

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ARISTA NETWORKS, INC.,

Petitioner,

v.

ORCKIT CORPORATION,

Patent Owner.

Case No. IPR2024-01239
U.S. Patent No. 10,652,111 B2

PETITIONER'S REPLY TO PATENT OWNER'S RESPONSE

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PETITIONER’S EXHIBIT LIST

Ex[No.]	Description of Documents
1001	U.S. Patent No. 10,652,111 (“’111 Patent”)
1002	Declaration of Paul Min, Ph.D.
1003	Prosecution File History of the ’111 Patent
1004	Reserved
1005	U.S. Patent No. 10,097,452 (“Lefebvre”)
1006	U.S. Patent No. 9,264,301 (“Chua”)
1007	U.S. Patent No. 9,813,447 (“Rash”)
1008	M. Liao, et al., “Design and Evaluation of Deep Packet Inspection System: A Case Study,” IET Networks, pp. 1-8 (2012)
1009	A. W. Moore and K. Papagiannaki, “Toward the Accurate Identification of Network Applications,” In: PAM, Springer, vol. 5, pp. 41-54 (2005)
1010	RFC 3654 (available at https://www.rfc-editor.org/rfc/rfc3654)
1011	W. Xia, et al., “A Survey on Software-Defined Networking,” IEEE Communication Surveys & Tutorials, Vol. 17, No. 1, pp. 27-51 (June 13, 2014)
1012	RFC 3746 (available at https://www.rfc-editor.org/in-notes/rfc3746.txt)
1013	N. McKeown, et al., “OpenFlow: Enabling Innovation in Campus Networks,” ACM SIGCOMM Computer Communication Review, vol. 38, No. 2, pp. 69-74 (April 2008)
1014	Steven Levy, “Going with the Flow: Google’s Secret Switch to the Next Wave of Networking” (April 17, 2012) (available at https://www.wired.com/2012/04/going-with-the-flow-google/)
1015	RFC 793 (available at https://www.rfc-editor.org/rfc/pdf/rfc793.txt.pdf)

Ex[No.]	Description of Documents
1016	“About the Open Networking Foundation”
1017	“Open Networking Foundation Specifications,” (available at https://opennetworking.org/software-defined-standards/specifications/)
1018	“OpenFlow Switch Specification”
1019	RFC 5810 (available at https://www.rfc-editor.org/rfc/rfc5810.html)
1020	Declaration of Sylvia D. Hall-Ellis, Ph.D.
1021	Federal Court Statistics
1022	Complaint, <i>Orckit Corporation v. Arista Networks, Inc.</i> , Civil Action No. 1-23-cv-00821 (D. Del., Jul. 28, 2023)
1023	Stipulation and Order to Stay Action, <i>Orckit Corporation v. Arista Networks, Inc.</i> , Civil Action No. 1-23-cv-00821 (D. Del., Dec. 4, 2023)
1024	Katherine K. Vidal, Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation (June 21, 2022)
1025	RFC 2026
1026	U.S. Patent Application Publication No. 2007/0094411 by Mullane (April 26, 2007)
1027	OpenFlow Switch Specification, Version 1.1.0 (available at https://opennetworking.org/wp-content/uploads/2014/10/openflow-spec-v1.1.0.pdf)
1028	Transcript of Deposition of Miguel Gomez (August 29, 2025)
1029	Errata Sheet of Dr. Paul Min, Ph.D., for Transcript of Deposition held on May 30, 2025

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I. Introduction

Petitioner Arista Networks, Inc. (“Arista”) submits this Reply to Patent Owner Orckit Corporation’s (“Orckit”) Response (Paper 16, “Response”). The Petition establishes that claims 1-54 of U.S. Patent No. 10,652,111 (the “’111 Patent”) would have been obvious to a person of ordinary skill in the art (“POSITA”). See Paper 2 (“Petition”). Orckit’s arguments that the challenged claims should be found patentable lack merit.

According to Orckit, the “inventive crux” of the claims was an allegedly novel software defined network (“SDN”) in which (1) the SDN controller was capable of controlling deep packet inspection (“DPI”) and (2) a criterion handed down by the controller to the nodes was used to intelligently determine whether and when to send packets to their destination and when to divert them for further inspection with DPI. Response, 2. Orckit, however, does not dispute that both allegedly inventive features are disclosed by the Lefebvre-Chua combination in Ground 1. See Petition, 22-40. Indeed, Orckit’s only argument for the independent claims is that a POSITA would not have combined Lefebvre and Chua because Lefebvre’s traffic steering system is allegedly “an alternative to DPI.” Response, 3. Orckit’s argument relies on a misreading of Lefebvre and the Petition.

Contrary to Orckit’s theory, Lefebvre specifically mentions DPI as an example of a service, and its system selectively steers traffic through various

services—including DPI—based on predefined policies. Lefebvre merely contemplates steering certain limited traffic types (*e.g.*, video traffic) away from DPI, not avoiding DPI entirely. The Board should reject Orckit’s arguments.

