

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

JUNIPER NETWORKS, INC.,
Petitioner

v.

PORTSMOUTH NETWORK CORP.,
Patent Owner

Case No. IPR2024-00913¹

U.S. Patent No. 8,014,394

PATENT OWNER'S RESPONSE

¹ IPR2024-00989 has been consolidated with IPR2024-00913. *See* Institution Decision (Paper 5) at p. 54.

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Pursuant to 37 C.F.R. § 42.120, Patent Owner Portsmouth Network Corp. (“Patent Owner”) respectfully submits this Response to the Petition filed by Juniper Networks, Inc. (“Petitioner”) regarding U.S. Patent No. 8,014,394 (Ex. 1001, “’394 Patent”).

I. INTRODUCTION

The ’394 Patent claims a novel and non-obvious system to forward multicast packets in a network. Response time is important for many multicast content applications, like television. For example, when a user switches from one television channel to another, the user’s set-top box must stop receiving one multicast packet stream and start receiving another multicast stream immediately, otherwise the user will notice a considerable delay. This issue becomes even more noticeable if the multicast content application must respond to multiple requests in quick succession.

The ’394 Patent discloses techniques and methods to rapidly adapt to such requests to change multicast forwarding configurations. For example, the ’394 Patent discloses storing lists in each processing unit indicating which multicast packet streams are allowed to be forwarded over the ports, distributing a multicast content request among multiple processing units, updating the lists for each processing unit, and selectively forwarding multicast packets based on the updated lists in each processing unit. The ’394 Patent also discloses ways to adjust to other changes in the network, like when a new line card is inserted. For example, the

claimed system may disable local ports of the newly-added line card and transmit a multicast status update request, which allows the newly-added processing unit to stay up-to-date.

The Petition² raises 7 different obviousness grounds. All of Petitioner's grounds rely on at least two references—Blease and Weyman. Petitioner, however, fails to establish that the challenged claims are unpatentable in each of the obviousness combinations raised in the Petition.

As will be described in more detail below, Petitioner's obviousness combination based on Blease in view of Weyman does not disclose "list" as required by claim limitations 1[b], 1[d], 1[e], 1[g.iii], 8[b], 8[d], 8[e], 8[f.ii], 11[b.v], 11[b.vi.α], 11[b.vi.β], 18[b.v], 18[c.i], 18[c.ii], 18[d.i], "port aggregation" as required by claim limitations 1[g.i], 11[c.i] and "deactivation" limitations setting an upper limit on multicast packet streams that are permitted for forwarding over a high-capacity port as required by claim limitations 11[c.ii] and 1[g.iii]. Additionally, Petitioner's combinations of Blease and Weyman that then also add in one or more of Deng, Hu, and Rao do not disclose deactivating ports of a new processing unit

² Petitions from the -00989 IPR and -00913 IPR proceedings will be collectively referred to as "Petition" per the Board's Order consolidating the two proceedings. See Paper 8 at 54.

added to the network element unit as required by claim limitations [8[f.ii] and 18[d.i].

A. Grounds and Challenged Claims

The Board instituted review on the following Grounds:

Ground³	Claim(s) Challenged	35 U.S.C. §	References/Basis
1.1	1, 2, 4, 6, 7, 11, 12, 14, 17	103 (a)	Blease, Weyman, Hu
1.2	16	103 (a)	Blease, Weyman, Hu, Deng
2.1	8, 18	103 (a)	Blease, Weyman
2.2	9	103 (a)	Blease, Weyman, Hu
2.3	10	103 (a)	Blease, Weyman, Hu, Deng
2.4	8, 18	103 (a)	Blease, Weyman, Rao
2.5	9, 10	103 (a)	Blease, Weyman, Rao, Hu and Blease, Weyman, Rao, Deng respectively

As discussed in more detail below, for each Ground Petitioner has failed to establish that the prior art renders obvious the challenged claims.

The challenged claims include four independent claims: 1, 8, 11, and 18. Independent claim 1 is provided below. For purposes of this Response, Patent Owner uses the same claim limitation numbering as the Petition.

1[pre] A method for communication, comprising:

³ The Grounds prefixed with 1, refer to the grounds in the -00913 Petition and the Grounds prefixed with 2, refer to the grounds in the -00989 Petition.

1[a.1] operating a network element, wherein the network element further comprises multiple interconnected processing units and multiple ports,

1[a.ii] wherein each processing unit is assigned to a different subset of the multiple ports of the network element, and wherein each processing unit contains a processor for processing packets communicated over the different subset of the multiple ports to which the processing unit is assigned;

1[b] storing in each processing unit a respective list, each list indicating all of one or more multicast packet streams that are permitted for forwarding by the network element, and further indicating which of the one or more ports each multicast packet stream is permitted to be forwarded to;

1[c] receiving from a client a request relating to reception of a given multicast packet stream;

[1d] distributing the request among the multiple processing units within the network element, and updating the respective list in each processing unit responsively to the request; and

[1e] selectively forwarding multicast packets associated with the given multicast packet stream by the processing units in accordance with the respective updated lists,

[1f] wherein operating the network element comprises aggregating two or more of the ports to form a high-capacity port, and

1[g.i] wherein aggregating the ports comprises setting an upper limit on a number of the multicast packet streams that are permitted for forwarding over the high-capacity port,

1[g.ii] wherein the request indicates that the given multicast packet stream is to be forwarded over the high-capacity port, and

1[g.iii] wherein updating the list comprises modifying the list to indicate that the given multicast packet stream is permitted for forwarding over the high-capacity port only when the number of the multicast packet streams that are permitted for forwarding over the high-capacity port, including the given multicast packet stream, does not exceed the upper limit.

Independent claim 8 is a method claim that includes limitations similar to claim 1. However, claim 8 does not recite aggregating ports “to form a high-capacity port.” Furthermore, claim 8 recites that a new processing unit is “added to the network element” and that the new processing unit is initialized. Claim 8 is reproduced below:

8[pre] A method for communication, comprising:

8[a.i] operating a network element, wherein the network element further comprises multiple interconnected processing units and multiple ports,

8[a.ii] wherein each processing unit is assigned to a different subset of the multiple ports of the network element, and wherein each processing unit contains a

processor for processing packets communicated over the different subset of the multiple ports to which the processing unit is assigned;

8[b] storing in each processing unit a respective list, each list indicating all of one or more multicast packet streams that are permitted for forwarding by the network element, and further indicating which of the one or more ports each multicast packet stream is permitted to be forwarded to;

8[c] receiving from a client a request relating to reception of a given multicast packet stream;

8[d] distributing the request among the multiple processing units within the network element, and updating the respective list in each processing unit responsively to the request; and

8[e] selectively forwarding multicast packets associated with the given multicast packet stream by the processing units in accordance with the respective updated lists,

8[f.i] wherein operating the network element comprises initializing a new processing unit added to the network element by:

8[f.ii] deactivating the ports to which the new processing unit is assigned;

while the ports to which the new processing unit is assigned are deactivated, sending a multicast status request, receiving multicast membership reports sent by multicast clients in response to the multicast

status request, constructing the list by the new processing unit based on the received multicast membership reports; and

after constructing the list, activating the ports to which the new processing unit is assigned.

