NOTE: This disposition is nonprecedential.

United States Court of Appeals for the Federal Circuit

PALO ALTO NETWORKS, INC.,
Appellant

v.

FINJAN, INC.,
Appellee

ANDREI IANCU, UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE,
Intervenor

2019-2151

Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in Nos. IPR2016-00151, IPR2016-01071.

Decided: December 16, 2020

ORION ARMON, Cooley LLP, Broomfield, CO, for appellant. Also represented by DENA CHEN, Palo Alto, CA.

JAMES R. HANNAH, Kramer Levin Naftalis & Frankel

LLP, Menlo Park, CA, for appellee. Also represented by
PAUL J. ANDRE; JEFFREY PRICE, New York, NY.

SARAH E. CRAVEN, Office of the Solicitor, United States
Patent and Trademark Office, Alexandria, VA, for interve-
nor. Also represented by THOMAS W. KRAUSE, FARHEENA
YASMEEN RASHEED, DANIEL KAZHDAN.

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Before REYNA, SCHALL, and WALLACH, *Circuit Judges.*

SCHALL, *Circuit Judge.*

This is an appeal of the final decision of the United
States Patent Office, Patent Trial and Appeal Board
("Board"), in IPR2016-00151, following a remand from this
court. *Palo Alto Networks, Inc. v. Finjan, Inc.*, No.
IPR2016-00151, Paper 68 (P.T.A.B. May 15, 2019), J.A. 1–
7 ("Remand FWD").[1] In the Remand FWD, the Board held
that claims 1–12 of U.S. Patent No. 8,141,154 ("the '154
patent"), owned by Finjan, Inc. ("Finjan"), had not been
shown to be unpatentable in the inter partes review
proceeding brought by Palo Alto Networks, Inc. ("Palo
Alto"). For the reasons set forth below, we *affirm*.[2]

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[1]   IPR2016-01071, filed by Symantec Corp. ("Syman-
tec"), sought review of the same claims as, and was ulti-
mately joined with, IPR2016-00151. Due to a previous
settlement, Symantec is not a party to this appeal, and no
argument is raised by the parties with respect to IPR2016-
01071. *See* Remand FWD at 1 n.1.

[2]   Initially, Palo Alto argued that we should vacate
and remand the Remand FWD because it was rendered by
an unconstitutionally appointed panel of Administrative
Patent Judges, citing our court's decision in *Arthrex, Inc. v.
Smith & Nephew, Inc.*, 941 F.3d 1320 (Fed. Cir. 2019). Ap-
pellant's Br. 49. The U.S. Patent & Trademark Office

BACKGROUND

I

The '154 patent relates to anti-virus protection for computers, and specifically, to protection against dynamically generated malicious code or viruses, which are viruses generated at run-time. '154 patent col. 3 ll. 33–38 & col. 8 ll. 38–40. The '154 patent describes using a separate, remotely-located security computer to inspect incoming content to determine if it is safe to run the content on a client computer. *Id.* col. 4 ll. 35–54. More specifically, the '154 patent explains that when content is received at the client computer that includes "a call to an original function" and the call includes "an input to the function," the call to the original function is replaced with a "call to a substitute function." *Id.* col. 5 ll. 4–12. The substitute function causes the input to be sent to the security computer, which then determines whether it is safe for the client computer to invoke the original function with the input. *Id.* col. 5 ll. 12–20. If the security computer determines it is safe, the original function can be invoked at the client computer with the input. *Id.* col. 5 ll. 22–25.

Independent claim 1 of the '154 patent is representative. It provides as follows:

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intervened with respect to this issue. The Supreme Court subsequently granted certiorari in *Arthrex*, 2020 WL 6037208 (Oct. 13, 2020), and Palo Alto then filed a motion to stay this appeal, which our court denied. As the petitioner before the Board in IPR2016-00151, Palo Alto has forfeited its right to an *Arthrex* challenge. *See generally Ciena Corp. v. Oyster Optics, LLC*, 958 F.3d 1157 (Fed. Cir. 2020).

> 1. A system for protecting a computer from dynamically generated malicious content, comprising:
>
> a content processor (i) for processing content received over a network, the content including *a call to a first function*, and the call including an input, and (ii) for invoking a second function with the input, only if a security computer indicates that such invocation is safe;
>
> a transmitter for transmitting the input to the security computer for inspection, when the first function is invoked; and
>
> a receiver for receiving an indicator from the security computer whether it is safe to invoke the second function with the input.

Id. col. 17 ll. 32–44 (emphasis added). The claimed "first function" refers to the substitute function, whereas the claimed "second function" refers to the original function that the client computer has been asked to perform. Thus, the term at issue, "a call to a first function," refers to a call to the substitute function that causes the input to be sent to a security computer for inspection.