II. Claims 1-54 are obvious over the prior art in Grounds 1-3.

Orckit’s arguments focus on Ground 1, which demonstrates that claims 1-6, 9-15, 18-19, 21-36, 41-42, and 44-54 would have been obvious over the Lefebvre-Chua combination. Response, 20. The Response does not separately address Grounds 2 or 3. Tellingly, for Ground 1, Orckit does not dispute that the Lefebvre-Chua combination discloses every element of independent claims 1 and 32. For these claims, Orckit only argues that a POSITA would not have combined Lefebvre with Chua. Response, 20-23. Orckit’s “motivation to combine” argument fails because it is based on a misinterpretation of Lefebvre. Orckit separately argues that Arista failed to meet its burden for dependent claims 4, 10, 11, and 35. Response, 23-27. Orckit’s conclusory arguments ignore the detailed analysis and supporting evidence in the Petition.

A. A POSITA would have been motivated to combine Lefebvre and Chua.

Orckit’s flawed “motivation to combine” argument focuses on the “controller” element of independent claims 1 and 32. Response, 3, 20-23. The preamble of claim 1 recites “a controller that is external to the network node” and the claimed method includes “sending, by the controller to the network node over the packet

network, an instruction and a packet-applicable criterion” and “receiving, by the network node from the controller, the instruction and the criterion[.]” EX1001, 10:52-11:4. Claim 32 similarly recites “a controller that is external to the network node” and a method by the network node including “receiving, from the controller, the instruction and the criterion.” EX1001, 13:8-23.

The Petition demonstrates that Lefebvre discloses each of these claim elements. See Petition, 28-36.¹ Lefebvre discloses an SDN in which an operator “define[s] service policies that specify traffic classes and the chain of services that each class must traverse,” which are “translated by the controller into rules that are programmed on the switches in the service network.” EX1005, 4:41-47. Lefebvre teaches that its SDN controller is external to the network node because Lefebvre discloses that its centralized controller pushes these policies to the relevant switches. Petition, 30; see also EX1005, 6:28-31 (“These policies can be specified by the operator and pushed to the relevant switches by a centralized controller[.]”); EX1002, ¶112; EX1006, 1:27-29, 1:46-51; EX1005, 4:30-40; EX1027, 3, Fig. 1. As explained in the Petition, Lefebvre’s classification techniques disclose the claimed packet-applicable criterion because they are the conditions, or bases, used

¹ Orckit’s suggestion that the Petition relies only on Chua “to satisfy the ‘controller’ limitation” is incorrect. Compare Response, 20 with Petition, 30 (discussing Lefebvre’s “centralized controller”).

to identify packets for action, and Lefebvre’s traffic steering involving classification of incoming packets to assign them to a service path discloses the claimed instruction.² Petition, 33-35.

Orckit does not dispute that Lefebvre teaches these elements under the plain language of claims 1 and 32. Response, 20-23. Rather, Orckit attempts to distinguish its claims from Lefebvre by relying on a narrowing construction of “controller” to mean “an entity that is either 1) configured to perform deep packet inspection on packets, or 2) that is capable of controlling deep packet inspection.”³ Response, 19. The Response does not explain why “controller” should be construed as Orckit proposes, particularly given that: (1) independent claims 1 and 32 **do not** recite DPI; (2) dependent claim 14 **does** recite DPI; and (3) Orckit admits that the embodiment in Figure 1 that includes a controller configured to perform DPI

² Orckit disagrees with the Petition’s interpretation of the “criterion” terms and argues no construction is necessary. Response, 19-20; EX2009, ¶¶55-56. Orckit’s expert, however, admitted that “[c]riterion is a very simple term” and “simply the conditions that are used to make a decision,” which would include the conditions, or basis, used to identify packets for actions, as proposed in the Petition. EX1028, 63:13-25; Petition, 17-18; EX1002, ¶61.

³ Orckit suggests that the Petition argued that these constructions “are acceptable.” Response, 19. In fact, the Petition explained “that ‘controller’ does not require express construction[.]” Petition, 17; EX1002, ¶60.

is an “exemplary embodiment[.]”⁴ Response, 8; EX1001, 10:52-11:4, 11:61-63, 13:8-23; EX1028, 56:3-58:12; *see also* EX1001, 3:42-44 (Figure 1 is “exemplary and non-limiting”); EX2011, 139:5-16 (Dr. Min testifying that “Claim 1 does not really talk about DPI”); *Thorner v. Sony Comput. Entm’t Am. LLC*, 669 F.3d 1362, 1366 (Fed. Cir. 2012) (“We do not read limitations from the specification into claims[.]”); *Karlin Tech., Inc. v. Surgical Dynamics, Inc.*, 177 F.3d 968, 972 (Fed. Cir. 1999) (limitations in dependent claims “are not to be read into the independent claim”). Orckit merely notes that similar constructions were adopted by the Board (and, preliminarily, by a district court) in other proceedings not involving Arista.⁵ Response, 18-19.

