

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

PALO ALTO NETWORKS, INC.
and FORTINET, INC.,
Petitioner,

v.

LIONRA TECHNOLOGIES LTD.,
Patent Owner.

IPR2024-00099
Patent 7,685,436 B2

Before WILLIAM V. SAINDON, PATRICK R. SCANLON, and
STEVEN M. AMUNDSON, *Administrative Patent Judges*.

SAINDON, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314
Granting Motion for Joinder
35 U.S.C. § 315(c); 37 C.F.R. § 42.122

I. INTRODUCTION

A. Background and Summary

Palo Alto Networks, Inc. and Fortinet, Inc. (“Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting an *inter partes* review of claims 1–4, 7–14, 16, 17, 21, and 22 (“the challenged claims”) of U.S. Patent No. 7,685,436 B2 (Ex. 1001, “the ’436 patent”), as well as a Motion for Joinder (Paper 4, “Mot. Join.”) requesting joinder as a party to IPR2023-00673 (“Cisco IPR”). Lionra Technologies Ltd. (“Patent Owner”) filed a Preliminary Response (Paper 10, “Prelim. Resp.”) and an Opposition to Petitioner’s Motion for Joinder (Paper 8, “Opp. Mot. Join.”). Petitioner filed a Reply to Patent Owner’s Opposition to the Motion for Joinder (Paper 9, “Reply Mot. Join.”).

We have authority to determine whether to institute an *inter partes* review under 35 U.S.C. § 314(b) and 37 C.F.R. § 42.4(a). The standard for instituting an *inter partes* review is set forth in 35 U.S.C. § 314(a), which provides that an *inter partes* review may not be instituted unless “there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” For the reasons provided below, we determine that Petitioner has satisfied the threshold requirement set forth in 35 U.S.C. § 314(a). Because Petitioner has demonstrated a reasonable likelihood that at least one claim of the ’436 patent is unpatentable, we institute an *inter partes* review. 37 C.F.R. § 42.108(a) (2023).

We have the authority to determine whether to join a party to another instituted IPR under 35 U.S.C. § 315(c) and 37 C.F.R. § 42.122. The standard for joinder is set out in 35 U.S.C. § 315(c), requiring a petitioner to

file a petition that “warrants the institution of an inter partes review.” For the reasons provided below, we determine that Petitioner has satisfied the threshold requirement to warrant joinder. Accordingly, we join Petitioner as a party to IPR2023-00673.

Our findings of fact, conclusions of law, and reasoning discussed below are based on the evidentiary record developed thus far, and made for the sole purpose of determining whether the Petition meets the threshold for initiating review. This decision to institute trial is not a final decision as to the patentability of any challenged claim or the construction of any claim limitation.

B. Real Parties in Interest

The parties identify only themselves as the real parties in interest. Pet. 76; Paper 5, 2 (Patent Owner’s Mandatory Notices).

C. Related Matters

The parties identify the following matters in which the ’436 patent has been asserted. Pet. 77; Paper 5, 2:

Lionra Technologies Limited v. Fortinet, Inc., Case No. 2:22-cv-00322 (E.D. Tex.) (filed Aug. 19, 2022).

Lionra Technologies Limited v. Cisco Systems, Inc., Case No. 2:22-cv-00305 (E.D. Tex.) (filed Aug. 8, 2022).

Lionra Technologies Limited v. Palo Alto Networks, Inc., Case No. 2:22-cv-00334 (E.D. Tex.) (filed Aug. 29, 2022).

Beyond the Cisco IPR, noted earlier, we also note that Petitioner challenges U.S. Patent No. 8,566,612 (“the ’612 patent”), which claims

priority to the '436 patent, in IPR2024-00158, and requests joinder to IPR2023-00703, which also challenges the '612 patent.

D. Prior Art and Asserted Grounds

Petitioner's grounds rely on the following prior art references:

Name	Reference	Exhibit No.
Wu	US 7,424,744 B1, iss. Sept. 9, 2008	1005
Krishna	US 7,996,670 B1, iss. Aug. 9, 2011	1006
Collins	US PG Pub. 2002/0073316 A1, pub. June 13, 2002	1008
Pham	US PG Pub. 2003/0074473 A1, pub. Apr. 17, 2003	1004

Petitioner asserts that the challenged claims would have been unpatentable on the following grounds:

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1, 2, 9–13, 16, 22	103	Pham, Wu
3, 14, 21	103	Pham, Wu, Collins
4, 7, 8	103	Pham, Wu, Collins, Krishna
17	103	Pham, Wu, Krishna

