

NOTE: This disposition is nonprecedential.

**United States Court of Appeals
for the Federal Circuit**

BOT M8 LLC,
Appellant

v.

SONY INTERACTIVE ENTERTAINMENT LLC,
Appellee

**KATHERINE K. VIDAL, UNDER SECRETARY OF
COMMERCE FOR INTELLECTUAL PROPERTY
AND DIRECTOR OF THE UNITED STATES PA-
TENT AND TRADEMARK OFFICE,**
Intervenor

2022-1569, 2022-1570

Appeals from the United States Patent and Trademark
Office, Patent Trial and Appeal Board in Nos. IPR2020-
00726, IPR2020-01288.

Decided: August 30, 2023

Paul J. Andre, Kramer Levin Naftalis & Frankel LLP,
Redwood Shores, CA, argued for appellant. Also repre-
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Abran J. Kean, Erise IP, P.A., Greenwood Village, CO, argued for appellee. Also represented by Eric Allan Buresh, Overland Park, KS.

William LaMarca, Office of the Solicitor, United States Patent and Trademark Office, Alexandria, VA, for intervenor. Also represented by Michael S. Forman, Thomas W. Krause, Farheena Yasmeen Rasheed.

Before PROST, REYNA, and CUNNINGHAM, *Circuit Judges*.

CUNNINGHAM, *Circuit Judge*.

Bot M8 LLC appeals from final written decisions issued in two Patent Trial and Appeal Board inter partes reviews that found claims 1–5 of U.S. Patent No. 8,112,670 and claims 1–10 of U.S. Patent No. 7,664,988 (collectively, the “Challenged Claims” or “Challenged Patents,” respectively) to be unpatentable. *Sony Interactive Ent. LLC v. Bot M8, LLC*, IPR2020-00726, 2021 WL 4876235, at *1 (P.T.A.B. Oct. 4, 2021) (“*Decision I*”); *Sony Interactive Ent. LLC v. Bot M8, LLC*, IPR2020-01288, 2022 WL 495115, at *1 (P.T.A.B. Feb. 15, 2022) (“*Decision II*”). On appeal, Bot M8 challenges the Board’s determinations based on its constructions of the claim terms “fault inspection program” and “boot program.” We disagree that the Board adopted erroneous constructions of those terms and *affirm*.

I. BACKGROUND

The ’670 patent is a continuation of the ’988 patent and is entitled “Gaming Apparatus Having Memory Fault Detection.”¹ The Challenged Patents disclose “an information

¹ Because the Challenged Patents are related and share a specification, we generally cite to the ’670 patent.

process device in which it can be guaranteed that a fault inspection program properly operates even if a fault occurs in a memory device which is inspected through the fault inspection program.” ’670 patent col. 1 ll. 35–40. Among other things, the Challenged Patents accomplish this objective by using a “fault inspection program” stored in one memory device that inspects faults in a second memory device. *Id.* col. 1 ll. 41–65. Because the fault inspection program is not stored in the memory it inspects, it “properly operates” independent of whether that memory has a fault. *Id.* col. 1 ll. 60–65.

Claim 1 of the ’670 patent recites:

1. A gaming device configured to execute a game, the gaming device comprising:

a mother board on which a first memory device is provided;

a second memory device configured to store a game application program, the second memory device being connected to the mother board; and

a control device for *executing a fault inspection program for the second memory device to inspect whether or not a fault occurs in the second memory device;*

wherein the fault inspection program is stored in the first memory device, and the control device completes the execution of the fault inspection program before the game is started.

Id. col. 4 l. 61–col. 5 l. 7 (emphasis added). Dependent claim 2 introduces a “boot program” and recites:

2. The gaming device according to claim 1,

wherein the first memory device stores a *boot program executed when the gaming device is started to operate*, and

wherein the control device *executes the fault inspection program after the boot program is executed*.

Id. col. 5 ll. 8–12 (emphases added). Independent claim 4 contains similar requirements to claim 1, but it inspects faults in the “game application program” stored in the memory device, not the memory device itself, and recites:

4. A gaming device configured to execute a game, the gaming device comprising:

a ROM configured to store a fault inspection program;

a memory device which is electrically rewritable a game application program stored therein;

a control device *configured to execute the fault inspection program to inspect whether or not a fault occurs in the game application program stored in the memory device*;

wherein the control device executes the fault inspection program when the gaming device is started to operate and completes the execution of the fault inspection program before the game is started.