Relying on its undeveloped construction to purportedly distinguish the claims from Lefebvre, Orckit argues there is no motivation to combine Lefebvre and Chua because, allegedly, “[a] POSITA would not add DPI to Lefebvre’s controller[.]” Response, 3. The Petition, however, established that a POSITA would have been motivated to combine, and could have combined, Lefebvre and Chua to arrive at

⁴ Orckit suggests claim 9 involves DPI. Response, 10. Claim 9 recites “analyzing the packet, by the controller” and does not mention DPI.

⁵ Orckit’s expert has no opinion regarding whether he agrees with Orckit’s construction or whether Orckit’s construction reflects the ordinary meaning of “controller.” EX1028, 58:13-62:3.

claims 1 and 32, even under Orckit’s construction. Petition, 23-28, 31-32; EX1002, ¶¶97-107.

Orckit does not dispute that Chua discloses an SDN controller configured to perform DPI on packets, or that Lefebvre (alone or in combination with Chua) teaches an SDN controller capable of controlling DPI (*e.g.*, by selectively routing packets through services, including DPI, based on predefined policies). Petition, 23-24, 28-35, 38-39; EX1006, 10:48-52, 15:4-9, 16:30-33, 31:48-50 (Chua’s “SDN controller 112 further performs deep packet inspection (DPI) on packets from client device 102 (402).”); EX1002, ¶¶99-101, 108-120, 134-137. Orckit also does not dispute that a POSITA could have implemented DPI in Lefebvre’s controller, as Chua teaches, with an expectation of success. Petition, 27-28; EX1002, ¶¶105-107. Thus, the Lefebvre-Chua combination discloses the “controller” elements of claims 1 and 32 under Orckit’s construction.

The Petition, supported by Dr. Min’s testimony, established that a POSITA would have been motivated to modify Lefebvre’s controller to perform DPI, as Chua teaches, to reduce the cost and complexity of the separate dedicated service appliances that Lefebvre discloses existed in the prior art. Petition, 24, 32; EX1002, ¶¶100-104, 113. For example, based on Chua’s disclosure of programming an SDN controller to perform DPI and other functions performed by service devices, a POSITA would have recognized that performing DPI and other services is not a task

that requires dedicated appliances and that incorporating DPI in Lefebvre's controller would remove the need for the expensive dedicated appliance. Petition, 25-26; EX1002, ¶103. Additionally, the Petition explained that including service device functionality, like DPI, within the controller would remove the need to address network failures between the controller and service device, thereby simplifying the SDN and reducing the need to address certain types of failures. Petition, 26; EX1002, ¶104.

The Response does not address, let alone dispute, the Petition's argument that including service device functionality, like DPI, within the controller would remove the need to address network failures between the controller and the service device and simplify the SDN. Petition, 26-27. That undisputed rationale is sufficient to support the modification of Lefebvre's controller to perform DPI proposed in the Petition. See *Intel Corp. v. PACT XPP Schweiz AG*, 61 F.4th 1373, 1379 (Fed. Cir. 2023) (“[A]ny need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.”) (quoting *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 420 (2007)). Moreover, the Response mischaracterizes Lefebvre as allegedly disclosing an “alternative” to DPI and desiring to avoid DPI entirely in its SDN. Response, 20-23. Orckit's arguments are contrary to the teachings in Lefebvre.

1. Lefebvre's traffic steering methods are not an alternative to DPI.

Orckit's arguments are based on the false premise that Lefebvre desires to entirely avoid using DPI in its SDN. Orckit argues that "[a] POSITA looking to improve upon Lefebvre would not implement DPI in the system because the traffic steering methods taught by Lefebvre are an alternative to DPI." Response, 21; *see also* Response, 3 (alleging that Lefebvre "teaches a traffic steering system that is an alternative to DPI" and "[a] POSITA would not add DPI to Lefebvre's controller because Lefebvre is directed to avoiding costly services like DPI"). Orckit is incorrect.

Orckit relies primarily on the testimony of its expert, Mr. Gomez, to support its argument. *See* Response, 21-23 (citing EX2009, ¶¶60-64). Mr. Gomez's analysis is flawed at least because he did not render his opinions from the perspective of a POSITA at the time of the alleged invention of the '111 Patent. *See* 35 U.S.C. § 103. Mr. Gomez's declaration states, and his sworn testimony confirms, that he "use[d] April 7, 2006 as the time of invention" in rendering his opinions. EX2009, ¶23; EX1028, 36:9-38:5. The '111 Patent, however, purports to claim earliest priority to a provisional application filed on April 22, 2014, eight years *after* the date Mr. Gomez used. EX1001, Code (60). Mr. Gomez acknowledged that there may have been developments related to DPI and SDNs between 2006 and 2014, but that they did not need to be accounted for in his analysis. EX1028, 38:6-39:4.