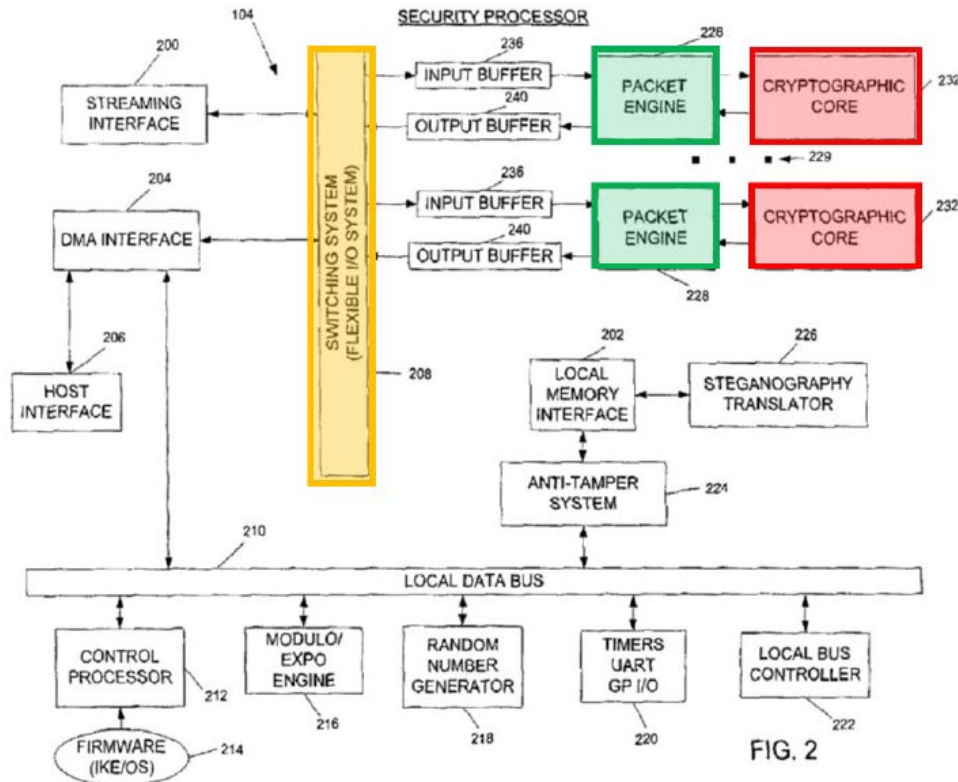
E. Background and Overview of the '436 Patent

According to the '436 patent:

A security processor performs all or substantially all security and network processing to provide a secure I/O interface system to protect computing hardware from unauthorized access or attack. The security processor sends and receives all incoming and outgoing data packets for a host device and includes a packet engine, coupled to a local data bus, to process the incoming and outgoing packets. The processor further composes a cryptographic core coupled to the packet engine to provide encryption and decryption processing for packets processed by the packet engine. The packet engine also handles classification processing for the incoming and outgoing packets.

Ex. 1001, Abstract.

Figure 2 of the '436 patent shows this arrangement, and is reproduced below with highlighting added by Petitioner.



Pet. 2; *see also* Ex. 1001, Fig. 2. In particular, security processor 104 includes switching system 208 (yellow), packet engines 228 (green), and cryptographic cores 232 (red).

F. Challenged Claims

Claims 1–4, 7–14, 16, 17, 21 and 22 are challenged. Claims 1 and 13 are independent. Claim 1 is reproduced below.

1. A security processor to process incoming packets and outgoing packets, the security processor comprising:

a switching system to send the outgoing packets and receive the incoming packets;

a packet engine, coupled to the switching system, to handle classification processing for the incoming packets received by the packet engine from the switching system and the outgoing packets sent by the packet engine to the switching system, wherein the packet engine is one of a plurality of packet engines and substantially all of the incoming packets and outgoing packets to the security processor transit one of the plurality of packet engines, and wherein the incoming packets and outgoing packets are provided with a tag upon ingress to one of the plurality of packet engines and the tag determines an egress path within the security processor upon exit from a corresponding cryptographic core;

a cryptographic core, coupled to the packet engine and receiving the incoming packets from the switching system via the packet engine and communicating the outgoing packets to the switching system via the packet engine, to provide encryption and decryption processing for packets received from and sent to the packet engine, wherein the packet engine is interposed between the switching system and the cryptographic core;

a signature database; and

an intrusion detection system coupled between the cryptographic core and the packet engine and responsive to at least one packet matching a signature stored in the signature database.

Ex. 1001, 24:10–39.

II. MERITS ANALYSIS

A. Legal Standards Used in the Merits Analysis

“In an IPR, the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to

each claim”)); *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (discussing the burden of proof in *inter partes* review).

A claim is unpatentable under 35 U.S.C. § 103 if “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious . . . 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 skill in the art; and (4) when in evidence, objective evidence of non-obviousness, i.e., secondary considerations. *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17–18 (1966).

B. Level of Ordinary Skill in the Art

Petitioner asserts that a person of ordinary skill in the art:

would have a Bachelor’s degree in computer science, computer engineering, or a related discipline, and 3–4 years of experience in computer networking with an emphasis on packet processing systems including traffic monitoring, inspection, and encryption/decryption systems. More experience could compensate for less formal education and vice versa.

Pet. 15.

Patent Owner asserts that a person of ordinary skill in the art would have:

either (1) a bachelor’s degree in computer science or computer engineering including at least two years of experience in computer networking, system security and authentication or (2) equivalent work experience in the design and/or implementation

of systems involving computer networking, security, and authentication. As reflected in the level of ordinary skill, a person of ordinary skill can have equivalent education and work experience.

Prelim. Resp. 20.

We do not perceive a meaningful distinction between these levels of skill on this record, and both appear consistent with the level of disclosure provided in the '436 patent and the prior art cited. We adopt Petitioner's definition for purposes of this Decision because it is carrying a "reasonable likelihood" burden.

C. Claim Construction

Neither party offers any claim constructions. However, it is our view that the party's dispute is based on the construction of "substantially all" in claim 1, which states that "wherein . . . substantially all of the incoming packets and outgoing packets to the security processor transit one of the plurality of packet engines" ("the 'substantially all' limitation"). We do not explicitly construe this claim limitation in this Decision at this time because the issue of whether Petitioner has shown a reasonable likelihood can be resolved without explicitly construing the claim. *See Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) ("The Board is required to construe 'only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.'") (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)). However, our analysis places the parties on notice of the potential scope of the claims. *See infra* § II.D.3(a).

