UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

PALO ALTO NETWORKS, INC.,
Petitioner,

v.

CENTRIPETAL NETWORKS, INC.,
Patent Owner.

IPR2021-01155
Patent 10,567,343 B2

Before BRYAN F. MOORE, LYNNE E. PETTIGREW, and
JON M. JURGOVAN, *Administrative Patent Judges.*

JURGOVAN, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

Palo Alto Networks, Inc. ("Petitioner") filed a Petition requesting *inter partes* review of claims 1–20 of U.S. Patent No. 10,567,343 B2 (Ex. 1001, "the '343 patent"). Paper 1 ("Pet."), 1. Centripetal Networks, LLC ("Patent Owner") filed a Preliminary Response. Paper 8 ("Prelim. Resp."). Petitioner filed a Preliminary Reply (Paper 9), and Patent Owner filed a Preliminary Sur-Reply (Paper 10), to address discretionary denial under § 314(a).

We have jurisdiction and authority to institute trial pursuant to 35 U.S.C. §§ 6 and 314(a), and 37 C.F.R. § 42.4(a). Upon consideration of the Petition and Preliminary Response, we exercise our discretion to decline institution of *inter partes* review under § 325(d).

II. BACKGROUND

A. Real Parties-in-Interest

Petitioner and Patent Owner identify themselves as the only real parties-in-interest involved in this case. Pet. 2, Paper 5, 1.

B. Related Matters

Petitioner and Patent Owner identify the following as matters that can affect or be affected by this proceeding. *See* Pet. 3; Paper 5, 1; Paper 7, 2; Prelim. Resp. 1.

- *Centripetal Networks, Inc. v. Palo Alto Networks, Inc.,* 2:21-cv-00137 (EDVA Mar. 12, 2021)
- *Centripetal Networks, Inc. v. Cisco Systems, Inc.*, 847 F. App'x 869 (Fed. Cir. 2021) (decision on appeal of final decisions in IPR2018-01436 involving US 9,124,522 ("the '552 patent") and IPR2018-01437 involving US Patent 9,160,713 ("the '713 patent")

- *Centripetal Networks, Inc. v. Cisco Systems, Inc.*, 21-193 (U.S. Oct. 4, 2021) (denying Patent Owner's petition for writ of certiorari)
- Reexamination of US 9,686,193 B2 ("the '193 patent") (confirming patentability of claims 1–20).

C. Overview of the '343 Patent

The '343 patent is titled "Filtering Network Data Transfers" and describes receiving multiple packets and determining whether their packet header field values correspond to a packet filtering rule. Ex. 1001, codes (54), (57). If so, an operator determines whether the filtered packets have application header field values corresponding to criteria specified by the operator. *Id.* at code (57). If so, the operator applies a packet transformation function to the header of the filtered packets. *Id.* The packet transformation function is configured to prevent an exfiltration operation. *Id.* This blocks packets from flowing from the inside to the outside of a protected network to prevent loss of confidential or sensitive information. *Id.* at 2:40–47.

Figure 1 of the '343 patent is reproduced below.