Because Mr. Gomez’s testimony is not based on a proper obviousness analysis, it should be given little weight.⁶

Moreover, Orckit’s arguments are divorced from Lefebvre’s disclosure and the combination presented in the Petition. The Petition does not propose modifying Lefebvre to “implement DPI” as Orckit argues. Response, 21. Lefebvre **already** implements DPI in its SDN. See EX1005, 1:19-38; EX2011, 145:16-21; EX1028, 68:6-69:6 (Mr. Gomez admitting that DPI is a service in Lefebvre). The Petition establishes that a POSITA would have been motivated, in view of Chua’s teachings showing that various services such as DPI could be incorporated into a SDN controller such as Lefebvre’s, to therefore modify Lefebvre’s controller to incorporate therein the DPI service already contemplated by Lefebvre, instead of using a “dedicated appliance[]” that Lefebvre teaches is “often expensive.” EX1005, 1:21-27; Petition, 24-26; EX1002, ¶¶100-104.

Orckit mischaracterizes the goal of Lefebvre. Response, 20. Orckit alleges

⁶ During redirect, Mr. Gomez confirmed that the April 22, 2014, filing date did not “in any way affect” his understanding of the time of the invention. EX1028, 92:22-93:3. Only after Orckit’s counsel asked a leading question regarding the possibility that the April 7, 2006, date was a typo did Mr. Gomez suggest the possibility of an error. EX1028, 93:4-23. Regardless, Mr. Gomez “just accepted the dates as they were given to” him by counsel, which further undermines his credibility. EX1028, 93:19-21.

that “[t]he stated goal of Lefebvre’s software defined networking is to avoid ‘expensive services such as deep packet inspection.’” Response, 20 (citing EX1005, 1:34-38). The implication in Orckit’s argument is that Lefebvre desires to avoid DPI entirely. See Response, 21 (alleging that “the traffic steering methods taught by Lefebvre are an alternative to DPI”). In fact, however, Lefebvre’s goal is to provide a way for operators to “***selectively*** direct traffic to specific sets of services ***instead of*** forcing all traffic through every service.” Lefebvre at 1:32-34 (emphases added). This is evident from the excerpt of Lefebvre quoted in the Response:

Operators are facing a sharp increase in traffic demand and continue looking at new ways to monetize their network. **Due to the high cost of service appliances, operators want to avoid matching the capacity of these services with this growth. Operators would rather have the ability to selectively direct traffic to specific set of services instead of forcing all traffic through every service.** This ability would allow an operator to steer video traffic, which is a source of the recent traffic explosion, away from expensive services such as deep packet inspection, thus reducing the need for investing in new service appliances.

EX1005, 1:28-38 (emphases added). This passage makes clear that Lefebvre is trying to “avoid matching ***the capacity***” of services provided by expensive dedicated appliances (*e.g.*, transparent caching, virus scanning, and DPI) with the “sharp

increase in traffic demand” that operators are facing. EX1005, 1:19-38 (emphases added). Lefebvre does not desire to avoid using DPI in its network altogether; it simply seeks to avoid having to route unnecessary traffic through DPI. As Dr. Min explained:

One reason Lefebvre offers for implementing traffic steering is to direct traffic that does not require inspection away from expensive services like DPI, reducing the need to invest in new service appliances.... Lefebvre therefore controls the usage of DPI services by routing network traffic through the service only as appropriate, where the services are separate from the controller.

EX1002, ¶98; *see also* EX1005, 1:39-43 (describing using traffic steering to allow operators to “offer services such as virus scanning or content filtering to customers who elect to pay for such services”). As detailed in the Petition, implementing DPI in Lefebvre’s controller furthers Lefebvre’s desire to reduce the need for investing in new service appliances because “incorporating services in Lefebvre’s controller (e.g., DPI), as Chua teaches, removes the need for the expensive dedicated appliance.” Petition, 26; EX1005, 1:34-38; EX1002, ¶103.

Despite characterizing Lefebvre’s traffic steering as an alternative to DPI, and suggesting that Lefebvre avoids DPI entirely, Orckit admits that “Lefebvre **is clear** that it is trying to steer **certain traffic** away from services like DPI in order to lower the costs associated with such services.” Response, 22 (emphases added); *see also*

Response, 12 (quoting EX1005, 1:32-38). Mr. Gomez similarly acknowledges that Lefebvre proposes “steering *particular classes* of traffic through predefined sets of services” to avoid forcing all traffic through every service. EX2009, ¶60 (emphases added). Indeed, during cross-examination, Mr. Gomez contradicted his declaration testimony that “Lefebvre does not use deep packet inspection” and admitted that Lefebvre could selectively direct traffic to a set of services that includes DPI:

Q. So with the technique that Lefebvre describes, an operator could selectively direct traffic to a set of services that includes deep packet inspection, correct?