D. Asserted Obviousness Grounds

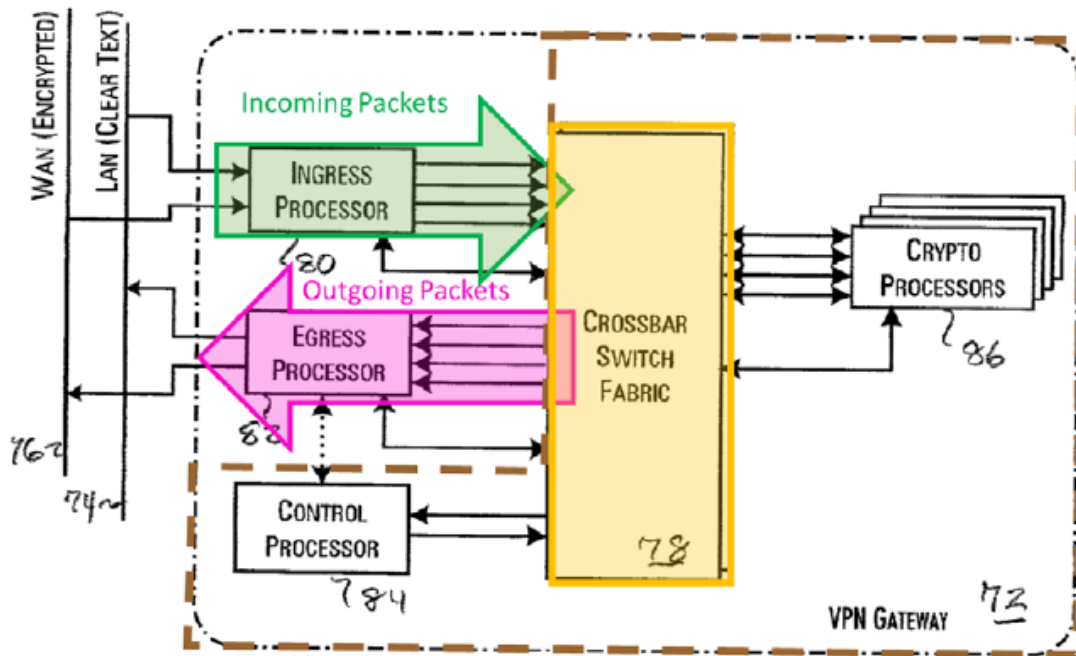
Petitioner asserts that claims 1, 2, 9–13, 16, and 22 would have been obvious in view of Pham and Wu. Pet. 22–64. Petitioner asserts that claims 3, 14, and 21 would have been obvious in view of Pham, Wu, and Collins (*id.* at 64–69); that claims 4, 7, and 8 would have been obvious in view of Pham, Wu, Collins, and Krishna (*id.* at 69–72); and that claim 17 would have been obvious in view of Pham, Wu, and Krishna (*id.* at 72). Patent Owner offers challenges to each ground. Prelim. Resp. 21–36.

1. Petitioner’s Assertions for Claim 1

We focus our analysis of Petitioner’s ground on claim 1 because the issues with this claim speak to the issues raised in all the grounds. At a high level, claim 1 is directed to a security processor made of (1) a **switching system** to send and receive incoming packets, (2) a **packet engine** coupled to the switching system, (3) a **cryptographic core** coupled to the packet engine, and (4) a **signature database** sitting between the packet engine and the cryptographic core.

Pham describes a virtual private network (VPN) gateway router. Ex. 1004 ¶ 37. The purpose of the VPN gateway is to pass packet traffic from one or more local area networks through the public Internet to another VPN gateway having one or more local area networks. *Id.*; *see generally id.*, Fig. 1. According to Petitioner, Pham discloses a security processor for ingress and egress processing of packets. Pet. 33. Petitioner asserts that Pham discloses a switching system to send the outgoing packets and receive the incoming packets. *Id.* at 33–36. In particular, Petitioner identifies crossbar switch fabric 78 as the claimed **switching system**. *Id.* at 35–36.

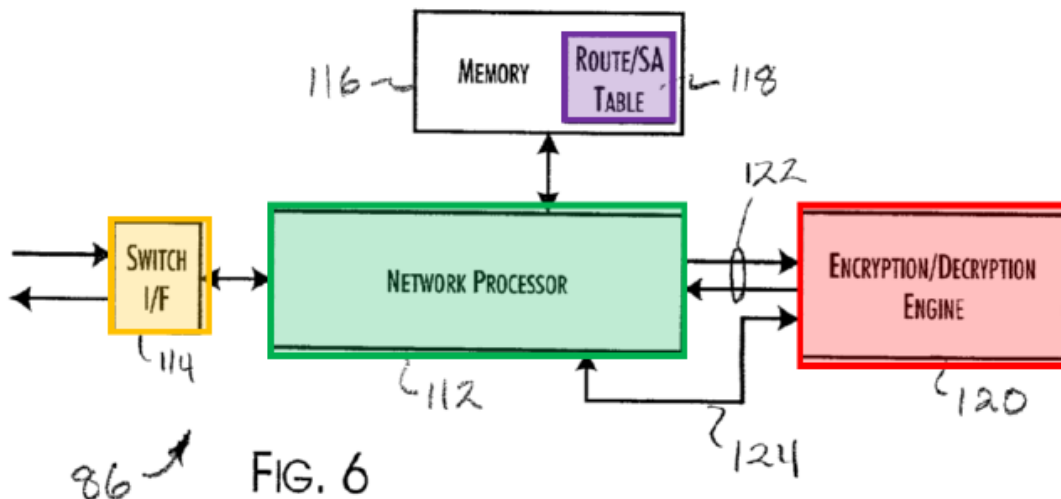
This is illustrated in Figure 4 of Pham, reproduced below with highlighting and annotations by Petitioner:



Ex. 1004, Fig. 4

Pet. 36; *see also* Ex. 1004, Fig. 4. Figure 4 of Pham, as annotated by Petitioner, shows switch fabric 78 (yellow), which communicates with WAN 76 and LAN 74 through ingress processor 80 (green) and egress processor 82 (purple). Figure 4 of Pham further depicts that switch fabric 78 is connected to several crypto processors 86.