Id. col. 5 l. 15–col. 6 l. 10 (emphasis added).

Claim 1 of the ’988 patent generally combines these requirements into a single claim:

1. A gaming device configured to execute a game, the gaming device comprising:

a first memory device for *storing a boot program* executed when the gaming device is started to operate;

a mother board on which the first memory device is provided;

a second memory device for storing a game application program for the game, the second memory device being connected to the mother board; and

a control device for *executing a fault inspection program for the gaming device to inspect whether or not a fault occurs in the second memory device and the game application program stored therein,*

wherein the fault inspection program is stored in the first memory device, and the control device *executes the fault inspection program when the gaming device is started to operate and completes the execution of the fault inspection program before the game is started.*

'988 patent col. 4 l. 55–col. 5 l. 5 (emphases added).

In its final written decision for the IPR on the '670 patent, the Board concluded, among other things, that claims 1–4 are unpatentable based on Sugiyama² in combination with Gatto,³ and claim 5 is unpatentable based on Sugiyama in combination with Gatto and Yamaguchi.⁴ *Decision I* at *2, *17. For the IPR on the '988 patent, the

² Japanese Unexamined Patent Application Publication Disclosure No. JP 2000-35888 published Feb. 2, 2000.

³ WIPO Int'l Publication No. WO 2004/004855 A1 published Jan. 15, 2004.

⁴ U.S. Patent No. 5,844,776 issued Dec. 1, 1998.

Board found, among other things, that claims 1–9 are unpatentable based on Sugiyama in combination with Gatto, and claim 10 is unpatentable based on Sugiyama in combination with Gatto and Cheston.⁵ *Decision II* at *24.

Bot M8 timely appealed. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

II. DISCUSSION

“We review the Board’s legal conclusions de novo and its factual findings for substantial evidence.” *Univ. of Strathclyde v. Clear-Vu Lighting LLC*, 17 F.4th 155, 160 (Fed. Cir. 2021) (citing *Pers. Web Techs., LLC v. Apple, Inc.*, 848 F.3d 987, 991 (Fed. Cir. 2017)). “The substantial evidence standard asks ‘whether a reasonable fact finder could have arrived at the agency’s decision,’ and ‘involves examination of the record as a whole, taking into account evidence that both justifies and detracts from an agency’s decision.’” *Id.* (quoting *OSI Pharms., LLC v. Apotex Inc.*, 939 F.3d 1375, 1381–82 (Fed. Cir. 2019)).

“Obviousness is a question of law based on underlying findings of fact.” *Id.* (quoting *OSI Pharms.*, 939 F.3d at 1382). Whether the prior art teaches a claim limitation and whether a skilled artisan would have been motivated to modify or combine prior art teachings are questions of fact. *Id.* (first citing *Tech. Consumer Prods., Inc. v. Lighting Sci. Grp. Corp.*, 955 F.3d 16, 22 (Fed. Cir. 2020); and then citing *OSI Pharms.*, 939 F.3d at 1382). “The substantial evidence standard asks ‘whether a reasonable fact finder could have arrived at the agency’s decision,’ and ‘involves examination of the record as a whole, taking into account evidence that both justifies and detracts from an agency’s decision.’” *Id.* (quoting *OSI Pharms.*, 939 F.3d at 1381–82).

⁵ U.S. Patent Application Publication No. US 2003/0135350 A1 published July 17, 2003.

Bot M8 argues that the Board’s decisions based on obviousness should be vacated or reversed because they are premised on an erroneous construction of “fault inspection program.” Appellant’s Br. 3. First, Bot M8 argues that the claims, specification, and prosecution history support defining the “fault inspection program” to be a distinct program from the “boot program.” *Id.* at 23–32. Second, Bot M8 argues that the claims, specification, and prosecution history confirm that the “fault inspection program” must inspect for faults in both hardware and software. *Id.* at 45–53. Separate from claim construction, Bot M8 argues that substantial evidence does not support the Board’s obviousness findings based on Sugiyama because it lacks a “fault inspection program” capable of inspecting faults in both hardware and software. *Id.* at 53–56. We address each argument in turn.⁶