A. Well, he doesn’t actually say that, but I imagine he could.

EX1028, 77:6-17. Notably, Lefebvre only describes steering one type of traffic—video traffic—away from DPI.⁷ EX1005, 1:34-38; EX1028, 77:18-22. Thus, Lefebvre’s traffic steering is not an alternative to DPI, but a way of ensuring that DPI is used only when required for certain types of traffic.

Orckit wrongly suggests that Arista’s expert “agreed that avoiding expensive services such as deep packet inspection was a goal of Lefebvre.” Response, 21 (citing EX2011, 143:7-14). Dr. Min actually testified that one of Lefebvre’s goals is “using an SDN to route the flows more intelligently ... to avoid having flows go

⁷ The claims do not require DPI of video traffic.

through unnecessary or expensive dedicated appliances ***unless they have to***.” EX2011, 143:7-14 (emphases added). Dr. Min’s testimony contradicts Orckit’s argument that Lefebvre avoids DPI entirely. Indeed, during his deposition, Dr. Min made clear that “Lefebvre discloses a way to allow operators to steer traffic away from DPI where that’s appropriate,” such as for video traffic. EX2011, 147:10-14; EX1005, 1:32-38; *see also* EX1002, ¶98.

Accordingly, a POSITA would not have viewed Lefebvre’s traffic steering methods as an alternative to DPI, but rather as a means of ensuring that only traffic that requires DPI is subjected to it. *See, e.g.*, EX1002, ¶98; EX2011, 143:7-14, 147:10-14; EX1005, 1:28-38. A POSITA would not have understood Lefebvre as foregoing DPI entirely, especially given its known utility. EX2011, 103:10-104:6 (Dr. Min explaining that DPI is used for a variety of purposes, including security, application layer switching, and analytics); EX2009, ¶36 (Mr. Gomez acknowledging that extracted data patterns from DPI “are useful for a variety of purposes, including network security and data analytics”); EX1028, 27:12-29:18 (Mr. Gomez describing using DPI to enable content-based routing), 40:12-41:12 (discussing utility of DPI for identifying malicious attacks), 70:16-21 (admitting that beneficial applications of DPI “certainly” exist); EX1006, 31:48-54, 10:48-52; EX1001, 1:20-29. As a practical matter, it is unclear how Lefebvre’s method for steering traffic to various services could be an “alternative” to the functionality

provided by DPI. Any expense associated with DPI does not undermine the combination, because both Lefebvre and Chua contemplate using DPI despite its expense.

2. The expense of DPI would not have deterred a POSITA.

Orckit does not actually dispute the Petition’s argument that incorporating DPI into Lefebvre’s controllers would help reduce the cost and complexity of the separate dedicated service appliances Lefebvre describes. Petition, 24; *see also* Response, 22. Instead, Orckit again argues that “Lefebvre’s traffic steering is trying to avoid DPI so operators can avoid the cost associated with DPI, not perform DPI.” Response, 22. As discussed above, however, Lefebvre only seeks to avoid directing certain types of traffic to DPI. *Supra*, §II.A.1. Lefebvre, like Chua, clearly contemplates using DPI for other types of traffic, despite any associated expense. *See, e.g.*, EX1002, ¶98; EX2011, 143:7-14, 147:10-14; EX1005, 1:28-38; EX1006, 31:48-54, 10:48-52.

Orckit’s argument that Lefebvre teaches “that incorporating DPI into Lefebvre’s controllers would make the controllers more expensive and complex” is unsupported and contradicted by the record. Response, 22. The only support Orckit cites is Mr. Gomez’s testimony, which parrots the Response, fails to cite any supporting evidence, and is inconsistent with the teachings of the prior art. EX2009, ¶61; *see Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9 at 15

(P.T.A.B. Aug. 24, 2022) (“[T]he cited declaration testimony is conclusory and unsupported, adds little to the conclusory assertion for which it is offered to support, and is entitled to little weight.”) (precedential); 37 C.F.R. 42.65(a). Chua, which expressly teaches using an SDN controller to perform DPI, contradicts any argument that the alleged expense or complexity resulting from modifying Lefebvre’s controller would deter a POSITA. EX1006, 31:48-54; *see also* EX2011, 146:22-147:1.