Independent claim 11 is an apparatus claim that includes similar limitations to method claim 1, which recites a network element comprising multiple ports and multiple interconnected processing units.

Independent claim 18 is an apparatus claim that includes similar limitations to method claim 8, which recites a network element comprising multiple interconnected processing units and a new processing unit added to the network element.

B. Claim Construction

For purposes of this Response, Patent Owner will apply the ordinary and customary meaning to the '394 Patent's claim terms. Patent Owner notes that Petitioner asserts:

Claim terms subject to IPR are to be construed in accordance with their ordinary and customary meaning as understood by a POSA in light of the specification and prosecution history. 37 C.F.R. § 42.100(b). Only terms necessary to resolve the controversy need to be construed.

Petition (Paper 2),⁴ at p. 13. Petitioner also asserts that no claim requires express construction for the grounds presented in the Petitions. *Id.* Patent Owner does not provide any specific claim constructions for purposes of this Response,

C. Person of Ordinary Skill in the Art

Petitioner proposes a definition of a person of ordinary skill in the art (“POSITA”) as of the priority date of the ’394 Patent (February 11, 2009). Petition at 12. For purposes of this Response, Patent Owner uses the same definition of a POSITA. Ex. 2005 at ¶ 33.

D. Legal Framework

Petitioner must prove that the ’394 Patent’s claims are obvious by a preponderance of the evidence. 35 U.S.C. § 316(e). Obviousness requires a showing that (1) all of the claimed limitations are found in the prior art reference(s) and (2) a POSITA would have been motivated to modify or combine the prior art reference(s) to achieve the claimed limitation. *Univ. of Strathclyde v. Clear-Vu Lighting LLC*, 17 F.4th 155, 160 (Fed. Cir. 2021); 35 U.S.C. § 103(a) (pre-AIA). Single-reference obviousness nonetheless requires a showing of motivation to modify the reference. *Arendi S.A.R.L. v. Apple Inc.*, 832 F.3d 1355, 1361 (Fed. Cir. 2016); *SIBIA Neurosciences, Inc. v. Cadus Pharm. Corp.*, 225 F.3d 1349, 1356 (Fed. Cir. 2000).

⁴ Petitioner made the same representation in both Petitions. Patent Owner will refer to the -00913 docket unless otherwise indicated.

Also, a prior art reference must be considered in its entirety, including portions that would lead away from the claimed invention. *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1568 (Fed. Cir. 1987).

An IPR petition must state “[h]ow the construed claim is unpatentable under [35 U.S.C. § 103],” and “must specify where each element of the claim is found in the prior art.” 37 C.F.R. § 42.304(b)(4). Conclusory statements alleging a motivation to modify or combine the references are insufficient to demonstrate obviousness. *See e.g., SAS Inst., Inc. v. ComplementSoft, LLC*, IPR2013-00581, 2013 WL 8595535, at *6 (PTAB Dec. 30, 2013) (rejecting alleged motivation that “[the combination] would increase the functionality of the [primary reference]”); *Exacq Techs., Inc. v. JDS Techs., Inc.*, IPR2016-00568, 2016 WL 4987613 (PTAB June 14, 2016) (“Simply stating that the combination ‘would merely be the use of known validation techniques to improve a similar network camera system in the same way,’ ... without evidence, is not sufficient.”). “[H]indsight bias” cannot be “the thread that stitches together prior art patches into something that is the claimed invention.” *Metalcraft of Mayville, Inc. v. Toro Co.*, 848 F.3d 1358, 1367 (Fed. Cir. 2017).

E. Institution Decision

The Institution Decision preliminarily determined that Petitioner's showing was adequate based on the then-current record and for the purposes of institution.

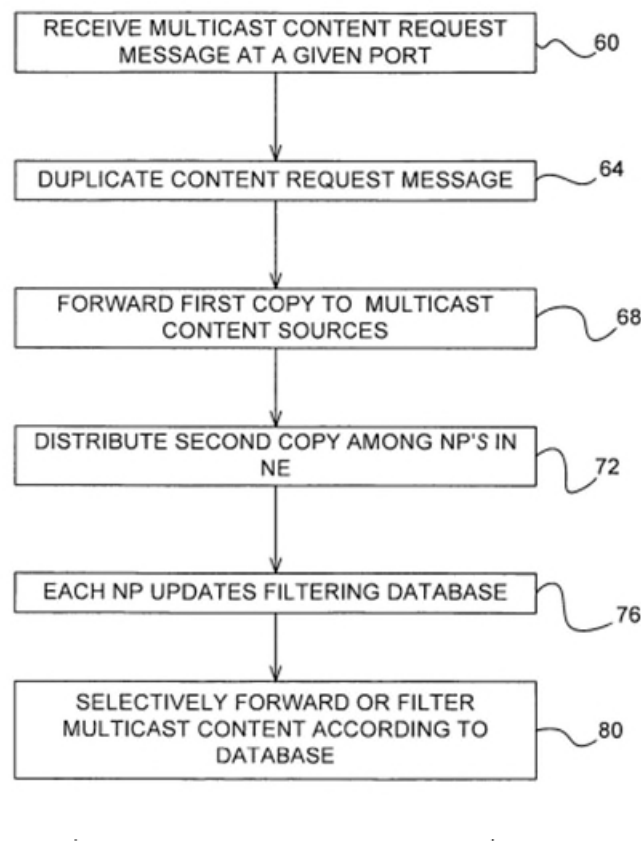
See Paper 8 at 54-55. This Response explains why Petitioner's ground fails to render the challenged claims unpatentable.

II. Overview of '394 Patent and Prior Art

A. Overview of the '394 Patent

The '394 Patent discloses “methods and systems for delivering multicast traffic over communication networks.” Ex. 2005 at ¶ 34. The '394 Patent discloses techniques to rapidly adapt to multicast forwarding requests. *Id.* For example, Figure 2 of the '394 Patent is reproduced below.

FIG. 2



Ex. 1001 at FIG. 2.

Figure 2 of the '394 Patent illustrates an exemplary method to respond to a multicast content request. Ex. 2005 at ¶ 35. A network element, such as a line card, may first receive a multicast content request (e.g., a request to start or stop receiving certain multicast content). *Id.* The network element then duplicates the request and forwards a first copy of the request to multicast sources. *Id.* A second copy of the request is distributed to network processors (e.g., processing units) in the network element. *Id.* Each network processor that receives the second copy may then update their respective databases accordingly. *Id.* The network element may then selectively forward multicast content based on the updated databases. *Id.* The independent claims of the '394 Patent map out this process. *Id.*

B. Overview of Blease

Blease is titled “Outgoing Interface Mapping For Multicast Traffic.” Ex. 1005. Blease is directed to techniques for transmitting multicast traffic from a network device to subscriber devices within a computer network. These subscriber devices are connected to the network device via one or more network switches, such as DSLAMs or Ethernet switches. Ex. 1005 at 4:18-20.