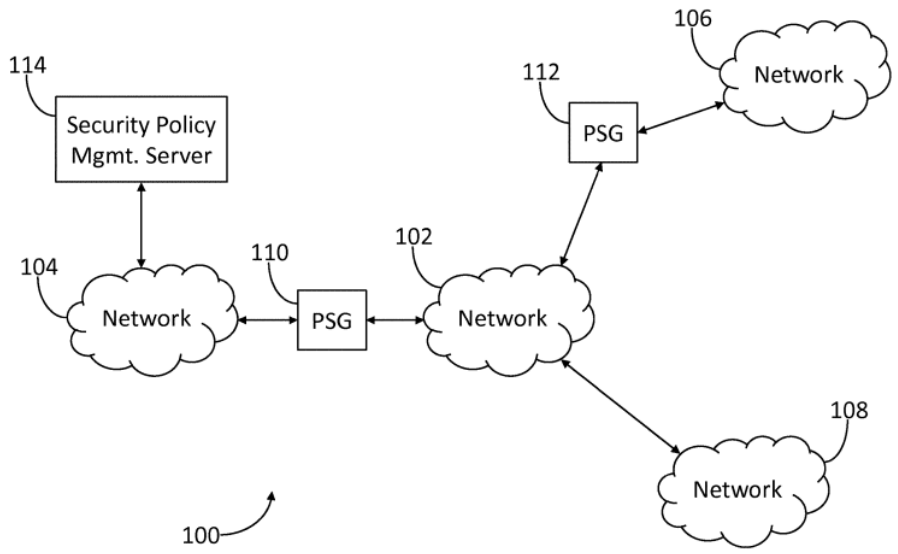

FIG. 1

Figure 2 of the ’343 patent is reproduced below.

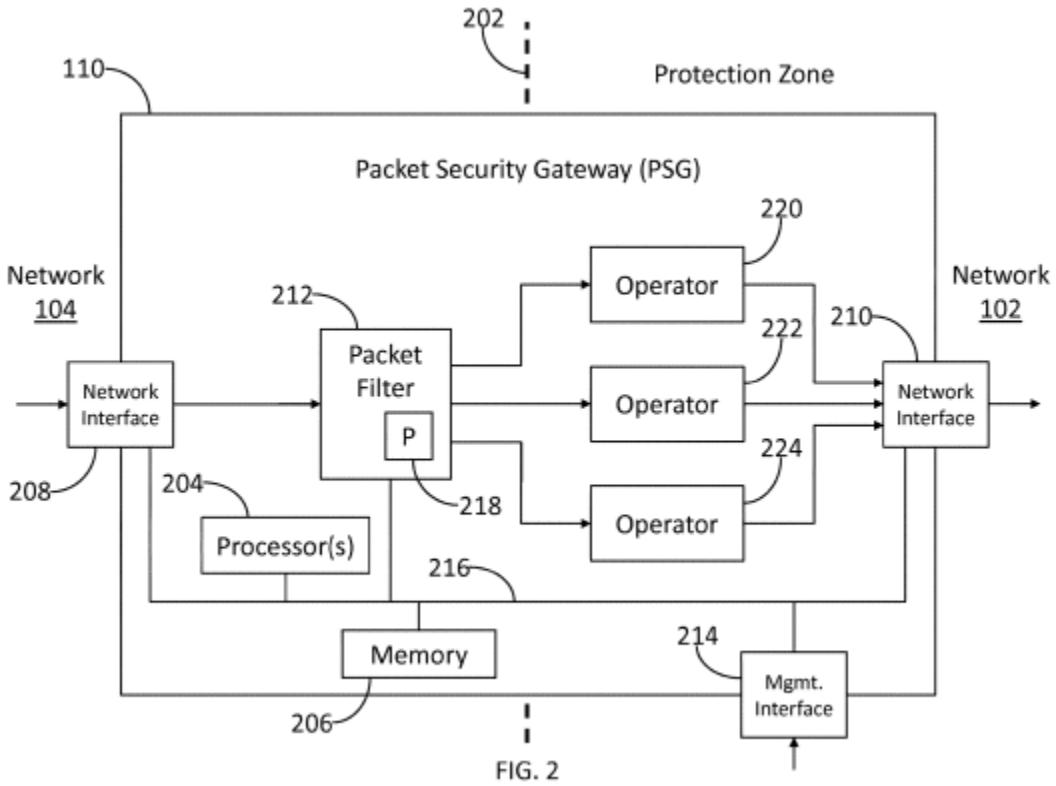

FIG. 2

Figure 3 of the ’343 patent is reproduced below.