The only prior art at issue is U.S. Patent Application Publication No. 2007/0113282 to Ross ("Ross"). Ross describes systems and methods for detecting and disabling malicious script code. Specifically, Ross teaches a "hook"-based detection engine that is configured to review script code associated with incoming data content and detect function calls in the script code. Ross ¶¶ 10, 25. The hook-base detection engine includes a hook script generator that creates new "hooked" or "hook" functions that replace the standard functions originally set forth in the script code, thereby replacing potentially malicious functions contained in the script code. *Id.* at ¶¶ 10, 26, 35. As discussed below, the issue on appeal is whether Ross discloses "a call

to a first function," as recited in the '154 patent and as construed by the Board.

II

On March 15, 2017, the Board issued a Final Written decision in IPR2016-00151. Final Written Decision, *Palo Alto Networks, Inc. v. Finjan, Inc.*, No. IPR2016-00151, 2017 WL 1040254 (P.T.A.B. Mar. 15, 2017) ("Original FWD"). In it, the Board construed "a call to a first function" to mean "a statement or instruction in a program requesting the services of a particular (i.e., first) function." *Id.* at *3–4. In the Original FWD, the Board determined that claims 1–8, 10, and 11 were patentable over Ross because Ross did not disclose the claimed "content including a call to a first function." *Id.* at *5–8.[3] The Board rejected Palo Alto's argument that Ross's hook function teaches or suggests the "call to a first function." The Board concluded: "Ross teaches assigning the original function to the hooked function. In that manner, Ross invokes indirectly the hook function without any need to include a call to that hook function." *Id.* at *7.

Palo Alto sought rehearing of the Original FWD because the Board used different language in its construction of the term "call to a first function" in a Final Written Decision in IPR2015-01979, which issued the same day as the Original FWD and which also involved the '154 patent. In the Final Written Decision in IPR2015-01979, the Board construed "a call to a first function" to mean "a statement

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[3]   Palo Alto's petition in IPR2016-00151 challenged claims 1–8, 10, and 11 of the '154 patent as obvious under 35 U.S.C. § 103 over Ross and claims 9 and 12 as obvious over Ross and U.S. Patent App. Pub. No. 2002/0066022 to Calder ("Calder"). The Board instituted review of Palo Alto's challenge to claims 1–8, 10, and 11, but declined to institute its challenge to claims 9 and 12.

or instruction in the content, the execution of which causes the function to provide a service." Final Written Decision, *Palo Alto Networks, Inc. v. Finjan, Inc.*, No. IPR2015-01979, 2017 WL 1040259, at *7 (P.T.A.B. Mar. 15, 2017). The Board granted Palo Alto's Request for Rehearing, and agreed with Palo Alto "that the construction of 'a call to a first function' must be consistent with [its] determination in IPR2015-01979," specifically, that "a call to a first function" means "a statement or instruction in the content, the execution of which causes the function to provide a service." Decision on Petitioner's Request for Rehearing, *Palo Alto Networks, Inc. v. Finjan, Inc.*, No. IPR2016-00151, 2017 WL 2211715, at *1 (P.T.A.B. May 19, 2017) ("Rehearing Decision"). The Board concluded, however, that the modified construction was consistent with its prior analysis and did not require modification of its patentability determinations. *Id.* at *1–2. The Board stated: "[W]e do not agree with [Palo Alto]'s argument that this construction expands the scope of the term to include 'invocations' of a function when the 'call' is to another function." *Id.* at *1.

Palo Alto appealed the Original FWD and the Final Written Decision in IPR2015-01979. In a November 19, 2018 decision, our court issued an opinion in which we (1) affirmed the Board's construction of a disputed claim term in IPR2015-01979; and (2) vacated and remanded the Board's decision in IPR2016-00151 under *SAS Institute Inc. v. Iancu,* 138 S. Ct. 1348 (2018), because the Board had instituted IPR2016-00151 on less than all of the challenged claims. *Palo Alto Networks, Inc. v. Finjan, Inc.*, 752 F. App'x 1017 (Fed. Cir. 2018).

On remand, the Board modified its institution decision to institute inter partes review of dependent claims 9 and 12. Remand FWD at 3, J.A. 3. The Board also "adopt[ed] and incorporate[d] by reference, in its entirety, [its] previous [Original FWD] that [Palo Alto] ha[d] not shown by a preponderance of the evidence that claims 1–8, 10, and 11 of the '154 patent are unpatentable" and "reinstate[d],

and . . . incorporate[d] by reference," its decision on Palo Alto's Request for Rehearing. Remand FWD at 4, J.A. 4. The Board found that newly challenged claims 9 and 12 had not been shown to be unpatentable because Palo Alto did not "point to any teachings in Calder that teach the elements [the Board] found missing in Ross in reaching [its] decision that Ross did not render claims 1 and 10," from which claims 9 and 12 depend, "obvious." *Id.* at 4–6.

Palo Alto now appeals. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(4)(A).