Blease describes an exemplary embodiment where subscriber devices connect to router 42 via network switches. Ex. 2005 at ¶ 38. Blease goes on to describe that router 42 contains interface cards and a single control unit 44 containing multicast forwarding information. *Id.* When router 42 receives a multicast packet via "one of

inbound links 55, control unit 44 forwards the packet on a set of outbound links 56 in accordance with multicast forwarding information 48. *Id.* Fig. 4 from Blease shows a block diagram illustrating an exemplary router in accordance with an embodiment of the invention.

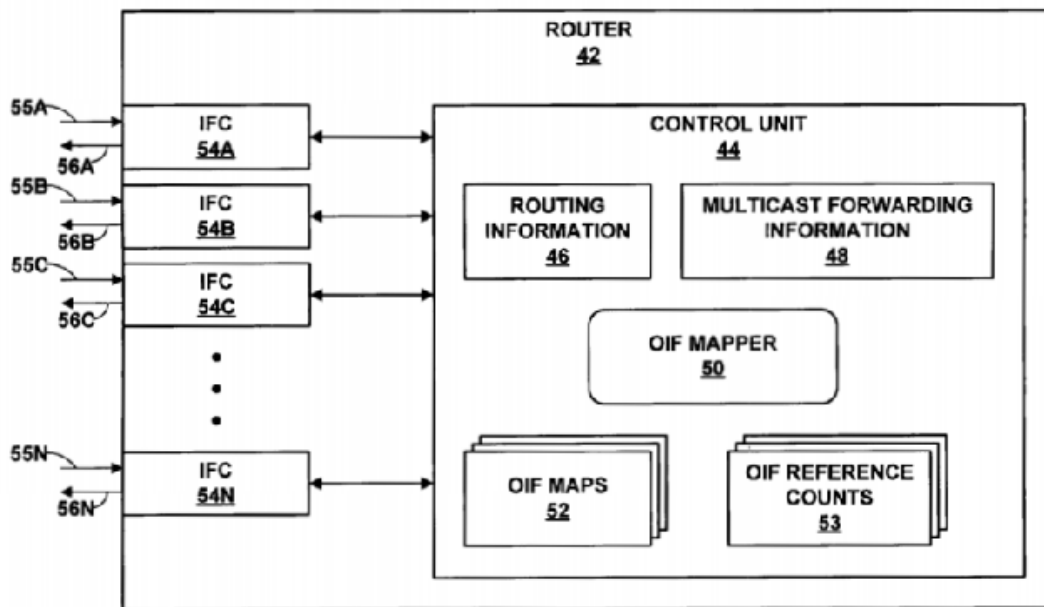


FIG. 4

Ex. 1005 at Fig. 4.

C. Overview of Weyman

Weyman is titled “System and Method for Distributed Multicast Routing.” Ex. 2005 at ¶ 40. Weyman is directed to “packet-switched communication networks” and “a fabric of units organized as a single virtual multicast router and units intended for or capable of use in such a fabric.” *Id.* Weyman discloses connecting “a multiplicity of single bridge devices units” that are connected through fabric ports

to create a distributed fabric. *Id.* Traffic is forwarded in a way that the bridging of data traffic through the distributed fabric appears identical to the bridging of data traffic through a single bridging unit. *Id.*

D. Overview of Hu

Hu is titled “System And Method Of Communicating A Media Stream. EX1007. Hu discloses using communication devices to deliver multicast content. Ex. 2005 at ¶ 41. In Hu, multicast streams are managed using a “Content Switch” which is illustrated in Figure 1. The Content Switch 102 in Figure 1 “communicates with a plurality of content sources 132.” *Id.* “Content switch 102 can include processing logic 104” and “a network interface 108 to communicate with the private IP network 130.” *Id.* Moreover, the “memory 106 can include a policy module 120 that stores data indicating threshold video traffic loads.” *Id.* “The policy module 120 can . . . compare the video data traffic load at each of the first plurality of physical ports 122 with a pre-defined threshold.” *Id.*

E. Overview of Deng

Deng is titled “Data Link Layer Switch [With] Multicast Capability. Ex. 2005 at ¶ 42 Deng provides multicasting at an Ethernet switch by sending packets to only those ports having attached hosts that have previously joined the multicast group. *Id.* The multicast matcher matches an incoming packet to a target pattern, generates a multicast address from the incoming packet if the incoming packet matches the target pattern, and stores the generated multicast address in the multicast address

table. The timer determines an amount of time that the generated multicast address remains in the multicast address table. *Id.*

F. Overview of Rao

Rao is titled “Multicast High Availability Enhancements for Faster Convergence. Ex. 2005 at ¶ 43. Rao describes a multicast packet data router which makes use of route processor module, RPM. Rao teaches when a route processor module ‘RPM’ fails another RPM takes its place. These RPMs are in active standby mode, closely linked together. “Each route processing management card RPM_y includes an Ethernet switch ES_{W_y}, a control processor CP_y, two route processors RP_{y.1} and RP_{y.2}, the line card control ports CP_{x.y}, and two master/slave ports MS_{y.1} and MS_{y.2}. The master/slave ports on the two RPMs are cross-connected, providing redundant communication paths between the two RPMs.” Thus, Rao teaches away from initializing an RPM when its pair fails. *Id.*

Rao also teaches that the multicast routing tables in the line card contain **only a portion of the multicast routing information**. “Process MFCU1 receives multicast forwarding updates relevant to the LC1 via IP protocol stack IPSL1”. Thus, Rao teaches that only the relevant multicast forwarding information is distributed to the line cards. Ex. 2005 at ¶ 44

III. Ground 1.1: Blease in view of Weyman and Hu Does Not Render Obvious Claims 1-2, 4, 6-7, 11-12, 14, and 17

A. A POSITA Would Not Have Modified Blease in view of Weyman and Hu

1. Blease's Global Port Control Technique is Incompatible with Weyman's Local Port Control Technique

Petitioner's argument that there is a motivation to modify Blease in view of Weyman misinterprets Blease's disclosures. Ex. 2005 at ¶¶ 50-58. As discussed above, Blease discloses a control unit that can be spread across IFCs. *Id.* It does not, however, disclose a control unit that can be copied across IFCs, which is how Petitioner improperly interprets it. This improper interpretation has cascading effects as Petitioner then uses it as a basis for why it would have been obvious to modify Blease in view of Weyman. As discussed in more detail below, and as Dr. Olivier explains, it would not have been.

a. Blease's Processing Unit Globally Manages Ports in the Network Element

Petitioner's obviousness argument is based on an incorrect interpretation of Blease. Specifically, Petitioner describes Blease as disclosing distributed control functionality that is replicated in multiple IFCs. Petition at p. 18; Ex. 1003 at ¶ 62; Ex. 2005 at ¶¶ 50-53. In support of this, Petitioner relies on a single sentence in Blease that says "[i]n one embodiment, for example, control unit 44 and its corresponding functionality may be distributed within IFCs 54." Ex. 1005 at 11:54-57. Based on the Petition, Petitioner seems to assert that "distributed" means replicating or copying the control unit functionality within each of the IFCs. Petition at pp. 22-24; Ex. 2005 at ¶ 56. But Blease discloses a centralized control unit and this single sentence in the Petition does not change that, nor mean that it is replicated.

