability.” Patent Owner further argues:

Even if hit points were to have been understood as an ability, and they are not, then the sync point ratio of hit points would need to apply to changes to any and all associated character abilities to familiar abilities. In other words, the 0.5 ratio mapping character level to familiar hit points would also need to apply to mapping the characters level to familiar’s Intelligence ability, and it does not.

PO Resp. 53 (citing Ex. 2032 ¶ 137). We disagree with Patent Owner because the claims require updating and recording only one pilot ability and one unit ability. There is no requirement of a plurality of pilot abilities, each of which has a corresponding unit ability that is updated according to the same sync point.

We are persuaded by Petitioner’s contention that, if a sorcerer’s hit points increase by 2, the sorcerer’s familiar’s hit points will increase by one half of that amount, thereby teaching a sync point of 0.5. *See* Ex. 1003 ¶ 113. This is a “pre-defined ratio” because the hit point increases are laid out in D&D Handbook. Ex. 1005, 56. We find, therefore, that D&D Handbook’s disclosure of an increase in a character’s hit points that results in one half of that increase in that character’s familiar’s hit points teaches “updating . . . the first pilot ability information and unit ability information associated therewith in accordance with the searched sync point information such that said ability of unit is changed proportionally to changes in ability of the pilot by referring to said sync point,” as recited in the independent claims. *See* Pet. 15; Ex. 1003 ¶ 113.

*c. Database limitations*

As discussed in the previous section, claim 1 recites maintaining pilot and unit information databases having certain information, including pilot “ability” information, unit “ability” information, and “sync point information,” and updating that information. For example, claim 1 recites:

maintaining a unit information database, the unit information database recording unit information on said unit, in which the unit information includes ability of said unit and sync point information;

maintaining a pilot information database, the pilot information database recording pilot information on said pilot, in which the pilot information includes a unit identifier indicating said unit associated with said pilot, ability of said pilot and the ability of said unit associated with said pilot.

Claim 1 further recites:

receiving a request for update on first pilot ability information of a first pilot;

searching for unit identifier information associated with the first pilot by referring to the pilot information database;

searching for sync point information associated with the searched unit identifier information by referring to the unit information database.

For a teaching of a database, Petitioner cites Levine’s disclosure of an “application database.” Pet. 30. Levine discloses that “application database 104 is implemented using a relational database product” and further discloses:

[A]t the center of every persistent-state, massively multi-player game lies its database 104. The database 104 manages the persistence of object state across the game world: from login to login, session to session, Avatar to Avatar, property to property, it keeps a record of all significant state changes. When a player picks up a sword, the database 104 must record this fact and store

it, otherwise the next time that player logs in they will wonder where they lost it. When the player spends a gold coin, the database 104 must debit their virtual bank account, so that the online economy can function without embezzlement. The database 104 is the final authority on the state of the world at any given moment.

Ex. 1004 ¶¶ 207, 211 (cited at Pet. 30, 34). Petitioner also contends Levine’s disclosure of a globally unique identifier (“GUID”) teaches an identifier and that “the combination of Levine and D&D teaches an animal unit with a unit identifier (GUID) associated with the player character.” Pet. 38–39.

Petitioner contends it would have been obvious to a person of ordinary skill in the art to store character (pilot) and animal (unit) information, including ability information, unit identifier, and sync point information, in a database as taught by Levine’s “application database.” *Id.* at 30, 36, 37, 38 (citing Ex. 1003 ¶¶ 144, 150–152, 156).