218

Five-tuple

Rule #	IP Protocol	Source IP Address	Source Port	Destination IP Address	Destination Port	Operator
1 (302)	TCP	140.210.*	*	140.212.*	22	ALLOW
2 (304)	TCP	140.210.*	*	140.212.*	25	ALLOW
3 (306)	TCP	140.210.*	*	140.212.*	110	ALLOW
4 (308)	TCP	140.210.*	*	140.212.*	143	ALLOW
5 (310)	TCP	140.210.*	*	140.212.*	443	REQUIRE-TLS-1.1-1.2
6 (312)	TCP	140.210.*	*	214.*	80	HTTP-EXFIL
7 (314)	*	*	*	*	*	BLOCK

FIG. 3

Figure 3 shows dynamic security policy 218 including rules specifying criteria and operators. *Id.* at 5:50–64. For example, Rule 6 specifies that packets originating from a source IP address that begins with 140.210, having any source port, destined for an IP address that begins with 200.214[1], and destined for port 80 should have the HTTP-EXFIL operator applied to them. *Id.* at 7:4–9. The HTTP-EXFIL operator may allow HTTP packets containing a GET method, but block HTTP packets containing other HTTP methods (e.g., PUT, POST, CONNECT, etc.). *Id.* at 7:9–23.

Figure 4 of the ’343 patent is reproduced below.

[1] Figure 3 shows the destination IP address as “214.*” whereas the text of the ’343 patent indicates “200.214.” Accordingly, there appears to be an error in either the figure or the text because the two are not consistent.