Ex. 2005 at ¶ 53; *see also* § II.B. (“Overview of Blease”). Moreover, Petitioner’s interpretation of the meaning of “distributed” is contrary to the ordinary meaning of “distribute” as supported by several dictionary definitions. *See* Ex. 2003 (“divided or spread throughout a single entity, or among many”); Ex. 2004 (“to apportion, spread out, scatter, dole, deal out, or dispense . . .”); Ex. 2005 at 53. As can be seen in each of these, “distributed” means spread across. Thus, the phrase “may be distributed within IFCs” means the control unit is divided or spread throughout the IFCs, not that it is physically reproduced in different IFCs as Petitioner contends. This distinction is important because Petitioner bases its assertion that it would be obvious to modify Blease in view of Weyman on the fact that Blease purportedly discloses that a control unit can be replicated in different IFCs. Ex. 2005 at ¶¶ 38-39.

b. The Processing Units in Weyman Locally Manages Ports in the Network Element

Petitioner also relies on Weyman in its obviousness combinations. Specifically, Petitioner relies on Weyman as teaching a list of all the learned MAC addresses in the network element and as evidence of how a POSITA would know to implement the control unit in Blease across each of Blease’s IFCs. Petition at 23-25, 40-41. But Petitioner’s argument is flawed because, as Dr. Olivier explains, Weyman teaches that each network element only learns about its local user ports. Ex.2005 at ¶ 63. Because each unit in Weyman is only concerned about its own local

ports, any such functionality regarding the learned MAC addresses is divided among the units and is not distributed across each of the IFCs. *Id.*

Specifically, in Weyman, the router relied on by Petitioner includes two Processing Unit (10 and 20). *See* Petition at p. 19; *see also* Ex. 1003 at ¶ 65. Each Processing Unit (10 and 20) “includes Vbridges with tables that identify, for example, multicast groups and interfaces on which to accept and forward streams.” Ex. 1003 at 65. But each Vbridge only manages ports local to its Processing Unit. For example, Dr. Lavian’s annotated figure below depicts that unit 10 only manages the ports local to unit 10, and not unit 20. Ex. 2005 (Dr. Olivier) at ¶¶ 63-65.

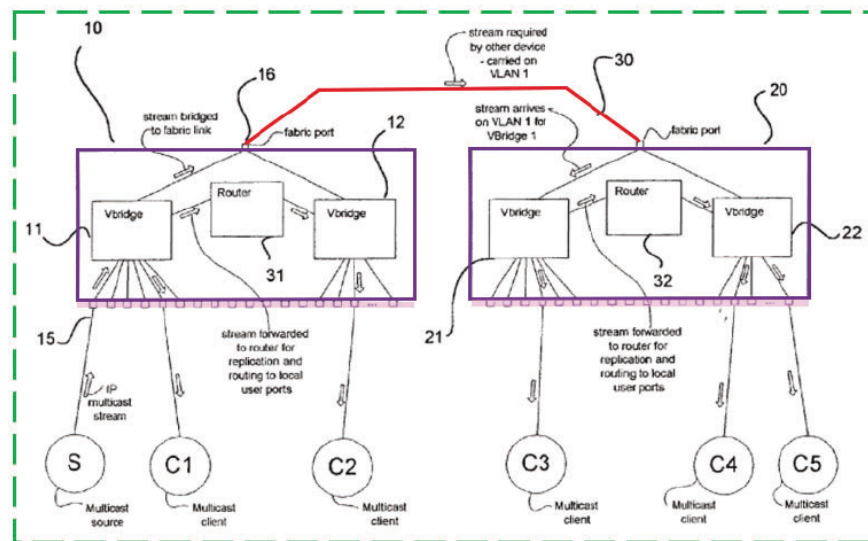
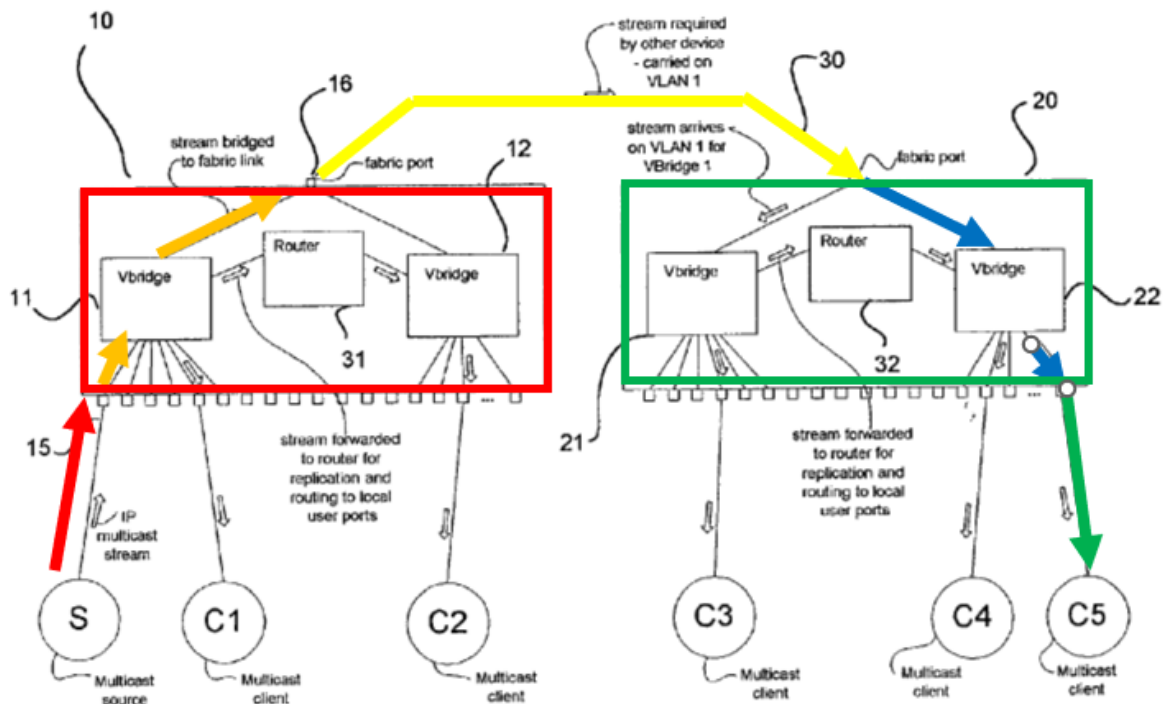


FIG.10

Ex. 1003 at ¶ 65.