Petitioner’s analysis explaining that this subject matter would have been obvious based on Levine’s disclosure of an “application database” in combination with D&D Handbook’s teachings of character and unit abilities is persuasive. *See id.* at 30–41. In particular, we agree with Petitioner that a person of ordinary skill in the art “would have found it obvious, based on Levine’s teachings, to store the abilities and other properties of objects in the state tables of the application database.” *See id.* at 36 (citing Ex. 1003 ¶ 150). Levine itself discloses the use of a database in MMOGs to “manage[] the persistence of object state across the game world” and to “keep[] a record of all significant state changes.” Ex. 1004 ¶ 211. Furthermore, as Petitioner points out (Pet. 39), Levine teaches that the database tracks the inventory of the Avatar such that, for example, “[w]hen a

player picks up a sword, the database 104 must record this fact and store it.” Ex. 1004 ¶ 211. Indeed, Levine discloses that this database “is the final authority on the state of the world at any given moment.” Ex. 1004 ¶ 211. Thus, we find that the combination of Levine’s disclosure of databases and D&D Handbook’s disclosure of pilots, associated units, and abilities teaches associating pilot and unit information, as recited in the claims.

As discussed in the previous section, D&D Handbook teaches updating pilot and unit ability according to a sync point. We agree with Petitioner’s contentions that the combination of Levine and D&D Handbook teaches “receiving a request for update on first pilot ability information of a first pilot,” “searching for unit identifier information,” and “searching for sync point information” as part of the ability updating process. *See* Pet. 41–43. We are persuaded by Petitioner’s contention that, “in a videogame according to the combined teachings of Levine and D&D, when the player’s Avatar gains a level, the application database receives a request to update a first pilot ability information.” Pet. 41 (citing Ex. 1003 ¶ 164). We also are persuaded by Petitioner’s contention that “[t]he use of unique identifiers for accessing database objects has been the typical practice in the industry for decades, and querying databases using such identifiers was well known in the art.” Pet. 42 (citing Ex. 1003 ¶ 167). Levine discloses the use of unique identifiers for updating objects in a video game database: “Upon exit from the invocation of any Python function, those Game Server objects whose GUIDs are referenced explicitly in the optional packet parameters are updated in the database 104 and checkpointed. This assures that all scripted changes will be persistent within the game world.” Ex. 1004 ¶ 594.

We also agree with Petitioner’s contention that increases to pilot and unit abilities “would need to be updated and recorded in the database.” Pet. 44 (citing Ex. 1004 ¶ 296; Ex. 1003 ¶ 174). Levine describes “interfac[ing] with the database 104 both for the instantiating of objects (from the end-user perspective) and the *updating of an objects state information when that state information changes.*” Ex. 1004 ¶ 296 (emphasis added). As noted above, Levine also describes updating information in the database to “assure[] that all scripted changes will be persistent within the game world.” Ex. 1004 ¶ 594. Thus, Levine expressly describes “updating and recording” information in the database when the information changes.

We further agree with Petitioner that Levine discloses searching for information using processors. Pet. 45–46 (citing Ex. 1003 ¶¶ 179–180; Ex. 1004 ¶¶ 215, 274, 693, 696, Figs. 6, 59). Levine discloses using exemplary computer system 5900, which includes processor 5944, as shown in Figure 59. We find, therefore, that the combination of D&D Handbook and Levine teaches “said steps of searching for unit identifier information and of searching for sync point information are performed by a processor.” See Ex. 1003 ¶¶ 179–180.

*d. Conclusion as to Independent Claim 1*

For the reasons explained above, we find the combination of D&D Handbook and Levine teaches all of the limitations of claim 1. As also explained above, we find a person of ordinary skill in the art would have been motivated to combine the teachings of D&D Handbook and Levine based on Levine’s express disclosure that “[t]he rules of many MMOGs [(massively multiplayer online games)] are based on paper and dice role-

playing games popularized in the dice game Dungeons and Dragons.”  
Ex. 1004 ¶ 14; *see also* PO Resp. 13 (“With the advent of computing, the tabletop world of *D&D* naturally morphed into electronic form.”). Patent Owner does not present any objective evidence of nonobviousness as to any of the challenged claims. Based on these findings, we conclude, therefore, that the subject matter of claim 1 would have been obvious to a person of ordinary skill in the art based on the combined teachings of *D&D Handbook* and Levine.