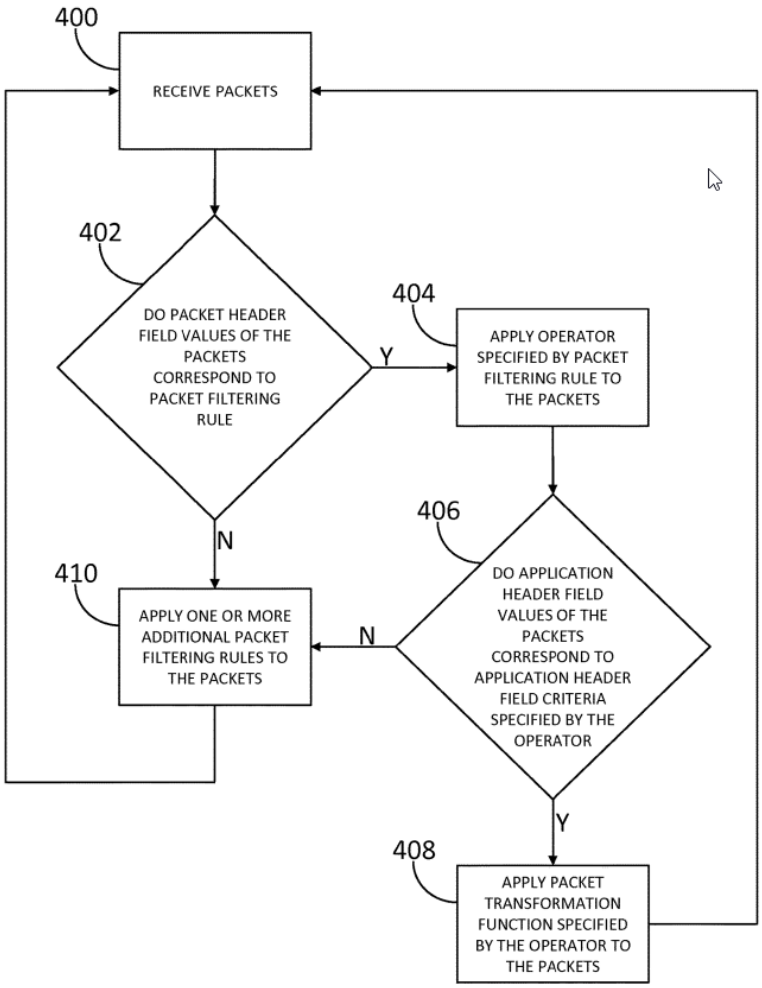

FIG. 4

Figure 4 illustrates a method for protecting a secured network by enforcing one or more network usage policies or network security policies. *Id.* at 3:12–15. Step 400 receives packets. *Id.* at 9:18–19. Step 402 determines whether packet field values correspond to a packet filter rule. *Id.* at 9:22–24. Step 404 applies an operator to the packet. *Id.* at 9:30–35. Step 406 determines whether application header field values of packets correspond to criteria specified by operator. *Id.* at 9:38–42. Step 408 applies a packet transformation function specified by the operator to the packets. *Id.* at

9:47–53.

Claims 1, 8, and 15 of the ’343 patent are independent claims reciting corresponding method, apparatus, and computer-readable media. *Id.* at 11:28–61; 12:46–13:10; 14:1–32. The remaining claims depend from one of these claims. Claim 1, which is illustrative, is reproduced below.

> A method comprising:
>
> receiving, by a computing system comprising memory and at least one processor, a plurality of packets, wherein the plurality of packets comprises a first portion of packets and a second portion of packets;
>
> determining, based on a packet header field value, whether each packet of the plurality of packets comprises data corresponding to first criterion specified by one or more packet-filtering rules;
>
> responsive to a determination by the computing system that a packet header field value of the first portion of packets comprises data corresponding to the first criterion specified by at least one matching packet-filtering rule, applying, by the computing system and to each packet in the first portion of packets, one or more operators specified by the at least one matching packet-filtering rule;
>
> determining, based on an application header field value, the second portion of packets based on whether the first portion of packets comprises data corresponding to second criterion specified by one or more operators specified by the at least one matching packet-filtering rule; and
>
> responsive to determining the second portion of packets that comprises data corresponding to the second criterion specified by one or more operators specified by the at least one matching packet-filtering rule, applying, by the computing system and to each packet in the second portion of packets that match the second criterion, at least one packet transformation function configured to prevent an exfiltration operation, wherein the at least one packet

> transformation function indicates whether each packet in the second portion of packets is allowed to continue toward its destination.

Id. at 11:28–61.

D. Evidence of Record Relied Upon[2]

Reference		Date	Exhibit No.
Sourcefire	Sourcefire 3D System User Guide, Version 4.10	Mar. 16, 2011	1004
Mantripragada	US 2009/0103524 A1	Apr. 23, 2009	1007

Pet. 4–6.

E. Asserted Challenges to Patentability

Claim Challenged	Basis	Reference(s)
1–6, 8–13, 15–19	§ 103	Sourcefire
7, 14, 20	§ 103	Sourcefire, Mantripragada

Pet. 6.

F. Procedural History

The ’343 patent is a continuation of US Application 14/625,486, which issued as US 9,686,193 B2 (“the ’193 patent”). Ex. 1001, code (63). The ’193 patent’s claims do not recite explicitly “to prevent an exfiltration operation” like the ’343 patent’s do. However, the ’193 patent claims apply packet-filtering rules to prevent data transfer from a first network to a

[2] Petitioner also relies upon the Declaration of Dr. Robert Akl (Ex. 1003).

second network, so the ’193 patent is similar to the ’343 patent in this respect.

A petitioner (not the same one as here) challenged the ’193 patent in IPR2018-01559. Ex. 1045. The Board denied institution because the petitioner had not shown that the claimed operator was taught or suggested by Sourcefire. *Id.*

The ’193 patent was also reexamined. Ex. 2010. The Office issued a reexamination certificate confirming the patentability of all claims of the ’193 patent. *Id.* at 604–605. The claims were confirmed as patentable over Sourcefire because they recite a filtering process applying a first operator to drop packets associated with a particular type of data transfer (i.e., preventing exfiltration) and a second operator to forward packets not associated with a particular type of data transfer toward a third network. *Id.* at 584–586, 595–596.