Orckit’s arguments regarding the Petition’s alleged failure to cite anything in Chua indicating Chua improves on the expense of DPI or explaining how a POSITA could reduce that expense misses the mark. Response, 22-23. Lefebvre discloses that services including DPI are typically provided by dedicated, expensive appliances. Petition, 26 (citing EX1005, 1:25-27). Lefebvre is not concerned with reducing the expense of performing DPI, per se, but rather with “avoid[ing] matching the capacity of these services with” the “sharp increase in traffic demand” operators were facing, because of the high cost of service appliances. EX1005, 1:28-32. The Petition, supported by Dr. Min’s testimony, explains how a POSITA would recognize that Chua’s teaching of using an SDN controller to perform DPI means that performing DPI is not a task that requires dedicated appliances, but a task that an SDN controller could execute. Petition, 26; EX1002, ¶103. Thus, as explained by Dr. Min, incorporating DPI in Lefebvre’s SDN controller removes the

need for the expensive dedicated appliance and aligns with Lefebvre's goal of "avoid[ing] matching the capacity of" services like DPI with traffic growth and "reducing the need for investing in new service appliances." EX1005, 1:30-38; *see also* Petition, 26; EX1002, ¶103.

Orckit argues that "Lefebvre is teaching that DPI's high cost is a disadvantage to be avoided." Response, 23. At most, Lefebvre suggests avoiding the expense of DPI for certain types of traffic (*e.g.*, video traffic). EX1005, 1:32-34. That performing DPI is still associated with some expense, whether performed at a dedicated appliance or the controller, does not teach away from modifying Lefebvre's controller to perform DPI, as taught by Chua, for the remaining traffic that warrants it. EX1002, ¶98. Indeed, Mr. Gomez admitted that there are situations where DPI is desirable despite the associated cost:

Q. So you would agree that there are situations where the cost associated with deep packet inspection is worth it, correct?

A. Very narrowly, yes, but, again, it would have to be examined on a case-by-case basis.

EX1028, 44:4-10.

Orckit overlooks that the Lefebvre-Chua combination does make doing DPI more efficient (and less expensive) because (1) there is no need for an expensive dedicated DPI appliance and (2) it avoids the potential expense of redundancies while also simplifying the SDN. Petition, 26-27; EX1006, 6:36-52, 19:1-53;

EX1002, ¶¶103-104. Furthermore, Lefebvre’s traffic steering further mitigates the cost to service providers by routing select types of traffic away from DPI, as Mr. Gomez confirmed. EX1028, 73:25-74:4. Thus, the Lefebvre-Chua combination solves the expense problem that Orckit alleges would have led a POSITA away from the combination.

3. The Petition does not propose modifying Lefebvre to always use DPI.

Orckit argues that “[i]t would defeat the purpose of Lefebvre to modify Lefebvre and force its traffic steering system and methods to always use DPI.” Response, 23. The Petition, however, does not propose modifying Lefebvre to always use DPI. Regarding element 1[e], for example, which recites “responsive to the packet not satisfying the criterion, sending, by the network node over the packet network, the packet to the second entity,” the Petition explains that Lefebvre discloses forwarding non-subscriber traffic to its destination. Petition, 37-38; EX1002, ¶132. The Lefebvre-Chua combination operates exactly as described in the ’111 Patent, selectively directing traffic to the controller for DPI depending on whether a packet-applicable criterion is satisfied or not. *See, e.g.*, Petition, 28-39.

B. The Lefebvre-Chua combination renders claims 4 and 35 obvious.

Claims 4 and 35 recite basic steps taken upon receiving a “probe” instruction and in response to the packet satisfying the criterion. EX1001, 11:17-26, 13:35-41. In claim 4, those steps include “sending the packet, by the network node, to the

controller; responsive to receiving the packet, analyzing the packet, by the controller; sending the packet, by the controller, to the network node; and responsive to receiving the packet, sending the packet, by the network node, to the second entity.” EX1001, 11:20-26.⁸ The Petition provides nearly three pages of detailed analysis explaining how the claimed steps—which amount to little more than conventional redirection, analysis, and return for forwarding—are taught by the Lefebvre-Chua combination. Petition, 43-46. The Response ignores virtually all of this analysis, suggesting that the only evidentiary support is “the conclusory say-so of Arista’s expert[.]” Response, 24. Orckit’s arguments lack merit.

Orckit does not dispute that Chua’s redirect action, which sends the traffic to another network device for either inspection or to occupy a potential hacker, corresponds to the claimed “probe” instruction. Petition, 44; EX1006, 7:46:50; *see also* EX2011, 133:9-17. Because Lefebvre’s controller, modified by Chua’s teachings, executes DPI instead of a service device, the Lefebvre-Chua combination discloses “sending the packet, by the network node, to the controller” and “responsive to receiving the packet, analyzing the packet, by the controller” in claim 4 (and the analogous element of claim 35). Petition, 44; EX1002, ¶150.

⁸ Claim 35 does not include a corresponding step involving analyzing the packet by the controller. Response, 23; EX1001, 13:35-41.