#### 4. *Independent Claim 6*

Independent claim 6 is directed to “[o]ne or more storage media having stored thereon a computer program that, when executed by one or more processors, causes the one or more processors to perform” the steps recited in claim 1. Petitioner contends Levine teaches processors executing software stored on storage media. Pet. 55–56 (citing Ex. 1004 ¶¶ 207, 595–619, 695, 698–699, 701, Figs. 6, 59; Ex. 1003 ¶ 207). We agree because Levine discloses that “[t]he present invention can be implemented using software running (that is, executing) in an environment similar to that described above,” and it further discloses various storage media for storing computer programs for execution by processors. Ex. 1004 ¶¶ 698–699, 701. Therefore, we find Levine teaches “[o]ne or more storage media having stored thereon a computer program that, when executed by one or more processors, causes the one or more processors to perform” certain operations. We further find the combination of *D&D Handbook* and Levine teaches the limitations recited in claim 6 for the same reasons that we find the steps of claim 1 are taught.

Based on these findings, we conclude that the subject matter of claim 6 would have been obvious to a person of ordinary skill in the art based on the combined teachings of D&D Handbook and Levine.

#### 5. *Independent Claim 7*

Independent claim 7 is directed to “[a]n online game providing system for providing a pilot and a unit associated with the pilot at an online game” and recites system limitations similar to the limitations of claims 1 and 6. In particular, claim 7 recites several “modules” that perform functionality recited in claims 1 and 6. For example, claim 7 recites “an updating request receiving module, the updating request receiving module receiving a request for update on first pilot ability information of a first pilot.” Claim 7 also recites “an information search module,” which performs the searches recited in claims 1 and 6, and “a database updating module,” which performs the “updating and recording” recited in claims 1 and 6.

The ’243 patent states, “As used in this application, the term ‘module’ is intended to refer to, but is not limited to, a software or hardware component, which performs certain tasks.” Ex. 1001, 10:5–7. Petitioner contends, and we agree, Levine teaches software for performing the database functions described with respect to claim 1. *See* Pet. 57–59 (citing Ex. 1004 ¶¶ 207, 209, 211, 274, 296, 594–616; Ex. 1003 ¶¶ 223, 224, 226, 228, 230, 231). As noted above with respect to claim 6, Levine discloses that “[t]he present invention can be implemented using software running (that is, executing) in an environment similar to that described above.” Ex. 1004 ¶ 701. As discussed above with respect to claim 1, we find the combination of D&D Handbook and Levine teaches all of the limitations of claim 1, with Levine supplying the database teachings. We find, therefore, that the



combination of D&D Handbook and Levine teaches the limitations recited in claim 7.

Based on these findings, we conclude that the subject matter of claim 7 would have been obvious to a person of ordinary skill in the art based on the combined teachings of D&D Handbook and Levine.

#### 6. *Dependent Claim 2*

Dependent claim 2 recites that “the pilot information database further includes level information of said pilot and said unit; and the sync point information is increased and recorded as the level information of the pilot is increased and recorded.”

Petitioner contends D&D Handbook teaches that characters and animals have levels. Pet. 47–48 (citing Ex. 1005, 26, 40, 49, 56, 62, 322; Ex. 1003 ¶¶ 182–184). We agree because D&D Handbook discloses that “all characters gain other benefits from advancing in level,” and it further discloses that “[a] character’s level in a class is called his or her class level.” Ex. 1006, 26. With respect to animal levels, D&D Handbook also discloses: “An animal companion’s base attack bonus is the same as that of a druid of a level equal to the animal’s [Hit Dice (HD)]. An animal companion has good Fortitude and Reflex saves (*treat it as a character whose level equals the animal’s HD*).” Ex. 1005, 40 (emphasis added). Petitioner contends it would have been obvious to a person of ordinary skill in the art to store the character and animal level information in the application database taught by Levine. Pet. 47–48 (citing Ex. 1003 ¶¶ 182, 184). We agree because, as discussed above with respect to claim 1, Levine discloses that the database “is the final authority on the state of the world at any given moment.” Ex. 1004 ¶ 211.