The ’193 patent is a continuation of US Application 13/795,822, which issued as US 9,124,552 B2 (“the ’552 patent”). Ex. 1001, code (63). US 9,160,713 B2 (“the ’713 patent”) is also a continuation of this application. IPR2018-01437, Ex. 1001, code (63). The ’552 patent was challenged by a petitioner in IPR2018-01436, and the Board determined all of the ’552 patent’s claims were unpatentable over Sourcefire. Ex. 1042. The Board also found all claims of the ’713 patent unpatentable over Sourcefire in IPR2018-01437. These decisions were affirmed by the U.S. Court of Appeals for the Federal Circuit. *Centripetal Networks, Inc. v. Cisco Sys., Inc.*, 847 Fed. App’x. 869 (Fed. Cir. 2021).

III. ANALYSIS

A. Discretionary Denial Under 35 U.S.C. § 325(d)

Under § 325(d), in determining whether to institute an *inter partes* review, "the Director may take into account whether, and reject the petition or request because, the same or substantially the same prior art or arguments previously were presented to the Office." In evaluating arguments under § 325(d), we use a two-part framework: (1) whether the same or substantially the same art previously was presented to the Office or whether the same or substantially the same arguments previously were presented to the Office; and (2) if either condition of the first part of the framework is satisfied, whether the petitioner has demonstrated that the Office erred in a manner material to the patentability of challenged claims. *Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH*, IPR2019-01469, Paper 6 at 8 (PTAB Feb. 13, 2020) (precedential) ("*Advanced Bionics*"). We also consider the non-exclusive factors set forth in *Becton, Dickinson and Co. v. B. Braun Melsungen AG*, IPR2017-01586, Paper 8 (PTAB Dec. 15, 2017) (precedential in relevant part) ("*Becton, Dickinson*"), which "provide useful insight into how to apply the framework" under § 325(d). *Advanced Bionics* at 9. Those non-exclusive factors are the following:

> (a) the similarities and material differences between the asserted art and the prior art involved during examination;
>
> (b) the cumulative nature of the asserted art and the prior art evaluated during examination;
>
> (c) the extent to which the asserted art was evaluated during examination, including whether the prior art was the basis for rejection;

> (d) the extent of the overlap between the arguments made during examination and the manner in which Petitioner relies on the prior art or Patent Owner distinguishes the prior art;
>
> (e) whether Petitioner has pointed out sufficiently how the Examiner erred in its evaluation of the asserted prior art; and
>
> (f) the extent to which additional evidence and facts presented in the Petition warrant reconsideration of the prior art or arguments.

Becton, Dickinson at 17–18. "If, after review of factors (a), (b), and (d), it is determined that the same or substantially the same art or arguments previously were presented to the Office, then factors (c), (e), and (f) relate to whether the petitioner has demonstrated a material error by the Office." *Advanced Bionics* at 10.

B. Petitioner's Contentions

Petitioner contends that the Board should not exercise its discretion to deny institution under § 325(d). Pet. 8. Petitioner contends that the grounds raised by this Petition are not the same or substantially the same as the art and arguments raised during prosecution. *Id.* at 8–9. Petitioner acknowledges that Sourcefire and several IPR papers addressing the related '552 and '193 patents were cited in an information disclosure statement (IDS) in the prosecution history of the '343 patent. *Id.* at 9 (citing Ex. 1002, 1313). However, Petitioner contends that they were not substantively discussed or applied in a rejection during prosecution. *Id.* at 9 (citing *Vizio, Inc. v. Nichia Corp.*, IPR2017-00551, Paper 9, *7–8 (PTAB July 7, 2017); and *Microsoft Corp. v. Parallel Networks, LLC*, IPR2015-00486, Paper 10, *14–15 (PTAB July 15, 2015)). Petitioner contends that Sourcefire is not cumulative of the references considered during prosecution, and that

Sourcefire teaches the two-stage packet filtering process that the Examiner found missing from the prior art during prosecution. *Id.*

Petitioner contends that the Examiner erred by not expressly considering Sourcefire and that it is "difficult, if not impossible" to explain why the Examiner allowed the claims or how the Examiner might have considered the arguments presented in the Petition. Pet. 9–10 (citing *Bowtech, Inc. v. MCP, IP, LLC*, IPR2019-00379, Paper 14, *20 (PTAB July 3, 2019)).