Orckit argues that “[s]ince Lefebvre teaches steering traffic away from DPI, a POSITA would not have found it obvious to steer traffic towards DPI to perform the ‘probe’ instruction.” Response, 24. This argument fails for the reasons explained above. *Supra*, §II.A.1-3. As discussed, Lefebvre contemplates selectively steering traffic towards specific services, including DPI, and Chua teaches implementing DPI at the SDN controller. EX1005, 1:13-28, 2:39-47, 4:41-54, 5:41-44, 6:17-21; EX1006, 10:48-52, 15:4-9, 16:30-33; 31:48-50; EX1002, ¶¶98-99.

Orckit’s attempt to reduce the Petition’s analysis and evidentiary support to “the conclusory say-so of Arista’s expert” also fails. Response, 24. The statement Orckit takes issue with—“that ‘a POSITA would have found it obvious that service devices executing DPI would have received similar instructions’”—relates to “sending the packet, by the controller, to the network node” in claim 4 (and “receiving the packet, from the controller” in claim 35), which takes place after analysis by the controller. Petition, 45; EX1002, ¶151. In the testimony relied upon by the Petition, Dr. Min explains that Chua discloses that if the service device deems the packets malicious, the controller may instruct the service device to send data back to the switch (which corresponds to the claimed network node). EX1002, ¶151 (citing EX1006, 21:35-42). Dr. Min supports his testimony directly using Chua’s disclosure, the cited portion of which describes an “example” in which:

SDN controller 218 may program switch 210 to direct packets of the

packet flow to IDS 214. **SDN controller 218 may further configure IDS 214 to send data back to switch 210, such as data indicating whether packets of the packet flow represent a network attack and/or data of the packet flow after the data has been inspected.**

EX1006, 21:35-42 (emphasis added). In further testimony omitted from Orckit's Response, Dr. Min testified that:

Although Chua discloses this in relation to an intrusion detection system (IDS), a POSITA would have found it obvious that service devices executing DPI would have received similar instructions. **This is because IDS systems also analyze network traffic for malicious activity but typically do not employ the more rigorous inspection of packets that DPI systems use.** Because Chua discloses sending data back to the network node, such as 'data of the packet flow after the data has been inspected,' the combination of Lefebvre and Chua therefore renders obvious the 'sending the packet, by the controller, to the network node' element of claim 4.

EX1002, ¶151. Dr. Min's testimony is neither "conclusory" nor "contradicted" by the fact that Lefebvre selectively steers some, but not all, traffic away from DPI, as Orckit alleges. Response, 24.

Orckit is incorrect that Dr. Min cited no evidence to support his conclusions. See EX1002, ¶151 (citing EX1006, 21:35-42, 28:18-32, 7:28-38, 16:23-30, 16:36-44, 28:7-32, 14:39-42). Furthermore, Dr. Min's testimony is not used to supply a claim limitation missing from the prior art and is thus wholly distinguishable from

DSS Tech. Mgmt. Inc. v. Apple Inc., 885 F.3d 1367, 1377 (Fed. Cir. 2018). Unlike the Board’s reasoning in *DSS Tech.*, Dr. Min did not rely on ordinary creativity or common sense to supply a missing claim limitation. *Id.* at 1374-75.⁹ Instead, Dr. Min provided reasoned analysis and evidentiary support explaining why, in view of Chua’s disclosure that a packet is sent back to the switch after inspection for malicious content (*e.g.*, IDS), a POSITA would have found it obvious that after a packet is subjected to DPI at the controller, the packet is sent, by the controller, back to the switch from which it was received. EX1002, ¶151. Orckit’s expert does not dispute that this aspect of claims 4 and 35 would have been obvious to a POSITA. *See* EX2009, ¶¶65-69.

C. The Lefebvre-Chua combination renders claim 10 obvious.

Orckit’s argument that the Petition’s analysis of Claim 10 relies only on conclusory expert testimony lacks credibility. *See* Response, 26. Orckit does not dispute that the Lefebvre-Chua combination discloses every element of claims 1, 5, and 9 from which claim 10 depends. For claim 10, Orckit alleges that the Petition failed to meet its burden with respect to the step of “analyzing the packet by the

⁹ Orckit cites *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 851 F.3d 1270, 1274-1275 (Fed. Cir. 2017), but that case is inapposite. Response, 25. *Nidec* involved anticipation, not obviousness, and clarified that “a reference missing a limitation” does not anticipate. 851 F.3d at 1274.

application server.” Response, 26. Orckit alleges that the Petition relies only on “its expert’s say-so that a ‘POSITA would have understood that packets sent to the appliances or server-based application-aware devices based on DPI would be analyzed[.]’” Response, 26 (quoting Petition, 49). Orckit is incorrect.