Citing D&D Handbook’s disclosures regarding touch spell delivery and master and familiar communications, Petitioner further argues D&D Handbook “teaches that sorcerers become more attuned to their familiars as they gain levels.” Pet. 49 (citing Ex. 1005, 57; Ex. 1003 ¶ 187). For example, D&D Handbook discloses that, “[i]f the master is 3rd level or higher, a familiar can deliver touch spells for him.” Ex. 1005, 57. D&D Handbook also discloses that, “[i]f the master is 5th level or higher, a familiar and the master can communicate verbally as if they were using a common language.” Ex. 1005, 57. Petitioner argues a person of ordinary skill in the art “would have found it obvious to increase the ratio of hit points for a sorcerer and her familiar to reflect this increased bond.” Pet. 49–50 (citing Ex. 1003 ¶ 187).

Patent Owner contends that it would not have been obvious to a person of ordinary skill in the art to increase the sync point information, as alleged by Petitioner. PO Resp. 66–75. Patent Owner argues that changing the ratio by which the familiar’s hit points increase “would be outside the rules of the game” and “would have materially altered the well-defined and long standing role of the Sorcerer (or Wizard) and its familiar in a way that is entirely inconsistent with the venerable context of *D&D* and the RPG genre.” PO Resp. 69 (citing Ex. 2032 ¶¶ 174–175). Elsewhere, however, Patent Owner argues: “The rules of *D&D* are not strictly imposed upon the player by the game - in fact *D&D* player characters can do almost anything they are motivated to do (*i.e.*, as befitting their ‘role’), only constrained by the game-constrained rules of physics and magic.” PO Resp. 41 (citing Ex. 1005, 107; Ex. 2032 ¶ 97). The *Dungeons & Dragons Dungeon Master’s Guide* expressly allows changing rules and discusses developing “house

rules” in a section called “CHANGING THE RULES.” Ex. 2028,<sup>5</sup> 15 (“Rules that you change for your own game are called house rules.”). Dr. Claypool, Patent Owner’s declarant, testified: “[T]here were lots of third parties that made additional rule books. At home I own about 40 of them, maybe 30.” Ex. 1030, 15:17–20. The evidence of record, therefore, shows that a person of ordinary skill in the art would not have been constrained by the rules of Dungeons and Dragons but, rather, would have appreciated that the rules can be changed.

Patent Owner also disputes Petitioner’s reasoning that a person of ordinary skill in the art would have been motivated to increase the hit point ratio to reflect an increased bond between master and familiar, arguing that any increased bond between a master and a familiar “is already represented by the gain in additional Specials.” PO Resp. 68 (citing Ex. 1005, 57; Ex. 2032 ¶ 173). Patent Owner further argues that additional hit points are unnecessary for the sorcerer’s familiar because the familiar is in a non-combat role. *Id.* at 74–75. As Petitioner points out, however, D&D Handbook explains that “a familiar can deliver touch spells for” its master, and one such touch spell is the “Chill Touch,” which requires the spell caster to touch the target. Ex. 1005, 57, 213, *cited in* Pet. Reply 23. Petitioner argues, therefore, that the familiar benefits from increased hit points because it must get close to enemies. Pet. Reply 23.

Based on the evidence of record, we find that a person of ordinary skill in the art would have been motivated to increase the ratio by which a

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<sup>5</sup> Consistent with the citations to D&D Handbook, citations to the *Dungeon Master’s Guide* are to the exhibit pages assigned by Petitioner rather than to the page numbers of the reference itself.

familiar's hit points increase as its master gains levels. Such an increase would reflect the greater bond between the master and its familiar as the master advances. Ex. 1003 ¶ 187; Ex. 1005, 57. That this increased bond already may be represented in certain additional "Specials" according to D&D Handbook, as Patent Owner argues (PO Resp. 68), does not mean that the increased bond cannot be manifested in other ways. As discussed above, "[h]it points represent how much damage a character can take before falling unconscious or dying." Ex. 1005, 139. A familiar would benefit from increased hit points in the event the master has the familiar deliver touch spells to an enemy, as described in D&D Handbook. Ex. 1005, 57, 213. We find such a rule change would have been well within the skill of a person of ordinary skill in the art and is expressly allowed in Dungeons and Dragons, as discussed above. *See* Ex. 2028, 15 (section entitled "CHANGING THE RULES").