According to Petitioner, crypto processors 86 in Pham each include a network processor 112 functioning as the claimed *packet engine*. Pet. 37–39. This is illustrated in Figure 6 of Pham, reproduced below with annotations by Petitioner:



Pet. 39; *see also* Ex. 1004, Fig. 6. Figure 6 shows an implementation of one of the crypto processors 86. Ex. 1004 ¶¶ 51–53; *see also id.*, Fig. 4 (noting a depiction of plural crypto processors 86 connected to switch fabric 78). Figure 6, as annotated by Petitioner above, depicts switch interface 114 (yellow), network processor 112 (green), encryption and decryption engine 120 (red), and data table 118 (purple). Petitioner asserts that substantially all of the incoming packets and outgoing packets to the security processor transit one of the plurality of packet engines. Pet. 40–42. In particular, Petitioner asserts that Pham discusses offloading features such as routing and compression from the ingress processors to the network processors. *Id.* at 42 (citing Ex. 1004 ¶¶ 49, 51, 53). In such a case, according to Petitioner, all packets would be sent to the network processor 112 for routing. *Id.* (citing Ex. 1003 ¶ 89).

Pham describes that crypto processors 86 associate received data packets with SA (secure authority) parameter data using data table 118. Ex. 1004 ¶ 51; *see also id.* ¶¶ 71–72. According to Petitioner, network processor 112 performs the claimed tagging process when it provides the incoming and outgoing packets with header information and an IP tunneling header. Pet. 42–46. Petitioner also notes that Pham discloses the claimed ***cryptographic core*** (encryption/decryption engine 120), and that the packet engine (network processor 112) is interposed between the switching system (switch fabric 78, switch fabric interface 114) and the cryptographic core. *Id.* at 46–50; *see also* Ex. 1004, Fig. 6 (noting network processor 112 (green) between switch fabric interface 114 (yellow) and encryption/decryption engine 120 (red)).

Lastly, Petitioner notes that Wu discloses the claimed ***signature database*** and intrusion detection system. Pet. 50–53. In particular, Petitioner notes that Wu discloses a “signature engine 34 [that] compares packets from the network traffic with such attack signatures such that policy violations can be discovered.” *Id.* at 52 (quoting Ex. 1005, 5:23–29). Petitioner asserts that it would have been obvious to add the intrusion detection system discussed in Wu to Pham’s network security system between the cryptographic core and the packet engine in order to gain the benefits of that intrusion detection system. *Id.* at 26–33. Petitioner explains that devices such as that disclosed in Wu should be placed where they can inspect unencrypted traffic in the first possible moment, which in the case of Pham would be adjacent the encryption/decryption engine 120 (i.e., between the cryptographic core and the packet engine, as claimed). *Id.* at 30–32.

2. Patent Owner's Arguments for Claim 1

Patent Owner's chief argument is that Pham does not disclose the "substantially all" limitation. *See* Prelim. Resp. 21–30. Patent Owner points out that Pham is a virtual private network (VPN) gateway that connects local area networks (LANs) and wide area networks (WANs). *Id.* at 21–22. Patent Owner asserts that "[a] substantial number of the packets . . . are clear text unencrypted packets that traveled between [the LANs]." *Id.* at 22. According to Patent Owner, because these packets are clear text, they do not require processing through the packet engine or crypto processors and instead move directly between the ingress and egress processors. *Id.* at 23–24. Patent Owner argues that this means that a substantial number of packets will not be processed by Pham's alleged security processor. *Id.* (citing Ex. 2010 ¶ 94). As to Petitioner's assertion that network processors 112 of Pham can handle the functions of the ingress processor, Patent Owner argues that the ingress processors of Pham continue to handle filtering and routing functions under this embodiment. *Id.* at 26–30. Patent Owner similarly argues that substantially all of the packets will not get a tag upon ingress to the crypto processor (based on the premise that not all of the packets make it that far). *Id.* at 30–32. Lastly, Patent Owner argues that Petitioner has not sufficiently shown a reason to combine the teachings of Pham and Wu. *Id.* at 32–34.

3. Analysis of Disputed Limitations of Claim 1

a) Scope of the Claim

Although the parties do not acknowledge it, the dispute over whether Pham discloses that "substantially all" of the packets to the security processor travel to the packet engine is an issue of claim construction. We

do not explicitly construe the claim term here, but we do need to analyze some of the boundaries of the claim in order to determine whether the prior art teaches the claim sufficiently for purposes of institution.

We begin with the language of claim 1. The “substantially all” limitation is part of a “wherein” clause discussing the packet engine. Notably, claim 1 is not a method claim but rather a device claim. Limitations directed to intended use or setting forth functional language can set meaningful constraints as to the underlying structure of the device, but whether it does so is dependent upon context. *See, e.g., Textron Innovations Inc. v. Am. Eurocopter Corp.*, 498 F. App’x 23, 28 (Fed. Cir. 2012) (“In cases in which functional language adds a structural limitation to an apparatus claim, however, it does so because the language describes something about the structure of the apparatus rather than merely listing its intended or preferred uses.”); *K-2 Corp. v. Salomon S.A.*, 191 F.3d 1356, 1363 (Fed. Cir. 1999) (“[T]he functional language tells us something about the structural requirements of the [claimed device].”); *Rowe v. Dror*, 112 F.3d 473, 479–80 (Fed. Cir. 1997) (distinguishing the claimed balloon angioplasty catheter from a general balloon catheter by analyzing the structural requirements imparted by the term “angioplasty”).