DISCUSSION

I

For petitions for inter partes review filed on or after November 13, 2018, the Board applies the *Phillips* district-court claim construction standard. 37 C.F.R. § 42.100(b) (2018); *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc); *Immunex Corp. v. Sanofi-Aventis U.S. LLC*, 977 F.3d 1212, 1216 & n.2 (Fed. Cir. 2020). For petitions for inter partes review filed before November 13, 2018, like Palo Alto's, we apply the broadest reasonable interpretation claim construction standard. 37 C.F.R. § 42.100(b) (2012); *AC Tech. S.A. v. Amazon.com, Inc.*, 912 F.3d 1358, 1365 n.1 (Fed. Cir. 2019). "We review the Board's claim construction de novo and any underlying factual findings for substantial evidence." *Immunex*, 977 F.3d at 1217 (citations omitted).

Obviousness is a question of law based on underlying findings of fact. *In re Baxter Int'l*, 678 F.3d 1357, 1361 (Fed. Cir. 2012) (citing *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966)). What a reference teaches and the differences between the claimed invention and the prior art are questions of fact, which we review for substantial evidence. *Id.* at 1361.

II

As noted, the Board ultimately construed "a call to a first function" to mean "a statement or instruction in the content, the execution of which causes the function to provide a service." Rehearing Decision, 2017 WL2211715 at *1. This was the construction first stated in IPR2015-01979.

In Palo Alto's view, the Board improperly added a limitation to the claims—that the "call" must directly name the first function—when it construed the term as just stated and applied the construction to Ross. Palo Alto contends that the Board's original construction in IPR2016-00151 ("a statement or instruction in a program requesting the services of a particular (i.e., first) function") required that the first function be explicitly called, and when the Board modified the Original FWD in IPR2016-00151 to make the construction there consistent with the construction in IPR2015-01979, the Board should have revisited its invalidity analysis under the new construction, which was not so limited. Appellant Br. 36–41.

According to Palo Alto, Ross teaches a "call to a first function" through its description of the hook functions and their associated inputs. *Id.* at 43–48. For example, Palo Alto points out that Ross teaches "[e]ach hook function is configured to supersede a corresponding original function" and that "[t]he hook function corresponding to the data content original function is executed when the original function is called." *Id.* at 44, 46 (quoting Ross ¶ 10).

Finjan responds that Palo Alto's argument that the claim construction was not correctly applied is meritless because it "ignores the fundamental difference between a function call and the invocation of a function." Appellee's Br. 15. Finjan notes that Palo Alto does not challenge the Board's claim construction itself and indeed Palo Alto specifically requested that the construction in IPR2015-01979 be applied in IPR2016-00151. *Id.* at 16. Finjan contends

that the Board's construction requires "the" function that is called to be "the" function that "provide[s] a service," and that the Board's determination that Ross failed to teach that approach is supported by substantial evidence. *Id.* at 17–18, 20, 24.

<div align="center">III</div>

We have recognized a party's ability to challenge the Board's application of a claim construction. *Respironics, Inc. v. Zoll Med. Corp.*, 656 F. App'x 531, 535 (Fed. Cir. 2016) (first citing *In re Abbott Diabetes Care Inc.,* 696 F.3d 1142, 1150-51 (Fed. Cir. 2012), then citing *Intervet Inc. v. Merial Ltd.*, 617 F.3d 1282, 1289-90 (Fed. Cir. 2010)). "Our analysis of this issue includes two components: first, we determine whether the Board added a limitation when it applied the construction; second, we determine whether that limitation is appropriate under claim-construction law." *Id.*

Applying this test, we do not believe the Board added a direct-naming limitation when it applied its construction. Rather, the Board consistently explained that the term "a call to a function" is simply not equal to "invoking a function." Original FWD, 2017 WL 1040254, at *4; Rehearing Decision, 2017 WL2211715 at *2. The Board explained that the term "call" was used in the claims as a noun to mean a "programmatic statement included in the content." Original FWD, 2017 WL 1040254 at *4; Rehearing Decision, 2017 WL2211715 at *2 ("The word 'call' is recited in claim 1 as a noun, and is the statement or instruction included in the content . . . ."). According to the Board, such a programmatic statement *to a function* must "cause[ ] *the . . . function* to provide a service." Rehearing Decision, 2017 WL2211715 at *2 ("The word "call" . . . is the statement or instruction included in the content that causes the *first function* to provide a service."). The Board also consistently explained that such a "call" to a function does not encompass the invocation of a different function. *Id.* at *1–

2; *see* Original FWD, 2017 WL 1040254 at *4. The Board's construction, and its application thereof, thus requires no more than what is recited in the claims: "[t]he call to the first function must be included in the content, and it is the same first function that is invoked later in the claim." *Id.* at *4.

The Board found that Ross teaches a call to the original (second) function, in order to invoke the hook (first) function, but does not teach a "call" to the hook function. *Id.* at *6. This finding is supported by substantial evidence, including the testimony of Finjan's expert, *see, e.g.*, Original FWD, 2017 WL 1040254, at *6, and the testimony of Palo Alto's expert that "in the pseudocode in figure 4 [of Ross] there's no explicit call to a hooked function." *Id.* at *7.

CONCLUSION

For the foregoing reasons, we affirm the Remand FWD.[4]

AFFIRMED

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[4]   We have considered the other arguments raised by Palo Alto on appeal and have found them to be without merit.