To further illustrate by example (see annotated Figure 10 below), if multicast traffic from the multicast source (**red arrow**) received at the local port of Processing Unit 10 (**red box** receiving red arrow) is destined for multicast client C5, Processing Unit 10 (**red box**) must send the multicast traffic (**red arrow**) it receives at the local port of Processing Unit 10 (**orange arrow**), via Vbridge 11, to the fabric port 16 (**orange arrow**) because it does not manage the egress ports local to Processing Unit 20. Ex. 2005 at 63 (“If it be a fabric port, at least one other unit in the fabric would have to further forward any traffic destined to that MAC address towards an ultimate user port.”) (citing Ex. 1006 at [10041]). After receiving the multicast traffic from the fabric port 16 (via fabric link 30) (**yellow arrow**), unit 20 (**green box**) (and not unit 10) forwards the multicast traffic (**blue arrow**) to its local port connected to multicast client C5 (**green arrow**). Ex. 2005 at ¶ 63 (“the last unit in the path must forward the traffic to a user port”).



Thus, even if a POSITA were motivated to implement Weyman's disclosures in Blease, the result would still be that the Blease's IFCs would only contain a portion of multicast pairings. See Ex. 2005 at ¶ 64.

c. It Would Not Have Been Obvious to Implement Weyman's Router Distribution In Blease's Control Unit 44

Because Blease does not disclose how the "distributed control units" can be interconnected, Petitioner relies on Weyman's router distribution functionality for this. As mentioned above, Weyman discloses a router distribution functionality where each of the processing units manages local ports. In stark contrast, Blease discloses a router with a central control unit that globally manages ports. In other words, Weyman discloses a distributed system and Blease discloses a centralized

system. Ex. 2005 at ¶ 47. Thus, there is no support, not even from Dr. Lavian, for the conclusory statement in the Petition that “in view of Weyman, a POSA would have implemented Blease’s control unit and functionality in each of the IFCs, connected the IFCs (e.g., through a fabric), and synchronized their multicast distribution information (e.g., in response to IGMP reports).” Petition at p. 25. As Dr. Olivier explains in his declaration, “Blease does not teach or disclose, alone or in view of Weyman, that control unit 44 and its functionality are included in each IFC or that IFCs tables contained are identical in each Line Card.” Ex. 2005 at ¶ 66.

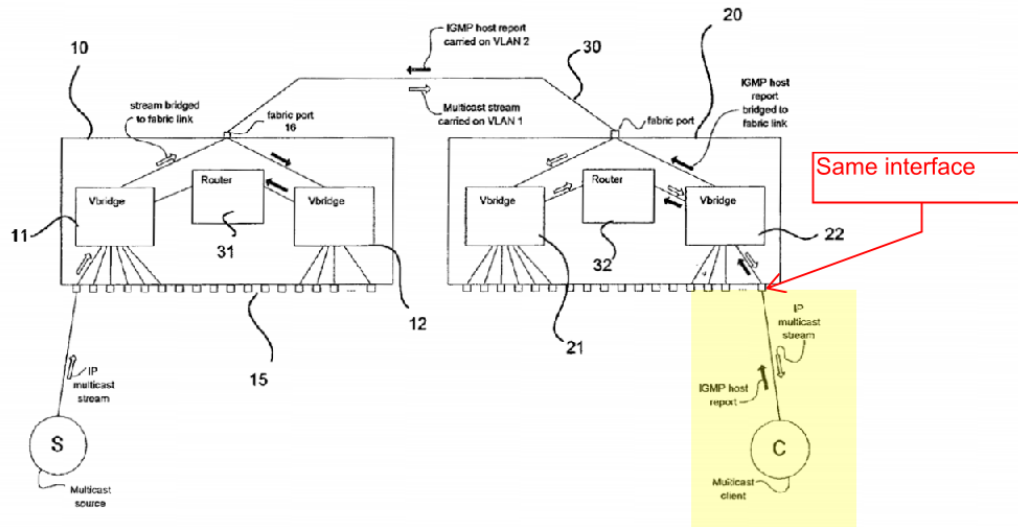
The Petition also argues that a POSITA would have been motivated to modify Blease in view of Weyman because the “multicast distribution information must be kept synchronized.” Petition at pp. 40-44; Ex. 1003 at ¶ 120. But a POSITA would not have been motivated to modify Blease in view of Weyman because Blease is not concerned with synchronizing “their multicast distribution information (e.g., in response to IGMP reports).” In fact, “in Blease the multicast forwarding information does not keep track of all the multicast packet streams.” Ex. 2005 at ¶ 54. The conclusory statement that a POSITA would have modified Blease in view of Weyman to synchronize “their multicast distribution information (e.g., in response to IGMP reports)” appears to be based entirely on hindsight analysis, as neither Blease nor Weyman teach synchronizing multicast distribution information in response to requests. Ex. 2005 at ¶ 69.

Therefore, because Blease and Weyman are directed to different multicast techniques, a POSITA would not have looked to Weyman and would not have had success in modifying Blease in view of Weyman. In fact, as discussed below, the combination of Blease with Weyman is not even compatible.

2. Blease's Separate Interface Multicast Technique is Incompatible with Weyman's Disclosure of a Common Interface Multicast Technique

Not only would a POSITA not have modified Blease in view of Weyman because Blease and Weyman are directed to different networking systems, but a POSITA would also understand that the multicast technique described in Blease is incompatible with the multicast technique in Weyman. Ex. 2005 at ¶ 48. Blease's multicast technique is unlike conventional multicast techniques because it sends multicast streams on a different interface from the interface that received the request. As Dr. Olivier explains "unlike conventional multicast transmission techniques network device 24 sends a multicast stream to the requesting subscriber device on an OIF different than the interface on which network device 24 received the membership request. In fact, mapping interface 25 carries only IGMP proxy packets and does not carry actual multicast traffic." *Id.*

The multicast technique described in Weyman is fundamentally different from Blease. In Weyman, subscribers receive multicast streams via the same interface that receives requests for multicast streams (i.e., IGMP report messages). See Ex. 2005 at ¶¶ 48-49.



Because of these differences, a POSITA would not look to Weyman to modify the multicast technique disclosed in Blease.