On its face, the “substantially all” limitation appears more akin to a statement of intended use. Nothing in the claim is described as discriminating whether incoming or outgoing packets are routed to the packet engine. Similarly, the specification provides no such disclosure. *Seattle Box Co. v. Indus. Crating & Pkg., Inc.*, 731 F.2d 818, 826 (Fed. Cir. 1984) (“When a word of degree is used the [] court must determine whether the patent’s specification provides some standard for measuring that

degree.”). The only discussions of “substantially all” in the ’436 patent’s specification seem to merely describe the context in which the device operates, not any actual feature of the device. *See, e.g.*, Ex. 1001, 3:28–31, 3:43–50, 4:40–47, 11:52–55. This makes sense because the disclosed embodiment of the ’436 patent is directed to a network interface card (NIC) for a computer. *Id.* at 3:49–50 (stating the ’436 patent is embodied as a NIC). A NIC connects a given computer to a network, so naturally all communication between that computer and the network goes through the NIC. *See id.* at 1:37–40 (explaining that a NIC is what couples a device to a network). Accordingly, given that the ’436 patent describes the preferred embodiment as a NIC and does not disclose some sort of feature discriminating which network traffic it will or will not process, on this record, it appears that the discussion of “substantially all” packets transiting the packet engines is more a matter of how the device is used rather than any feature of the device. *Id.* at 3:23–31 (noting that the ’436 patent is intended to provide input/output interface for a particular network device); *see also Parkervision, Inc. v. Qualcomm Inc.*, 903 F.3d 1354, 1361 (Fed. Cir. 2018) (“We explained long ago that ‘[a]pparatus claims cover what a device *is*, not what a device *does*.’”) (quoting *Hewlett–Packard Co. v. Bausch & Lomb, Inc.*, 909 F.2d 1464, 1468 (Fed. Cir. 1990)); *In re Michlin*, 256 F.2d 317, 320 (1958) (“It is well settled that patentability of apparatus claims must depend upon structural limitations and not upon statements of function.”).

b) Arguments

Petitioner asserts that Pham discloses embodiments where “substantially all” of the packets traverse the packet engines. In particular, Petitioner asserts that if the packets received by a packet engine are

compressed, or use security protocols, then the packets transit the packet engine. Pet. 41–42 (citing Ex. 1004 ¶¶ 49, 51, 53). Patent Owner argues that only the SA parameter association task in Pham may be offloaded. Prelim. Resp. 26–27 (citing Ex. 1004 ¶¶ 38, 51). Patent Owner’s argument here implies that the filtering function remains at the ingress processor and that some packets will be filtered and never reach the packet engine. *See id.* (citing, e.g., Ex. 1004 ¶ 38); Ex. 1004 ¶ 38 (“In the preferred embodiments of the present invention, the ingress processors 30, 34 are tasked with filtering and routing functions”). The statement Patent Owner relies on is not in the same section as the one Petitioner relies on. In other words, it does not appear on this record that we can limit the disclosure of paragraph 51 based on the statements in paragraph 38. On this record, we are not persuaded that only the SA parameter association task can be offloaded. As Pham notes, tasks can be moved between processors to perform load balancing. Ex. 1004 ¶ 54. We see no disclosure that prevents certain tasks from being load balanced or otherwise tasked to the security processor.

Further, Patent Owner does not appear to respond to Petitioner’s position that the packet engine would need all of the packets in order to handle compression and decompression. *See* Pet. 42. If all of the network traffic were compressed, then all of the network traffic would pass the packet engines in Pham. Similarly, Patent Owner does not appear to address Petitioner’s position regarding the addition of Wu’s intrusion detection system. *See id.* When added, all traffic, regardless of whether it is to the VPN, would pass through that intrusion detection system in order “to ensure that malicious packets can be identified before being sent into or from the network.” *Id.* (citing Ex. 1003 ¶ 90). Thus, Petitioner’s proposed

combination appears to sufficiently disclose for purposes of institution a device that routs “substantially all” packets to the packet engine.

We also are persuaded on this record by Petitioner’s argument that the LAN-to-LAN communications in Pham are not “to” the security processor, given that those packets are not intended for Pham’s VPN gateway. *See* Pet. 41 (arguing that “Pham discloses that the network processors 112 process substantial[ly] all the data packet[s] received and transmitted *by the VPN Gateway*”) (emphasis added). Given that Pham is a VPN gateway, the purpose of it is to secure traffic going from a LAN to another LAN *over the Internet*. Ex. 1004 ¶ 37. Thus, we understand Petitioner’s position to be that the traffic “to” the gateway in Pham is the traffic that is not filtered out but rather the traffic that passes through the VPN gateway (and therefore through the packet engine).

Reviewing the Petition and Preliminary Response as a whole, we determine that Petitioner has shown sufficiently that Pham teaches that “substantially all of the incoming packets and outgoing packets to the security processor transit one of the plurality of packet engines.” Patent Owner’s argument on “tags” is premised on its arguments that Pham does not disclose the “substantially all” limitation, and is unpersuasive for similar reasons. *See* Prelim. Resp. 30–32.