Based on these findings, we conclude that the subject matter of claim 2 would have been obvious to a person of ordinary skill in the art based on the combined teachings of D&D Handbook and Levine.

### *7. Dependent Claim 3*

Dependent claim 3 recites: "The method of claim 1, wherein the sync point information is numerical value having a value between 0 and 1." As discussed with respect to claim 1, D&D Handbook teaches a sync point of 0.5 with respect to the sorcerer's and familiar's hit points. *See supra* § II.E.3.b. Therefore, we conclude that the subject matter of claim 3 would have been obvious to a person of ordinary skill in the art based on the combined teachings of D&D Handbook and Levine.

8. *Dependent Claim 4*

Dependent claim 4 recites: “The method of claim 1, wherein the sync point information is adjusted and recorded in case that the first pilot recorded in the pilot information database and a unit identifier associated with the first pilot satisfy a combination of a predetermined pilot/unit.”

Petitioner contends:

[Persons of ordinary skill in the art] would have found it obvious to adjust and record sync point information in case the pilot (Avatar) and unit (animal) satisfied a predetermined combination of a pilot/unit based on their respective identifiers (GUID). Ex. 1003 ¶191. Indeed, D&D teaches ability bonuses for particular combinations of sorcerers and familiar types, including bonuses for the “Reflex saves” ability (*see* Ex. 1005 at 56; Ex. 1003 ¶191), which is based on a sync point (*see supra* Section V( A)( 1)). A [person of ordinary skill in the art] would have found it obvious that such sync points should be increased for combinations of particular Avatars and animals. Ex. 1003 ¶ 191.

Pet. 50–51. We are persuaded by Petitioner’s contentions because D&D Handbook describes ability gains based on particular master and familiar combinations, including adjustments to hit points. Ex. 1005, 56. We credit Mr. Kitchen’s testimony that a person of ordinary skill in the art “would have found it obvious to include bonuses for sync points in the case that a particular Avatar is matched with a particular animal.” Ex. 1003 ¶ 191.

Based on the evidence of record, therefore, we conclude that the subject matter of claim 4 would have been obvious to a person of ordinary skill in the art based on the combined teachings of D&D Handbook and Levine.

9. *Dependent Claim 5*

Dependent claim 5 recites:

The method of claim 1, wherein the step of receiving request for update on first pilot ability information of a first pilot comprises the step of further receiving numerical value information to be updated; and

the step of updating and recording first pilot ability information and unit ability information associated therewith in accordance with the searched sync point information, respectively, comprises the steps of:

adding up the first pilot ability information and the numerical value information; and

adding up the unit ability information by the multiplication of the sync point information and the numerical value information.

With respect to “receiving numerical value information to be updated” and “adding up the first pilot ability information and the numerical value information,” Petitioner cites D&D Handbook’s disclosure of rolling a Hit Die and “add[ing] the total roll to his or her hit points.” Ex. 1005, 62, *quoted in* Pet. 51. Petitioner contends that “[t]he Hit Die roll results in a numeric value that is received and added to the character’s current hit points.” Pet. 51–52 (citing Ex. 1005, 62; Ex. 1003 ¶ 194). Petitioner further contends:

In arithmetic terms, a [person of ordinary skill in the art] would have found it obvious to calculate the animal’s new hit points by multiplying the character’s additional hit points (the numerical value information) by the sync point ratio of 1/2 and then adding that product to the animal’s current hit points (its unit ability information).

Pet. 54 (citing Ex. 1003 ¶ 203).

We are persuaded by Petitioner's contentions. As we stated with respect to claim 1, if a sorcerer's hit points increase by 2, the sorcerer's familiar's hit points will increase by one half of that amount, thereby teaching a sync point of 0.5. *See supra* § II.E.3.b. Thus, numerical value information reflecting an increase of 2 hits points is received. That value (2) is then multiplied by the sync point (0.5) to arrive at one hit point that is added to the familiar's hit points. Ex. 1003 ¶¶ 199, 203.