3. A POSITA Would Not Have Been Motivated to Modify Blease in View of Hu Due to Incompatibilities and System Differences

A POSITA would not have been motivated to modify Blease's teachings in view of Hu's centralized system. Ex. 2005 at ¶¶ 71-76.

First, the network control functionality in Blease differs significantly from the network control functionality in Hu. For example, Blease discloses a centralized control for network routing, disclosing a single control unit 44, "[t]he network device also comprises a **control unit** that receives the membership request on the first interface and sends to the multicast stream on the second interface." Ex. 1005 at 2:61-64 (emphasis added). Blease also discloses a stream-by-stream approach to managing traffic where, if the Control Unit receives a join request, new traffic flow is not established unless it is the first request for that stream. Ex. 2005 at ¶¶ 72-73.

In contrast, Hu's request-by request approach uses a complex system which analyzes in real time the load on ports to determine if each join request's traffic load can be accommodated. Ex. 2005 at ¶ 72 ("Further, the request module 118 can be executable by the processing logic 104 to retrieve from the traffic load module 116 data related to each join request."). Thus, Hu works on a request-by-request basis and allows or rejects each join request based on traffic load, which is different and incompatible with Blease's stream-by-stream approach. *Id.*

Second, one of the assumptions that the Petition makes for a POSITA being motivated to combine Blease and Hu is that Blease discloses an aggregated link. Petition at pp. 26-27. Not so. None of the evidence Petitioner relies on supports the conclusion that the links disclosed in Blease are aggregated. Ex. 2005 at ¶ 56. Nowhere in Blease is there a description of an aggregated link to form a high-speed link. *Id.* For example, as Dr. Olivier explains, Dr. Lavian's reliance on Blease at 4:18-27 is flawed and based on a misunderstanding of Blease's disclosure. *Id.* at ¶¶ 56-57.

Third, Blease teaches that the network switch in Blease is connected to the network device over a single physical connection, not a link aggregation group, or LAG. Ex. 1005 at 7:24-25 ("Network device 38 is connected to network switch 36 via a single physical connection."); Ex. 2005 at ¶ 71. Despite this, Petitioner argues that a "POSA would have been motivated to aggregate Blease's ports into LAG and

to limit the number of [sic] number of streams permitted over those groups to transfer more data.” Petition at p. 27. Because of the incompatibilities in Blease and Hu and the fact that Blease does not disclose an aggregated link and expressly teaches that the network switch is connected to the network device over a single physical connection, a POSITA would not be motivated to modify Blease to include the LAGs disclosed in Hu. Ex. 2005 at ¶ 71.

4. A POSITA Would Not Modify Blease in View of Hu to Solve Congestion Problems

Petitioner relies on Hu’s teachings of using “pre-defined thresholds to limit the number of streams using a particular LAG” to conclude that a POSITA would be motivated to combine “Blease’s ports into LAG and to limit the number of [sic] number of streams permitted over those groups to transfer more data.” Petition at 27. This is incorrect for at least two reasons. First, to the extent the system in Blease needed to “transfer more data,” a POSITA would have simply modified the single physical link disclosed in Blease (§ III.A.5) into a higher speed link instead of adding the complexities of a LAG as Petitioner suggests. Ex. 2005 at ¶ 71. Second, Blease does not suffer from congestion that a typical multicast system would. Ex. 2005 at ¶¶ 73-76. As discussed above, Blease has already described a solution to the problem of congestion, which includes only transmitting traffic for every unique multicast stream. *Id.* at ¶ 73. Therefore, a POSITA would not have been motivated to modify Blease in view of Hu to solve congestion problems. *Id.*

5. A POSITA Would Not Have Had a Reasonable Expectation of Success Modifying Blease's System in view of Weyman and Hu

Petitioner makes a conclusory statement that “[a] POSA would have had a reasonable expectation of success modifying Blease’s system to include control units 44 at each IFC 54 and to interconnect them via fabric.” Petition at p. 28. Yet, Petitioner’s only support for this is the same argument it presents regarding why a POSITA would have been motivated to modify Blease in view of Weyman and Hu. The arguments, however, are unavailing for the same reasons that they were unavailing with respect to why a POSITA would not have been motivated to combine Blease in view of Weyman and Hu.

B. The Petition Fails to Disclose Claim Elements 1[a.i], 8[a.i], 11[b.i], and 18[b.i] “multiple interconnected processing units and multiple ports.”⁵

Each of limitations 1[a.i], 8[a.i], 11[b.i], and 18[b.i] relates to interconnected processing units and ports. As discussed above, Blease does not disclose copying or replicating Control Unit 44 and its functionality in each of the IFCs. Therefore, Blease does not disclose the claimed interconnected processing units limitation.

⁵ The Petitioner appears to argue that Blease discloses multiple ports, and not multiple interconnected ports. Petition at p. 55. To the extent the Petitioner argues that the latter is disclosed, there is no disclosure in the Petition and therefore the Petitioner failed to meet its burden to disclose multiple interconnected ports.

Petitioner seemingly recognizes that Blease fails to disclose interconnection but then uses its broad interpretation of “distributed” to argue that a POSITA would have been motivated to combine Blease with Weyman to meet this limitation. Petition at p. 33 (“to the extent PO argues that IFC 54 would not necessarily be interconnected, it would have been obvious to a POSA to connect them”). Petitioner asserts it would have been obvious because a POSITA would have looked to Weyman’s teachings and implemented them in Blease to provide replicated control units within the IFCs. Petition at p. 33.

But as discussed above, Blease discloses a centralized control unit that is not copied or replicated in each of Blease’s IFCs. § III.A.1 and III.A.1.c. Despite this, and as discussed above, Petitioner interprets the meaning of “distributed” contrary to how a POSITA would understand it. § III.A.1.a; Ex. 2005 at ¶ 53. Moreover, there is no explanation in the Petition or in Dr. Lavian’s declaration regarding how a POSITA would interconnect Blease’s IFCs with the fabric link disclosed in Weyman. § III.A.1 and III.A.2; Ex. 2005 (Olivier Decl.) at ¶ 79. Because the control unit 44 and its functionality are not copied or replicated in each of the IFCs, and there is no disclosure as to how a POSITA would interconnect Blease’s IFCs with the fabric link disclosed in Weyman, Petitioner fails to establish that the proposed combination of Blease in view of Weyman and Hu discloses multiple interconnected processing units.