A. Other Than a Boot Program

“When construing claim terms, we first look to, and primarily rely on, the intrinsic evidence, including the claims themselves, the specification, and the prosecution history of the patent, which is usually dispositive.” *Sunovion Pharms., Inc. v. Teva Pharms. USA, Inc.*, 731 F.3d 1271, 1276 (Fed. Cir. 2013) (first citing *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005) (en banc); and then citing *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). “The specification is always highly

⁶ Bot M8 originally challenged the Board’s institution decisions as allegedly violating the Constitution’s Appointments Clause, but it withdrew that challenge before oral argument. ECF No. 51. Further, because we agree with the Board’s unpatentability determinations for all challenged claims based on Sugiyama, we do not reach Bot M8’s arguments challenging the Board’s unpatentability determinations based on U.S. Patent Application Publication No. US 2004/0054952 A1.

relevant to the claim construction analysis and is, in fact, the single best guide to the meaning of a disputed term.” *Trs. of Columbia Univ. v. Symantec Corp.*, 811 F.3d 1359, 1363 (Fed. Cir. 2016) (cleaned up); *see also Phillips*, 415 F.3d at 1315.

“The words of a claim are generally given their ordinary and customary meaning as understood by a person of ordinary skill in the art when read in the context of the specification and prosecution history.” *Thorner v. Sony Comput. Ent. Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012) (citing *Phillips*, 415 F.3d at 1313). One exception is “when a patentee sets out a definition and acts as his own lexicographer.” *Id.* “To act as its own lexicographer, a patentee must clearly set forth a definition of the disputed claim term other than its plain and ordinary meaning’ and must ‘clearly express an intent to redefine the term.’” *Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1371 (Fed. Cir. 2014) (quoting *Thorner*, 669 F.3d at 1365).

The patentee defined “fault inspection program,” such that lexicography applies here. The specification states that “a program for inspecting whether or not a fault such as damage, change or falsification occurs in the programs or data” is “hereinafter, abbreviated as” a “fault inspection program.” ’670 patent col. 1 ll. 20–27. *See, e.g., Abbott Lab’s v. Andrx Pharms., Inc.*, 473 F.3d 1196, 1210 (Fed. Cir. 2007) (explaining “as used herein, means” to be definitional); *Meds. Co. v. Mylan, Inc.*, 853 F.3d 1296, 1306 (Fed. Cir. 2017) (finding “refers to” and “as defined herein” to be definitional); *Kyocera Senco Indus. Tools Inc. v. Int’l Trade Comm’n*, 22 F.4th 1369, 1378 (Fed. Cir. 2022) (finding “referred to herein” to be definitional). The Board correctly adopted this definition as the construction for the “fault inspection program” claim term. *Decision I* at *4; *Decision II* at *6.

Citing *Becton, Dickinson & Co. v. Tyco Healthcare Group, LP*, Bot M8 argues that because the claims

separately list “fault inspection program” and “boot program,” the claim language supports finding that those elements are “distinct components.” Appellant’s Br. 23–24 (citing 616 F.3d 1249, 1254 (Fed. Cir. 2010)); *see also* ’670 patent col. 4 l. 61–col. 5 l. 7 (claim 1) (requiring “fault inspection program”); *id.* col. 5 ll. 8–12 (claim 2) (adding “boot program” and executing “fault inspection program after the boot program is executed”); ’988 patent col. 4 l. 55–col. 5 l. 5 (claim 1) (requiring both “fault inspection program” and “boot program”). In Bot M8’s view, the claim language requires that the “fault inspection program” must be “a program ‘other than’ the boot program,” *i.e.*, that these two limitations must be performed by distinct programs rather than by an integrated program. Appellant’s Br. 25–26; *see also* Oral Arg. at 6:25–7:01, *available at* https://oralarguments.cafc.uscourts.gov/default.aspx?fl=22-1569_04052023.mp3.

We are not persuaded that the claim language supports modifying the patentee’s definition of “fault inspection program” to add “other than a boot program.” In *Becton*, we stated “[w]here a claim lists elements separately, the clear implication of the claim language is that those elements are distinct components of the patented invention.” 616 F.3d at 1254 (cleaned up) (citations omitted). But part of our rationale in *Becton* was that it would render the asserted claims “nonsensical” for the claimed “spring means” to be *connected to* the “hinged arm” if they were the same structure. *Id.* at 1255. No similar “nonsensical” result arises here, where the claims merely list “fault inspection program” and “boot program” separately or require the execution of the fault inspection program after the boot program. *See, e.g.*, ’670 patent claims 1–2; ’988 patent claim 1; *see also* Oral Arg. at 7:02–7:09 (Bot M8’s counsel agreeing it is possible to run features sequentially even within the same program). Thus, we disagree that *Becton* requires that the “fault inspection program” and “boot program”

must be performed by *distinct programs* to be “distinct component[s]’ of the patented invention.” 616 F.3d at 1254.