Therefore, we conclude that the subject matter of claim 5 would have been obvious to a person of ordinary skill in the art based on the combined teachings of D&D Handbook and Levine.

*F. Obviousness over Levine and the MOO Strategy Guide*

Petitioner contends claims 1–7 of the '243 patent are unpatentable under 35 U.S.C. § 103(a) as having been obvious over the combined teachings of Levine and the MOO Strategy Guide. Pet. 7, 60–71. For the reasons explained below, Petitioner has not demonstrated unpatentability of claims 1–7 on this ground by a preponderance of the evidence.

*1. MOO Strategy Guide*

The MOO Strategy Guide contains excerpts from *The Official Strategy Guide* for the video game *Master of Orion II: Battle of Antares*. These excerpts describe characters in the Master of Orion II video game. Ex. 1009.

*2. Independent Claim 1*

Petitioner's contentions with respect to Levine in this ground of unpatentability are similar to those in the ground based on Levine and D&D Handbook. Similar to its other ground of unpatentability, Petitioner does not contend Levine discloses the sync point requirements of the claims, but,

instead, Petitioner relies on the MOO Strategy Guide to teach sync points and the claimed ability updating. *See* Pet. 60–71.

Petitioner contends the MOO Strategy Guide “discloses ‘leaders’ whose abilities increase those of the starships they command based on ratio relationships.” Pet. 60. In particular, Petitioner argues the MOO Strategy Guide “discloses ‘Fighter Ace,’ ‘Helmsman,’ and ‘Ordnance’ [sic] leader abilities with corresponding percentages by which changes in the leader’s ability are applied to ship abilities (‘beam weapon damage,’ ‘Ship Defense,’ and ‘maximum attack damage’).” *Id.* at 61. Thus, Petitioner identifies Fighter Ace, Helmsman, and Ordnance as teaching the claimed “pilot abilities,” and Petitioner identifies particular characters in the game (Altos, Dantos, Hawk, and Loknar) as having these abilities. *Id.* at 62 (citing Ex. 1009, 8–13).

For a teaching of the claimed “sync point” ratios, Petitioner cites the following disclosure in the MOO Strategy Guide:

**Fighter Ace**

Increases beam weapon damage and Ship Defense for every vessel in the assigned ship’s fleet by 5 percent per experience level.

...

**Helmsman**

Increases the Ship Defense bonus of all ships in the same fleet by 5 per experience level.

...

**Ordnance**

Increases the assigned ship’s maximum attack damage by 5 percent per experience level.



Ex. 1009, 14–15 (cited at Pet. 61–62). Based on this disclosure, Petitioner argues the MOO Strategy Guide “teaches three abilities with sync point ratios of 5%/level, or since there are 7 possible levels, ratios of 5–35%.” Pet. 62 (citing Ex. 1003 ¶ 237).

With respect to the limitation of claim 1 reciting “receiving a request for update on first pilot ability information of a first pilot,” Petitioner contends:

MOO [Strategy Guide] teaches that pilot (leader) abilities ‘Fighter Ace,’ ‘Helmsman,’ and ‘Ordinance’ [sic] increase by 5% each time the leader gains a level. . . . A [person of ordinary skill in the art] would have found it obvious for increases in the leader’s level to trigger a request to update the leader’s ability information in the application database.

Pet. 67 (citing Pet. 60–63; Ex. 1003 ¶ 250).

With respect to the limitation of claim 1 reciting “updating and recording the first pilot ability information and unit ability information,” Petitioner argues the MOO Strategy Guide “teaches that pilot (leader) and unit (ship) abilities increase according to sync point ratios when the pilot gains a level.” Pet. 68 (citing Pet. 60–63; Ex. 1003 ¶ 257). According to Petitioner, a person of ordinary skill in the art “would have found it obvious to update and record pilot and unit abilities in the database using the sync point ratios searched for in the” limitation reciting “searching for sync point information.” Pet. 68 (citing Ex. 1003 ¶ 257).