- C. The Petition Fails Establish that the Proposed Combination Discloses Claim Elements 1[b], 11[b.v], 8[b], and 18[b.v] “storing in each processing unit . . . respective lists, each list/each of which indicating all of one or more multicast packet streams that are permitted for forwarding by the network element and further indicating which of the one or more ports each multicast packet stream is permitted to be forwarded to.”⁶**

1. The Control Unit is not Copied in Each of the IFCs

Each of claims 1[b], 11[b.v], 8[b], and 18[b.v] recite “storing in each processing unit . . . respective lists, each list/each of which indicating all of one or more multicast packet streams that are permitted for forwarding by the network element and further indicating which of the one or more ports each multicast packet stream is permitted to be forwarded to.” The Petition, however, fails establish that the prior art discloses this limitation because in the proposed combination the multicast forwarding information (i.e., the alleged respective list) is stored in the Control Unit 44, which is centralized and not replicated in each IFC. Ex. 1005 at 9:43-61. The Petition points to no other instrumentality, other than the Control Unit, for where the alleged lists are stored. Petition at pp. 37-39. As stated above, because the Control Unit 44 (e.g., processor and memory) is not copied in each of the IFCs

⁶ The Petition appears to argue that Blease discloses multiple ports, and not multiple interconnected ports. Petition at p. 55. To the extent the Petition argues that the latter is disclosed, there is no disclosure in the Petition and therefore the Petitioner failed to meet its burden to disclose multiple interconnected ports.

(e.g., processing unit), the Petition fails to meet this limitation. §§ III.A.1 and III.B; Ex. 2005 at ¶¶ 80-83.

2. Weyman Storing Lists in Each Processing Unit

Petitioner also argues that Weyman discloses that a POSITA would have copied Control Unit 44 and its functionality in each of the IFCs. Petition at p. 38. But Weyman also discloses divided, and not copied, functionality. In Weyman, each processing unit only learns about its local user ports, all other ports in the network element are associated with a fabric port. Ex. 2005 at ¶¶ 63-64. Because each unit is only concerned about its local ports, the functionality is divided among the processing units. *Id.* And because Weyman does not teach that each processing unit stores a list of all the MAC addresses, Weyman is not teaching a list containing all of the learned MAC addresses in the network element but in fact is teaching away from such approach by its description of a divided approach. *Id.* The same is true of the multicast routing in Weyman. *Id.* The Vbridges and the routers each contain independent nonidentical tables. *Id.* Therefore, even if it were obvious to modify Blease in view of Weymann and Hu, which it is not, Blease in view of Weyman and Hu fails to disclose storing lists in each processing unit that indicate all of one or more multicast packet streams. Petitioner Proffers No Evidence For Why a Structure in Which Entries Are Added, Removed, and Processed as Individual Items is a “List”

Claims 1[b], 1[d], 1[e], 1[g.iii], 8[b], 8[d], 8[e], 8[f.ii], 11[b.v], 11[b.vi.α],

11[b.vi.β], 18[b.v], 18[c.i], 18[c.ii], 18[d.i] all recite “a list.” Petitioner asserts that multicast forwarding information discloses this limitation. *See, e.g.*, Petition at 37. Petitioner then extrapolates from various portions of Blease that multicast forwarding information 48 is a list. *Id.* But, Petitioner’s expert, Dr. Lavian expressly recognizes that Blease does not illustrate an example of multicast forwarding information 48. In fact, in the very paragraph cited by Petitioner as support for their argument that this limitation is disclosed (Ex. 1003, ¶ 114), Dr. Lavian states: “while Blease does not illustrate an example of multicast forwarding information 48, a person of ordinary skill in the art would have recognized that multicast forwarding information 48 is a ‘list’ **because it includes a structure in which entries are added, removed, and processed as individual items, as discussed above.**” Ex. 1003 at ¶ 114 (emphasis added).

However, just because multicast forwarding information is a structure in which entries are added, removed, and processed as individual items, does not mean that it is a list. In fact, as Dr. Olivier explains, there are numerous structures in which entries are added, removed, and processed as individual items that a POSITA **would not consider a list.** Ex. 2005 at ¶¶ 85-86 (emphasis added). For example, a tree data structure (e.g., forwarding tree) is a structure in which entries are added, removed, and processed as individual items and a POSITA would not consider a forwarding tree a list. *Id.* Likewise, hash data structures and stack data structures also are

structures in which entries are added, removed, and processed as individual items that a POSITA would not consider to be lists. *Id.* Petitioner, however, proffers no evidence for why Blease's multicast forwarding information 48 is a list, other than because it performs actions that other well-known structures **that are not list**, also perform. Because Petitioner relies only on speculation and hindsight to support its argument that Blease's multicast forwarding information 48 is a list,⁷ Petitioner fails to meet its burden of showing that the combination of Blease in view of Weyman and Hu renders obvious the "list" recited in claim limitations 1[b], 1[d], 1[e], 1[g.iii], 8[b], 8[d], 8[e], 8[f.ii], 11[b.v], 11[b.vi.α], 11[b.vi.β], 18[b.v], 18[c.i], 18[c.ii], 18[d.i].

3. The alleged lists fail to indicate "all of one or more multicast

⁷ Petitioner also ignores that Blease knew what a list is and chose not to describe multicast forwarding information as a list. Petition at 32, n. 95; Ex. 1003 at ¶ 114, n. 95; Ex. 1005 at 6:62-63 ("when a match is not found between a received membership request and the membership group **listed in OIF map**.") (emphasis added); Ex. 1005 at 8:29-30 ("when a match is not found between a received membership request and the membership group **listed in OIF map**."). In view of the fact that Blease knew what a "list" is and did not refer to "multicast forwarding information 48" as a list, a POSITA would understand that Blease recognized that it is not a list

packet streams that are permitted for forwarding by the network element"

Additionally, Petitioner fails to establish that the proposed combination of Blease, Weyman, and Hu discloses this limitation because Blease makes clear that if a stream is requested that is already being forwarded, the multicast forwarding information (i.e., the alleged "list") is not updated. Ex. 2005 at ¶¶ 54-55, 86; *see also* Ex. 1005 at 10:67-11:2 ("If the multicast stream is already forwarded to the network switch, **the entry in multicast forwarding information 48 remains unchanged.**") (emphasis added); *Id.* at 14:52-54 ("If the multicast stream is already forwarded to the network switch (yes branch of 76), **the entry in multicast forwarding information 48 remains unchanged.**") (emphasis added). This is at odds with the updating recited in the '394 patent, which occurs every time a stream is received, not just the first time. Therefore, because the multicast forwarding information is not updated for the new stream, it fails to indicate "all of one or more multicast packet streams that are permitted for forwarding by the network element." As this is recited in claim elements 1[b], 8[b], 11[b.v], and 18[b.v]. Petitioner has failed to establish that these limitations are obvious.