The Petition and Dr. Min relied on evidence in Chua to demonstrate that this aspect of claim 10 is taught by the combination. See Petition, 48-49; EX1002, ¶¶167-172. For context, the Petition maps the SDN controller performing DPI to the step of “analyzing the packet, by the controller” in claim 9. Petition, 48; EX1002, ¶¶164-166. Orckit does not dispute that this discloses the first of the “two steps of analysis” required by “[t]he structure of claims 9 and 10[.]” Response, 26. As detailed in the Petition, Chua further discloses that certain types of traffic “must often be distributed to a variety of appliances or server-based application-aware devices ***based on potentially deep inspection*** of incoming (and for certain flow types, outgoing) packets.” EX1006, 15:5-9 (emphasis added). Again, Orckit does not dispute Dr. Min’s testimony, or the Petition’s argument, that Chua’s appliances or server-based application aware devices correspond to the claimed “application server.” Petition, 49; EX1002, ¶170.

Orckit ignores the Petition’s and Dr. Min’s analysis, and supporting disclosure in Chua, establishing that these devices analyze the packets sent to them because they provide “security” and/or “data analytic” applications, consistent with the ’111

Patent. EX1001, 3:56-61. For example, Orckit overlooks Chua’s express disclosure that its SDN controller may determine that a particular packet flow should be inspected for intrusion detection. See EX1006, 21:35-38.

Orckit does not argue that intrusion detection is not analysis within the scope of claim 10, nor could it, considering that the ’111 Patent confirms that intrusion detection is within the scope of the analysis in claim 10.¹⁰ Claim 13 depends from claim 10 and recites “wherein the analyzing comprises applying security application that comprises firewall *or intrusion detection* functionality.” EX1001, 11:58-60. That is precisely what the Lefebvre-Chua combination teaches. Accordingly, the Lefebvre-Chua combination renders claim 10 obvious.

D. The Lefebvre-Chua combination renders claim 11 obvious.

Claim 11 depends from claim 10 and recites “sending the packet after analyzing by the application server to the controller, and sending the packet, after receiving from the controller by the network node, to the second entity.” EX1001, 11:50-54. Orckit’s argument for claim 11 rehashes substantially the same argument that it made for claims 4 and 35, alleging that the Petition relies on conclusory expert testimony, and fails for the same reasons. Response, 27; *supra*, §II.B.

¹⁰ Orckit’s expert offers no testimony in support of Orckit’s arguments for claim 10.

As discussed for claims 4 and 35, Chua's SDN controller may instruct the service device "to send data back to switch 210, such as data indicating whether packets of the packet flow represent a network attack and/or data of the packet flow after the data has been inspected." EX1006, 21:35-42; *see also* EX1006, 28:18-32 (Chua's controller "may program the network devices to, in response to an indication that packets of a packet flow include malicious data, forward packets of the packet flow to a destination of the packet flow"); EX1002, ¶174; Petition, 50. Dr. Min explained that:

Because Chua also teaches that the controller can send packets to service devices for analysis, a POSITA would have understood Chua's technique of sending data (e.g., data indicating whether packets of the packet flow represent a network attack and/or data of the packet flow after the data has been inspected) would also be applicable to scenarios in which the controller sends a packet to a service device (e.g., in the case of Chua's controller distributing traffic to an appliance or server-based application aware device, such as intrusion detection, based on deep inspection). Chua at 15:5-17, 21:35-37.

EX1002, ¶174. Dr. Min's testimony is not unsupported nor is it used to supply a missing claim limitation. As such and as discussed above, *DSS Tech.* is inapplicable. Unlike in *DSS Tech.*, Dr. Min provided reasoned analysis and evidentiary support explaining why, in view of Chua's disclosure that a packet is sent back after inspection for malicious content (e.g., IDS), a POSITA would have

found it obvious that after a packet is subjected to IDS at the appliance or server-based application-aware device, the packet is sent to the controller and then on to the switch for forwarding to its destination, as claimed. EX1002, ¶¶174-175. Orkit's expert does not dispute that claim 11 would have been obvious to a POSITA. See EX2009. Accordingly, the Board should find claim 11 unpatentable.

III. Conclusion

The Board should cancel claims 1-54 as unpatentable.

Respectfully Submitted,

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CERTIFICATION UNDER 37 C.F.R. § 42.24(d)

Pursuant to 37 C.F.R. § 42.24(d), the undersigned hereby certifies that the word count under § 42.24(c) for the foregoing **PETITIONER'S REPLY TO PATENT OWNER'S RESPONSE** totals 5,585 words, within the 5,600 word limit allowed under § 42.24(c)(1).

Date: September 10, 2025

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CERTIFICATE OF SERVICE

In accordance with 37 C.F.R. § 42.6(e), the undersigned certifies that on September 10, 2025, a complete and entire copy of the **PETITIONER'S REPLY TO PATENT OWNER'S RESPONSE** and Exhibits 1028-1029 were served on Patent Owner via email at the correspondence addresses below:

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