Petitioner further contends the Examiner erred by not considering the Board's analysis of Sourcefire in IPR2018-01436 against the '552 patent explaining how limitations of the challenged claims are met. *Id.* (citing *SK Hynix v. Netlist*, IPR2020-01042, Paper 14, *20–21 (PTAB Dec. 17, 2020); *Amazon v. M2M*, IPR2019-01205, Paper 14, *12–16 (PTAB Jan. 27, 2020); *Versa Prods. v. Varidesk, LLC*, IPR2020-00387, Paper 13, *15–18 (PTAB July 10, 2020)). Petitioner contends the Examiner's error is confirmed by the Federal Circuit's affirmance of the Board's determination that all claims of the '552 patent were unpatentable over Sourcefire. Pet. 11–12 (citing Ex. 1042, 70; Ex. 1043).

C. Patent Owner's Contentions

Patent Owner contends that the Board should deny institution under § 325(d) because the Petition reuses the same art and arguments that were previously presented to the Office. Prelim. Resp. 25. Patent Owner contends the Office issued the '343 patent over Sourcefire, as well as the Board's institution decision in IPR2018-01436 involving the '552 patent, which included the Board's application of Sourcefire to a similar set of claims. Prelim. Resp. 26 (citing Ex. 1002, 1638–40; Pet. 6). Patent Owner

contends the Office considered and dismissed nearly identical arguments against the ’193 patent in the petition filed in IPR2018-01559 and the later-filed *ex parte* reexamination request against the ’193 patent. *Id.* Patent Owner argues that Petitioner has not demonstrated any material error in the Office’s extensive prior considerations of Sourcefire. *Id.*

D. Discussion

1. Advanced Bionics Part 1

Turning to the first part of the *Advanced Bionics* framework, we consider whether the same or substantially the same art or arguments previously were presented to the Office. Sourcefire was submitted to the Office in an IDS during prosecution of the ’343 patent. Ex. 1002, 1313. The Examiner acknowledged having considered Sourcefire by signing the IDS. *Id.* at 1406–1408. In addition, the ’343 Patent lists Sourcefire as a cited reference. Ex. 1001, code (56) (listing Sourcefire on page 5). It is beyond dispute that Sourcefire was before the Office during prosecution of the ’343 patent.

We next consider the cumulative nature of the asserted art and prior art evaluated during examination under *Becton, Dickinson*. Petitioner relies on the combination of Sourcefire and Mantripragada as teaching certain dependent claims of the ’343 patent. Pet. 6. Although Mantripragada was not considered during prosecution of the ’343 patent, Patent Owner contends that Buck (US 2002/0186683 A1, published Dec. 12, 2002), which was expressly considered by the Examiner, is cumulative to Mantripragada in

disclosing the blocking of UDP[3] (or RTP[4]) packet transfers by a firewall. Prelim. Resp. 31–32 (citing Ex. 1002, 1348–1349, 1569–1570; Ex. 2016 ¶¶ 9, 50, 56). After reviewing the evidence, we agree with Patent Owner's assessment that Mantripragada is cumulative to Buck, which the Examiner considered during prosecution.