As to Patent Owner’s arguments on rationale to combine, we do not find them persuasive on this record. *Id.* at 32–33. At a high level, Patent Owner’s arguments are that Petitioner’s modification to Pham would “increase[] complexity and resources.” *Id.* at 33. On this record, this argument is unpersuasive because even if the addition of Wu’s intrusion detection system was somehow more complex, the reason to combine it is to

gain certain beneficial features. *See, e.g.*, Pet. 30–31. Patent Owner’s arguments do not show that the alleged increase in complexity would somehow dissuade a person of ordinary skill in the art from including these beneficial features. *See, e.g., Allied Erecting & Dismantling Co. v. Genesis Attachments, LLC*, 825 F.3d 1373, 1381 (Fed. Cir. 2016) (“[a] given course of action often has simultaneous advantages and disadvantages, and this does not necessarily obviate motivation to combine”) (alteration in original); *Medichem, S.A. v. Rolabo, S.L.*, 437 F.3d 1157, 1165 (Fed. Cir. 2006) (“a given course of action often has simultaneous advantages and disadvantages, and this does not necessarily obviate motivation to combine”).

Patent Owner’s second argument on rationale to combine is essentially that a person of ordinary skill in the art would not add the security features of Wu because the packets not passed through the VPN would not pass through the security processor that includes the features of Wu. *See* Prelim. Resp. 33. We do not see any reason, on this record, to say that a proposed modification for increased security must cure all security problems in all situations. *Intel Corp. v. Qualcomm Inc.*, 21 F.4th 784, 800 (Fed. Cir. 2021) (“[It is] not necessary to show that a combination is ‘the best option, only that it be a *suitable* option.’”) (quoting *PAR Pharm., Inc. v. TWI Pharms., Inc.*, 773 F.3d 1186, 1197–98 (Fed. Cir. 2014)). Petitioner has proposed to place the security detection features of Wu at a particular location in Pham’s device for a particular reason (Pet. 30–31); merely that other options may exist does not preclude this combination. In addition, Petitioner’s proposed combination appears to require that all network traffic passes through the intrusion detection system, not just traffic passing through the VPN gateway. *See* Pet. 42 (addressing the “substantially all”

limitation and asserting that “all incoming and outgoing packets would be sent through the intrusion detection system”). Thus, the proposed modification appears to obviate Patent Owner’s argument. In sum, we are persuaded that Petitioner has shown sufficient rationale to combine for purposes of institution.

4. Conclusion for Claim 1

Having reviewed the Petition and Preliminary Response, we determine that Petitioner has a reasonable likelihood of success in showing that the subject matter of claim 1 would have been obvious in view of Pham and Wu.

E. Conclusion on the Merits of the Petition

We have found that the Petition warrants institution based on Petitioner’s showings for claim 1. We have reviewed Patent Owner’s arguments about the other grounds, but they largely rely on the earlier unpersuasive arguments for claim 1. On whole, we determine that Petitioner has shown that the Petition warrants institution.

III. MOTION FOR JOINDER

A. Standard of Review

We have the authority to determine whether to join a party to another instituted IPR under 35 U.S.C. § 315(c) and 37 C.F.R. § 42.122. The standard for joinder is set out in 35 U.S.C. § 315(c), requiring a petitioner to file a petition that “warrants the institution of an inter partes review.” We analyze the joinder motion by first determining whether the filed petition warrants review and then determining whether we will exercise our discretion not to join the petitioner. *See Facebook, Inc. v. Windy City*

Innov., LLC, 973 F.3d 1321, 1332 (Fed. Cir. 2020) (determining that § 315(c) requires “two different decisions,” first “whether the joinder applicant’s petition for IPR ‘warrants’ institution under § 314,” and then whether to “exercise . . . discretion to decide whether to ‘join as a party’ the joinder applicant”), *cited in Apple Inc. v. Uniloc 2017 LLC*, IPR2020-00854, Paper 9 (PTAB Oct. 28, 2020) (denying institution and joinder motion after analysis of discretion to deny) (precedential).

B. Parties’ Positions on Joinder

Petitioner asserts that its Petition asserts “the same claims, prior art, and grounds for patentability that are the subject of the Cisco IPR.” Mot. Join. 1. Petitioner asserts that Cisco does not oppose its request. *Id.* Petitioner asserts that granting its motion will not unduly burden or negatively impact the Cisco IPR schedule because it agrees to take on an “understudy” role, meaning that Petitioner will not require any separate procedure aside from that already to be taken by Cisco. *Id.* at 3. Petitioner asserts that any *Fintiv* analysis is obviated by its *Sotera* stipulation. Reply Mot. Join. 4; *see Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 at 11–12 (PTAB Mar. 20, 2020) (precedential) (holding that PTAB has discretion to deny institution in certain circumstances where there are parallel district court proceedings); *Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 (PTAB Dec. 1, 2020) (precedential as to § II.A) (holding that a *Fintiv* analysis may be obviated by stipulating not to pursue in district court “the specific grounds [asserted in the *inter partes* review], or on any other ground . . . that was raised or could have been reasonably raised in an IPR.”).

Patent Owner argues that the motion should be denied under *Fintiv* and *General Plastic*. See *Gen. Plastic Indus. Co. v. Canon Kabushiki Kaisha*, IPR2016-01357, Paper 19 (PTAB Sept. 6, 2017) (precedential) (holding petitions beyond the first petition challenging a patent may be denied in certain circumstances, and setting out factors for determining whether to deny). Patent Owner asserts that *General Plastic* factors 5, 6, and proposed factor 8 (see *infra* § III.C.2) weigh against institution. Opp. Mot. Join 12–15. As to factor 5, Patent Owner asserts that Petitioner does not provide any explanation for the time elapsed between Cisco’s petition and Petitioner’s Petition. *Id.* at 13–14. As to proposed factor 8, Patent Owner asserts that Cisco and Petitioner are codefendants, and thus Petitioner’s waiting to file its Petition now is improper. *Id.* at 14.

Petitioner replies that, as to factor 5, it filed its Petition in the time frame set by statute for joinders. Reply Mot. Join. 6. As to proposed factor 8, Petitioner asserts that this factor is inapplicable because Petitioner is not filing a different petition, but rather the same petition with a motion to join the earlier petition. *Id.* at 6–7.