We also disagree that Bot M8’s citations to the specification support requiring a distinct “fault inspection program” and “boot program.” See Appellant’s Br. 27–29 (citing ’670 patent col. 2 ll. 46–52, col. 3 l. 59–col. 4 l. 14, col. 4 ll. 1–32, Fig. 1). Bot M8’s citations merely show the existence of a “boot program storing area 13a” and a “fault inspection program storing area 13b” in memory, not that each limitation must be contained in a distinct program.

Bot M8 further supports its arguments by citing to the prosecution history of the ’988 patent where the applicant distinguished the prior art by arguing that “the boot program and the fault inspection program are distinct.” Appellant’s Br. 29–32; see also J.A. 1568–69 (’988 patent Prosecution History, Applicant Remarks dated Jul. 30, 2009). We are not persuaded by Bot M8’s reliance on the prosecution history. Even assuming the patentee’s statements for the ’988 patent apply equally to both Challenged Patents, we do not agree that the applicant’s statement—that “the boot program and the fault inspection program are distinct”—means the boot program and the fault inspection program are distinct *programs*. See J.A. 1568–69 (’988 patent Prosecution History, Applicant Remarks dated Jul. 30, 2009). After the examiner’s earlier rejection, the applicant amended the claims to require that the “fault inspection program” is executed “*for the gaming device*” and inspects faults in the “*game application program*.” J.A. 1563–66 (’988 patent Prosecution History, Amended Claims dated Jul. 30, 2009) (emphasis added to indicate added text). We agree with Sony that the applicant’s statements, in context, merely specify that the amended claim language is directed to the function of the “fault inspection program” (*i.e.*, to be executed for the *gaming* device to inspect a *game* application program) rather than suggesting or changing the definition of the “fault inspection program”

to require that it be a distinct program from the “boot program.” Appellee’s Br. 29–30; J.A. 1563–64, 1569.

Accordingly, we agree with the Board that the proper construction of “fault inspection program” does not require that it be a distinct program from the boot program.

B. Inspecting Hardware and Software

As discussed above, the patents define the “fault inspection program” as “a program for inspecting whether or not a fault such as damage, change or falsification occurs in the programs or data.” ’670 patent col. 1 ll. 20–27; *see also* ’988 patent at col. 1 ll. 18–26. The specification also teaches that the “present invention” relates to an “information process device in which a fault in hardware or software is inspected.” ’670 patent col. 1 ll. 17–18; ’988 patent col. 1 ll. 15–16. Thus, the specification supports construing “fault inspection program” to require inspecting faults in hardware or software.

Bot M8 argues that because some claims require inspecting faults in hardware (*e.g.*, ’670 patent claim 1); some claims require inspecting faults in software (*e.g.*, ’670 patent claim 4); and some claims require inspecting faults in both hardware and software (*e.g.*, ’988 patent claim 1), then it is “tautological” that “fault inspection program must be *capable* of inspecting for both types of faults.” Appellant’s Br. 46–48. Sony argues that the claims already specify what the “fault inspection program” must inspect—hardware or software—such that Bot M8’s additional requirement would be “redundant.”⁷ Appellee’s Br. 27–28. We agree with Sony.

⁷ Bot M8 also argues that Sony argued in parallel litigation in the Northern District of California that the “fault inspection program” should be construed to inspect faults in both hardware and software. Appellant’s Br. 52–53; *see*,

Bot M8’s “capable of” argument fundamentally misunderstands the structure of the claims, which are not drawn to the capability of the fault inspection program. Bot M8 readily agrees that the surrounding claim language specifies whether the “fault inspection program” inspects faults in hardware, software, or both. Appellant’s Br. 46–47; *see also Decision II* at *6 (“[T]he *claims* of the ’988 patent expressly require a ‘fault inspection program’ to inspect for faults in both the second memory device (hardware) and the game application program (software).”). Thus, Bot M8’s arguments would render certain claim language superfluous by repeating the requirement of the claims that the “fault inspection program” inspects both hardware and software in each claim. *See* ’988 patent claim 1; *Intel Corp. v. Qualcomm Inc.*, 21 F.4th 801, 810 (Fed. Cir. 2021) (“It is highly disfavored to construe terms in a way that renders them void, meaningless, or superfluous.” (quoting *Wasica Fin. GmbH v. Cont’l Auto. Sys., Inc.*, 853 F.3d 1272, 1288 n.10 (Fed. Cir. 2017))).