We are not persuaded. Although Petitioner identifies alleged pilot and unit abilities and argues that certain unit abilities increase, Petitioner does not direct us to disclosure in the MOO Strategy Guide regarding an increase in the alleged pilot abilities. Petitioner cites the MOO Strategy Guide’s disclosure that “[t]he benefits most abilities provide increase as the leader’s

experience level goes up.” Ex. 1009, 7 (quoted at Pet. 61). These “benefits,” however, appear to be the effect that the leader’s ability has on the ability of something else, such as a ship, as the leader advances levels. *See* Ex. 1009, 14–15 (discussing “Fighter Ace,” “Helmsman,” and “Ordnance” abilities); *see also* Ex. 1009, 13 (“Listing these abilities is all well and good, but what effects do they have in game terms?”). Thus, this disclosure in the MOO Strategy Guide teaches, at most, a change in unit ability, not a numeric change to a pilot ability.

Furthermore, claim 1 requires “updating and recording the first pilot ability information and unit ability information associated therewith in accordance with the searched sync point information *such that said ability of unit is changed proportionally to changes in ability of the pilot* by referring to said sync point.” (Emphasis added). Petitioner’s contentions do not explain how the MOO Strategy Guide teaches this limitation. For example, Petitioner contends: “MOO’s sync points cause proportional changes. . . . MOO teaches ‘Fighter Ace,’ ‘Helmsman,’ and ‘Ordnance’ [sic] leader abilities, which increase ship abilities ‘beam weapon damage,’ ‘Ship Defense,’ and ‘maximum attack damage’ by 5%/leader level, respectively.” Pet. 69 (citing Ex. 1003 ¶ 258; Pet. 60–63). Petitioner, therefore, contends that unit abilities increase according to a *change in leader level* by reference to a leader ability rather than according to a *change in a leader ability*. Because Petitioner asserts unequivocally that “Fighter Ace,” “Helmsman,” and “Ordnance” teach the claimed pilot ability (Pet. 61, 67), Petitioner must show that a unit ability is changed proportionally to changes in one such pilot ability. Petitioner alleges that the MOO Strategy

Guide teaches a change in unit ability, but Petitioner has not shown a numeric change in pilot ability.

As such, Petitioner has not demonstrated by a preponderance of the evidence that independent claim 1 is unpatentable under 35 U.S.C. § 103(a) as obvious over the combined teachings of Levine and the MOO Strategy Guide.

### 3. *Claims 2–7*

As to independent claims 6 and 7, Petitioner refers to its contentions with respect to independent claim 1 and does not provide further explanation curing the deficiencies noted above. *See* Pet. 71. Petitioner's obviousness contentions as to claims 2–5 do not cure the deficiencies noted above with respect to its challenge to claim 1, from which these claims depend. *See* Pet. 69–71. As such, Petitioner has not demonstrated by a preponderance of the evidence that claims 2–7 are unpatentable under 35 U.S.C. § 103(a) as obvious over the combined teachings of Levine and the MOO Strategy Guide.

## III. MOTION TO EXCLUDE

Petitioner filed a Motion to Exclude Exhibit 2027, which is a declaration of Mr. Joseph Zito. Paper 30. We address Mr. Zito's testimony above in our discussion of alleged service by mail in Cyprus. *See supra* § II.A.2.b. Because we do not rely on Exhibit 2027 in a manner adverse to Petitioner, we dismiss the Motion to Exclude as moot.

#### IV. CONCLUSION

Petitioner has proven, by a preponderance of the evidence, that claims 1–7 are unpatentable under 35 U.S.C. § 103(a) as obvious over the combined teachings of Levine and D&D Handbook. Petitioner, however, has not proven, by a preponderance of the evidence, that claims 1–7 would have been obvious over the combined teachings of Levine and the MOO Strategy Guide.

#### V. ORDER

Accordingly, it is:

ORDERED that claims 1–7 of the '243 patent have been shown to be unpatentable;

FURTHERED ORDERED that Petitioner's Motion to Exclude (Paper 30) is *dismissed*; and

FURTHERED ORDERED that, because this is a Final Written Decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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