C. Analysis of Joinder Motion

1. Fintiv

Patent Owner asserts that we should deny institution under *Fintiv* based on the related district court matters identified above. Opp. Mot. Join 4–12. Our analysis under *Fintiv* is guided by the USPTO Director’s Memorandum issued on June 21, 2022, titled “Interim Procedure for Discretionary Denials in AIA Post Grant Proceedings with Parallel District Court Litigation” (“Director’s Memo”). Pursuant to the Director’s Memo, we “will not discretionarily deny institution . . . where a petitioner presents a

[*Sotera*] stipulation.” Director’s Memo at 3. Because Petitioner has offered a stipulation like in *Sotera*, i.e., to “not pursue in the copending district court litigation the specific ground asserted in the petition, or any other ground that was raised or could have been reasonably raised in an IPR (i.e., grounds that could have been raised under §§ 102 or 103 on the basis of prior art patent or printed publications)” (Reply Mot. Join 4–5), we do not discretionarily deny institution under *Fintiv*.

2. *General Plastic*

In *General Plastic*, the Board set forth seven factors for determining whether discretionary denial is appropriate (the “*General Plastic* factors”):

1. whether the same petitioner previously filed a petition directed to the same claims of the same patent;
2. whether at the time of filing of the first petition the petitioner knew of the prior art asserted in the second petition or should have known of it;
3. whether at the time of filing of the second petition the petitioner already received the patent owner’s preliminary response to the first petition or received the Board’s decision on whether to institute review in the first petition;
4. the length of time that elapsed between the time the petitioner learned of the prior art asserted in the second petition and the filing of the second petition;
5. whether the petitioner provides adequate explanation for the time elapsed between the filings of multiple petitions directed to the same claims of the same patent;
6. the finite resources of the Board; and
7. the requirement under 35 U.S.C. § 316(a)(11) to issue a final determination not later than 1 year after the date on which the Director notices institution of review.

General Plastic, IPR2016-01357, Paper 19 at 16.

Patent Owner also argues proposed factor 8, which additionally considers “the extent to which the petitioner and any prior petitioner(s) were similarly situated defendants or otherwise realized a similar-in-time hazard regarding the challenged patent.” Opp. Mot. Join 14; *see Shenzhen Silver Star Intelligent Tech. Co. v. iRobot Corp.*, IPR2018-00898, Paper 9 at 7 (PTAB Oct. 1, 2018) (quoting *Shenzhen Silver Star Intelligent Technology Co. v. iRobot Corp.*, IPR2018-00761, Paper 15, 18 (PTAB Sept. 5, 2018) (Saindon, concurring)).

Panels of the Board have taken the position that a joinder petition “effectively neutraliz[es]” the *General Plastic* analysis. *Apple Inc. v. Uniloc 2017 LLC*, IPR2018-00580, Paper 13 at 10 (PTAB Aug. 21, 2018) (stating joinder petitioner’s joinder motion agreeing to a passive understudy role “effectively neutraliz[es] the *General Plastic* factors”); *see also Celltrion, Inc. v. Genentech, Inc.*, IPR2018-01019, Paper 11 at 10 (PTAB Oct. 30, 2018) (stating the joinder motion “effectively obviates any concerns of serial harassment and unnecessary expenditure of resources”). The logic in these cases is that a later-filed copycat petition seeking joinder to an earlier-instituted petition does not raise the same unfairness concerns as a new, later-filed petition that acts as a second bite at the apple. This conclusion is not absolute, however, as there are some instances where the joinder may effectively represent a repeat attack. For example, the Board has held that a party filing a copycat petition could be denied under *General Plastic* where the party had an original petition denied on the merits. *Apple Inc. v. Uniloc 2017 LLC*, IPR2020-00854, Paper 9 (PTAB Oct. 28, 2020) (precedential) (denying institution and joinder motion where copycat petition follows an earlier denial on the merits).

We now turn to the application of the *General Plastic* factors to the case at hand. Patent Owner admits that factors 1–4 and 7 are neutral. Opp. Mot. Join. 13; *see also Videndum Production Solutions, Inc. v. Rotolight Ltd.*, IPR2023-01218, Paper 12 at 6 (PTAB Apr. 19, 2024) (“I determine that where, as here, the first and second petitioners are neither the same party, nor possess a significant relationship under *Valve*, *General Plastic* factor one necessarily outweighs the other *General Plastic* factors.”) (Director Review). Patent Owner focuses its analysis on factor 5 and proposed factor 8. *Id.* at 13–15. As to factor 5, which looks for an explanation of the time between petition filing, we determine that Petitioner sufficiently explained the time between Cisco’s petition and its own when it noted that it merely filed its petition and request for joinder when the statute permitted it. Reply Mot. Join 6 (citing 37 C.F.R. § 42.122(b)). In particular, the statute requires the earlier petition to be instituted before joining a party. 35 U.S.C. § 315(c) (requiring joinder to be to instituted proceedings). Thus, the time elapsed between filings is motivated by the statutory and regulatory procedures. *See also* 37 C.F.R. § 42.122(b) (requiring the joinder motion to be filed “no later than one month after the institution date of any *inter partes* review for which joinder is requested”).