We now consider under *Becton, Dickinson* the extent of the overlap between the arguments made during examination and the manner in which Petitioner relies on the prior art or Patent Owner distinguishes the prior art. Petitioner argues that the reason the Examiner allowed the claims of the '343 patent was a two-stage packet filtering process that the Examiner found missing from the prior art. Pet. 9, 23. Although some of the claim amendments during prosecution may have touched upon this feature, Patent Owner revised the claims in the amendment filed March 27, 2019, to recite that the packet transformation function is configured "<u>to prevent an exfiltration operation</u>" and argued in the amendment filed November 4, 2019, that this feature distinguished the claims over the combination of Ahn (US 2011/0055916 A1, published Mar. 3, 2011) and Stolfo (US 2012/0084866 A1, published Apr. 5, 2012). Ex. 1002, 1422, 1424, 1426–1429, 1613–1614. The Examiner then issued a notice of allowance specifically mentioning that the November 4, 2019, amendment overcame Stolfo. Ex. 1002, 1639. Hence, the record shows that the Examiner considered preventing an exfiltration operation pertinent to allowance of the claims. Patent Owner argues here that the challenged claims distinguish

[3] User Datagram Protocol.

[4] Real-time Transport Protocol.

over Petitioner's prior art for the same reason, so Patent Owner's arguments during prosecution overlap with those made in this proceeding. Prelim. Resp. 40–47. Petitioner has not shown that the Examiner allowed the claims because of the two-stage filtering process.

To summarize, we find that Sourcefire was considered by the Examiner during prosecution of the '343 patent and that Mantripragada is cumulative to Buck, which was considered during prosecution of the '343 patent. We further find that Patent Owner's argument during prosecution that the packet transformation function is configured "to prevent an exfiltration operation" resulted in allowance of the claims of the '343 patent, which overlaps with the argument that Patent Owner makes in this case against Petitioner's challenges. Prelim. Resp. 35–36. Petitioner has not shown that the two-stage filtering process was a basis for the Examiner's allowance of the claims of the '343 patent over the cited prior art. We, therefore, find that the same or substantially the same prior art, and the same or substantially the same arguments, previously were presented to the Office under the first part of the *Advanced Bionics* framework.

2. Advanced Bionics Part 2

Under the second part of the *Advanced Bionics* framework, we first consider the extent to which the asserted art was evaluated during examination. Although Sourcefire was not discussed in the prosecution history, it was considered by the Examiner in an IDS and is listed on the '343 patent. Ex. 1002, 1406–1408; Ex. 1001, code (56) (listing Sourcefire on page 5). Mantripragada is cumulative to Buck in the manner that the Examiner applied it for its teaching of blocking UDP (or RTP) packet transfers. Pet. 70–71 (citing Ex. 1007 ¶¶ 69–70); Ex. 1002, 1348–49,

1569–70; Ex. 2016 ¶¶ 9, 50, 56.

We now consider whether Petitioner has pointed out sufficiently how the Examiner erred when evaluating the asserted prior art under *Becton, Dickinson*. Petitioner contends that the Examiner erred by failing to understand and apply Sourcefire in a rejection instead of allowing the challenged claims of the ’343 patent over Sourcefire’s teaching of a two-stage packet filtering process. Pet. 8–10, 23. However, the Examiner allowed the claims because of the exfiltration operation. Ex. 1002, 1422. Petitioner has not shown that the two-stage filtering process was pertinent to the Examiner’s allowance of the claims. Consequently, Petitioner has not identified sufficiently any material error on the part of the Examiner during prosecution of the ’343 patent.

Petitioner argues that the Examiner erred by failing to discuss the Board’s analysis of Sourcefire in IPR2018-01436 involving the ’552 patent. Pet. 10. Petitioner further contends the Examiner’s alleged error is confirmed by the Federal Circuit’s determination that all challenged claims of the ’552 patent were unpatentable over Sourcefire. Ex. 1042, 70; Ex. 1043.