In other instances, Bot M8’s arguments would lead to improperly importing requirements from some claims into others by requiring the “fault inspection program” to have the capability to inspect faults in both hardware and software, despite those claims only requiring the fault inspection program to inspect one kind of fault. *See, e.g.*, ’670 patent claims 1 and 4; *see also Phillips*, 415 F.3d at 1314 (“Other claims of the patent in question, both asserted and unasserted, can also be valuable sources of enlightenment

e.g., Sony Mot. to Dismiss at 12–13, *Bot M8 LLC v. Sony Corp. of Am.*, No. 3:19-CV-07027-WHA (N.D. Cal. Dec. 19, 2019). We disagree. Any alleged inconsistencies identified by Bot M8 merely reflect that the claims of the ’988 patent require the inspection of both kinds of faults, which is consistent with Sony’s arguments here. *See* Appellee’s Br. 30–32.

as to the meaning of a claim term.”); *Unwired Planet, LLC v. Apple Inc.*, 829 F.3d 1353, 1359 (Fed. Cir. 2016) (“If the patentee intended to restrict the claims-at-issue to require a voice input to travel over a particular type of channel, it could have included that same limitation.”). We decline to add limitations to the claims that the patentee did not.

We agree with the Board that the construction of “fault inspection program” does not require it to inspect both hardware *and* software.

C. Prior Art

Having rejected both of Bot M8’s proposed constructions of “fault inspection program,” we turn to whether the Board’s analysis of the prior art is supported by substantial evidence. We conclude that it is.

First, Bot M8 argues that the Board failed to identify “two distinct programs” in the Sugiyama-based combination of prior art. Appellant’s Br. 33–37; Appellant’s Reply Br. 12. Bot M8’s arguments are premised on its claim construction argument requiring the “fault inspection program” to be “other than the boot program,” which we reject as explained above.

Second, Bot M8 also challenges whether substantial evidence supports the Board’s findings for those claims from the ’988 patent that require inspecting faults in both hardware and software.⁸ Appellant’s Br. 54. Bot M8

⁸ Outside of its claim construction argument that the “fault inspection program” must inspect both hardware and software, Bot M8 does not appear to challenge that substantial evidence supports the Board’s finding as to the ’670 patent. Appellant’s Br. 54 (“[T]he claim construction alone is dispositive for the ’670 Patent because the Board’s obviousness determination was based on rejecting Bot M8’s construction.”); *see also* Oral Arg. at 10:48–11:34 (“That

argues that “Sugiyama can *only* determine that an abnormality occurred, not whether it occurred in” hardware or software. *Id.* at 55. Bot M8 agrees that Sugiyama can detect “hardware abnormalities, like memory failures,” but argues that it “cannot detect software faults.” *Id.* at 55–56.

We conclude that the Board’s analysis is supported by substantial evidence. As to the ’988 patent, the Board found that Sugiyama alone teaches inspecting both hardware and software faults. *Decision II* at *13. The Board relied on Sugiyama’s disclosure that it can identify whether there is “damage to the hard disk drive 24 itself” (*i.e.*, hardware) or “[i]f there is no damage to the hard disk drive itself, for example, when the stored data is destroyed” (*i.e.*, software). *Id.* at *9 (internal quotations omitted), *13; *see also Sugiyama* ¶¶ 23–24. We agree that substantial evidence supports the Board’s factual findings underlying the unpatentability determinations for Sony’s Sugiyama-based grounds.

III. CONCLUSION

We have considered Bot M8’s remaining arguments and find them unpersuasive. For the above reasons, we *affirm*.

AFFIRMED

argument, that it had to be both hardware and software, does not apply to the ’670 [patent].”). To the extent Bot M8 challenges the Board’s findings that Sugiyama in combination with Gatto renders the claims of the ’670 patent unpatentable as obvious, we conclude that substantial evidence supports the Board’s factual findings underlying its unpatentability determinations. *Decision I* at *7–11.