As to proposed factor 8, we agree with Petitioner that the present situation does not apply. Reply Mot. Join. 6–7; *see also Shenzhen*, IPR2018-00761, Paper 15, 18–19 (Saindon, concurring) (“There are legitimate reasons why a petition may be filed after [a decision on institution]).”). Proposed factor 8 analyzes situations where a second petitioner strategically waits to file its petition to see what happens to an earlier filed petition. *Shenzhen*, IPR2018-00898, Paper 9 at 7. If both of the

petitioners were sued at or around the same time, but one waits until the other goes first, it can lead to an inference that the delay in filing a different petition was to gain an unfair advantage. *Id.* at 14 (looking with disfavor on a wait-and-see strategy to use the first petition as a “test case”). That is not the case here, where the second petition is a copycat petition. The Petition here cannot be said to have been filed second in order to glean knowledge from the first petition because it is the same petition. Thus, we do not see this Petition as being a strategic attempt to use Cisco’s petition as a “test case,” and do not consider factor 8 to weigh toward denial.

Finally, reviewing factor 6, we do not find that granting Petitioner’s motion to join would cause an undue burden on the Board. Petitioner is serving as an “understudy” and thus, from our perspective, Petitioner’s presence does not change the existing Cisco IPR. Patent Owner argues that if Cisco were to settle then Petitioner would continue the proceeding. Opp. Mot. Join. 15. We do not see this as an undue burden in this situation. Petitioner’s Motion for Joinder serves to lessen our burden (as well as Patent Owner’s) compared to the scenario of it filing its own unique petition. We do not see the present case as similar to the *Apple* case, in which a copycat joinder petition was denied. *See Apple*, IPR2020-00854, Paper 9. That case, in our view, turned on the fact that the petitioner had already filed a petition that was denied on the merits. *See id.* at 4 (“In effect, it would be as if [the petitioner] had brought the second challenge to the patent in the first instance,” and labeling this a “serial attack.”). The situation here is not analogous to the *Apple* case because this is Petitioner’s only petition against the ’436 patent. The Petition is not a “serial attack” on the ’436 patent, it is merely Petitioner’s statutorily required vehicle to join as a party to an

existing petition. Accordingly, we do not find factor 6 to weigh towards denial.

Reviewing the *General Plastic* factors as a whole, including proposed factor 8, we find no factors to weigh toward denial and decline to exercise our discretion to deny institution.

IV. CONCLUSION

For the reasons given above, we determine that Petitioner has established a reasonable likelihood of success in showing that claim 1 would have been obvious in view of Pham and Wu. Accordingly, we institute *inter partes* review on all challenged claims and grounds. 37 C.F.R. § 42.108(a) (“When instituting . . . review, the Board will authorize the review to proceed on all of the challenged claims and on all grounds of unpatentability asserted for each claim.”). In addition, having reviewed the briefings of both parties, we grant Petitioner’s Motion for Joinder.¹

¹ We are cognizant that there is post-institution briefing in the proceeding Petitioner seeks to join. We have not considered that briefing in making our decision here. Our decision on institution in the Cisco IPR did not include the foregoing analysis of claim construction and the references because those issues were not raised before institution in the Cisco IPR. We emphasize that this Decision is based solely on the present record and the “reasonable likelihood” standard for a decision on institution. See *TriVascular, Inc. v. Samuels*, 812 F.3d 1056, 1068 (Fed. Cir. 2016) (“there is a significant difference between a petitioner’s burden to establish a ‘reasonable likelihood of success’ at institution, and actually proving invalidity by a preponderance of the evidence at trial”).

V. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that an *inter partes* review of claims 1–4, 7–14, 16, 17, 21, and 22 of the '436 patent is instituted with respect to all grounds set forth in the Petition;

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(a), the *inter partes* review of the '436 patent commences on the entry date of this Decision, and pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial;

FURTHER ORDERED that the Motion for Joinder with IPR2023-00673 is *granted*, and Palo Alto Networks, Inc. and Fortinet, Inc. are joined as a party in IPR2023-00673;

FURTHER ORDERED that all further filings by the parties, except for those which concern a request for rehearing of this decision, shall be made only in IPR2023-00673;

FURTHER ORDERED that, subsequent to joinder, the grounds and claims for trial in IPR2023-00673 remain unchanged;

FURTHER ORDERED that, subsequent to joinder, the Scheduling Order for IPR2023-00673 remains unchanged, subject to any changes already made by stipulation between the parties or otherwise ordered by the Board;

FURTHER ORDERED that, except as permitted by separate order from the Board, Palo Alto Networks, Inc. and Fortinet, Inc. will make no substantive filing in the proceeding to which they are joined unless Cisco ceases to participate in IPR2023-00673; however, ministerial filings, such as updates to mandatory notices, are allowed;

FURTHER ORDERED that the case caption in IPR2023-00673 shall be changed in a manner consistent with the example included below; and

FURTHER ORDERED that a copy of this Decision shall be entered into the record of IPR2023-00673.

[SAMPLE CASE CAPTION]

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CISCO SYSTEMS, INC.,
PALO ALTO NETWORKS, INC., and
FORTINET, INC.,
Petitioner,

v.

LIONRA TECHNOLOGIES LTD.,
Patent Owner.

IPR2023-00673²
Patent 7,685,436 B2

² The Board joined Palo Alto Networks, Inc. and Fortinet, Inc. as a party (Petitioner) to this proceeding via a Motion for Joinder in IPR2024-00099.

IPR2024-00099
Patent 7,685,436 B2

FOR PETITIONER:

Eric Buresh
Mark Lang
ERISE IP, P.A.
eric.buresh@eriseip.com
mark.lang@eriseip.com

Patrick McPherson
Patrick Muldoon
DUANE MORRIS LLP
pdmcperson@duanemorris.com
pcmuldoon@duanemorris.com

FOR PATENT OWNER:

Brett Cooper
BC LAW GROUP, P.C.
bcooper@bc-lawgroup.com

Robert A. Auchter
AUCHTER PLLC
robert@auchterlaw.com