We do not agree that the Examiner so erred. The evidence shows that the Examiner considered the filings from IPR2018-01436, including the ’552 patent, petition, declaration, and institution decision, by signing the IDS forms. Ex. 1001, code (56) (pages 2, 5, 6); Ex. 1002, 1361, 1407, 1502, 1527, 1528, 1583. Although Petitioner cites various cases where prior art was cited in an IDS but was not deemed sufficiently considered by the Examiner (Pet. 9–11), that is not the case here where there was extensive history before the Examiner, the Board, and the Federal Circuit concerning

Sourcefire and its application to the ’552 patent. In addition, the Examiner of the ’343 patent also examined the ’193 patent and was familiar with Sourcefire at least from IPR2018-01559 involving the ’193 patent. IPR2018-01559, Ex. 1002, 292; Ex. 1002, 1634 (notice of allowances with Examiner’s name). And, although there are similarities between the ’552 patent’s claims and those of the ’343 patent, there are also material differences that Petitioner does not address. Ex. 1044; *see* Pet. 11–12. For example, the ’343 patent’s claims recite determination steps and applying the packet transformation function configured to prevent an exfiltration operation. Ex. 1044; Ex. 1001, 11:33–36, 11:45–50, 11:56–58. These features are not present in the ’552 patent’s claims, notwithstanding Petitioner’s argument that the ’343 patent’s claims are broader than the ’552 patent’s claims. Pet. 12. Hence, we are not persuaded that the Examiner erred regarding the ’552 patent or filings from the *inter partes* review in which it was challenged.

Furthermore, Sourcefire was considered extensively in the reexamination of the ’193 patent, and one of the reasons the claims were confirmed was because they recite, in essence, prevention of exfiltration. Ex. 2010, 595–596, 604–605. Hence, the Examiner’s allowance of the ’343 patent claims, which explicitly recite preventing exfiltration, was consistent with the Office’s confirmation of the ’193 patent claims during reexamination.

The last consideration in the *Becton, Dickinson* framework is the extent to which additional evidence and facts presented in the Petition warrant reconsideration of the prior art or arguments. Petitioner’s declarant testifies regarding the prosecution history of the ’343 patent. Ex. 1003

¶¶ 85–90. He concludes that "the '343 Patent claims were apparently allowed because the Examiner concluded that the prior art of record failed to disclose a two-stage packet filtering process," mirroring Petitioner's argument. *Id.* ¶ 90. Petitioner's declarant does not indicate how the facts support this conclusion. As mentioned, Patent Owner's argument during prosecution leading to allowance was that the '343 patent's claims recite applying the packet transformation function configured to prevent an exfiltration operation. Ex. 1002, 1614–1615, 1639. Petitioner's declarant does not explain sufficiently where in the prosecution history Patent Owner argued that a two-stage packet filtering process distinguished the '343 patent's claims over the prior art, or where the Examiner allowed the claims because of two-stage packet filtering. Accordingly, lacking evidentiary support, the declarant's testimony is entitled to little or no weight on this point. 37 C.F.R. § 42.65(a). Thus, we see no additional evidence or facts in the Petition that warrant reconsideration of the prior art. Therefore, we find that Petitioner has not demonstrated that the Office erred in a manner material to the patentability of the challenged claims under the second part of the *Advanced Bionics* framework.

IV. CONCLUSION

As discussed above, Petitioner's challenges to the '343 patent's claims rely on Sourcefire and Mantripragada. Sourcefire was considered by the Examiner during prosecution of the '343 patent. Although Mantripragada was not cited during prosecution, it is cumulative with Buck, a reference which the Examiner did consider and used in rejections during prosecution of the '343 patent. Patent Owner overcame the Examiner's rejections with

amendments and arguments. Petitioner has not shown that the Examiner erred in considering Sourcefire or Buck, cumulative with Mantripragada, during prosecution of the ’343 patent. Given these facts, we exercise our discretion to deny institution of *inter partes* review.

V. ORDER

It is ORDERED that the Petition for *inter partes* review is *denied*.

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