D. The Petition Fails to Establish that the Proposed Combination Discloses Claim Elements 1[d], 11[b.vii.a], 8[d], and 18[c.i] "distributing the request among the multiple processing units within the network element, and updating the respective list in each processing unit responsively to the request."⁸

⁸ Petitioner appears to argue that Blease discloses multiple ports, and not multiple

Petitioner fails to establish that Blease in view of Weyman and Hu meets claim limitations 1[d], 11[b.vii.a], 8[d], and 18[c.i], which all recite “distributing the request.” In the Petition, Petitioner broadens the term “request” to include “results of processing the request.” *See, e.g.*, Petition at 41. Petitioner fails, however, to provide any reason for why a POSITA would broaden the term “request” to include “results of processing the request.” § III.A.1. Petitioner also fails to establish that Blease in view of Weyman and Hu meets this limitation because “updating the respective list” is not disclosed when a new stream is received because the multicast forwarding information remains unchanged, and not updated with the identity of the interface for all of one or more multicast packet streams.

Similarly, the plain meaning of claim limitations 1[d], 8[d], 11[b.vii.α], 18[c.i] requires the requests to be distributed among the multiple processing units, not that the results of processing the request are distributed. Ex. 2005 at ¶¶ 87-88. Petitioner’s analysis attempts to broaden this limitation by arguing that dependent claims 4 and 14 recite, in part, “distributing among the multiple processing units an identity of an

interconnected ports. Petition at p. 55. To the extent Petitioner argues that the latter is disclosed, there is no disclosure in the Petition and therefore Petitioner failed to meet its burden to establish that the proposed combination discloses multiple interconnected ports.

ingress port which the request was received at the network element [and] causing the list to indicate that the given multicast packet stream is permitted or forwarding over the ingress port.” Petition pp. 42-43; Ex. 1003 at ¶ 126. But Petitioner fails to explain why dependent claims 4 and 14 would broaden this limitation beyond its plain and ordinary meaning. Petition at 41-44; Ex. 1003 at ¶ 125. 95; Ex. 2005 at ¶ 88. Therefore, because Petitioner has not identified any requests that is distributed among the multiple processing units, the Petitioner fails to disclose that the proposed combination renders obvious this claim limitation.

Additionally, as Dr. Lavian recognizes, Blease discloses distributing the request to the Control Unit (e.g., the processor) and not the IFCs (e.g., the processing units). Specifically, Dr. Lavian points to Blease’s disclosure at column 10, lines 12-13 and states that “Blease discloses that such requests are forwarded to control unit 44 for processing.” Ex. 1003 at ¶ 120; Ex. 2005 at ¶ 84. Because Blease’s requests are sent to the control unit and not the processing unit, Petitioner has failed to establish that the combination of Blease, Weyman, and Hu discloses this limitation.

Further, while Petitioner asserts that Blease in view of Weyman discloses these claim limitations because multicast forwarding information (i.e., Petitioner’s alleged list) is updated, Petitioner is incorrect. Petition at pp. 40-41 (“multicast forwarding information 48 is updated to include the identity of the interface that received the request.”). As explained above with respect to claim 1[b], multicast

forwarding information is not a list and Blease's updating of multicast forwarding information does not occur for all of one or more multicast packet streams, as is required in the '394 Patent. *See* § III.C.3.

Petitioner's argument that Weyman discloses this limitation is also unavailing. Petition at p. 41. As Dr. Olivier explains, and as discussed with respect to claim 1[b], lists are also not updated in Weyman. *See* Ex. 2005 at ¶¶ 54, 85-86. Moreover, Dr. Lavian's assertion that Weyman's synchronizing a multicast distribution tree discloses this limitation (Ex. 1003 ¶ 120) is flawed. Synchronizing a multicast distribution tree is not the same as updating the respective list in each processing unit. Ex. 2005 at ¶ 86. A tree data structure is not a list, and synchronizing a distribution tree does not require updating the list in "each processing unit." *Id.* As previously discussed, Weyman teaches synchronizing the processing units in a way that does not require each processing unit to contain the same information. *Id.* Therefore, Blease in view of Weyman does not disclose updating lists responsive to requests.

E. The Petition Fails Establish that the Proposed Combination Discloses Claim Elements 1[e], 11[b.vii.b], 8[e], and 18[c.ii] "selectively forwarding multicast packets associated with the given multicast packet stream by the processing units in accordance with the respective updated lists"

Petitioner fails to meet its burden to show that claim limitations 1[e], 11[b.vii.b], 8[e], and 18[c.ii] are met because there is no evidence that Blease's multicast packet streams are identified in the multicast forwarding information prior

to forwarding them to the IFCs. And even if they were, Petitioner still fails to establish that the proposed combination meets this limitation because, as discussed above, the multicast forwarding information is not updated as required in the '394 Patent, and thus cannot “selectively forward[] multicast packets . . . in accordance with the respective updated list.” Ex. 2005 at ¶ 90.

1. No Evidence That Multicast Packet Streams are Identified in Multicast Forwarding Information Prior to Forwarding to IFCs

The asserted claims require selectively forwarding multicast packets . . . in accordance with the respective updated lists. Petitioner and Dr. Lavian make the conclusory statement that “Blease discloses that multicast packets of requested multicast packet streams are forwarded through particular interfaces of IFCs 54 by first identifying them in multicast forwarding information 48.” Petition at pp. 44-45; Ex. 1003 at ¶ 130; Ex. 2005 at ¶ 90. But Petitioner does not provide any additional evidence to support this. Moreover, Petitioner is wrong because when a request is received for a non-unique multicast flow, the multicast forwarding information remains unchanged. *Id.* Therefore, the multicast packets cannot be identified in the multicast forwarding information, if the multicast forwarding information is not changed to reflect the multicast packets. Because Petitioner's conclusory statement is unsupported by any evidence in the prior art, Petitioner fails to meet its burden to establish that the propose combination discloses this limitation. *Id.*

2. The Petitioner Fails to Disclose that Blease meets this

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Patent Owner's Response
Limitation for the Same Reasons Previously Discussed

As previously mentioned, Petitioner provides no evidence for why “multicast forwarding information” is a list. § III.C.3; Ex. 2005 at ¶ 90. Moreover, “multicast forwarding information” remains unchanged unless the requested multicast packet stream is unique. *Id.* So, when a request is received for a non-unique multicast flow, e.g., a second request to watch content, the multicast forwarding information remains unchanged. *Id.* Thus, “selectively forwarded” is not disclosed. And even if “selectively forwarded” was disclosed (which it is not), it is not forwarded “in accordance with the respective updated lists.” *Id.*

F. The Petition Fails to Establish that the Proposed Combination Discloses Claim Elements 1[f], 11[c.1] “wherein operating the network element comprises aggregating two or more of the ports to form a high-capacity port, and wherein two or more of the ports are aggregated to form a high-capacity port”

Claim limitations 1[f] and 11[c.1] recite “the network element comprises aggregating two or more of the parts to form a high-capacity port, and wherein two or more of the ports are aggregated to form a high-capacity port.” Petitioner argues that Blease’s “aggregating physical ports” discloses this limitation. Petition at pp. 45-46. But as previously explained, Blease expressly teaches that the network switch is connected to the network device over a single physical connection. § III.A.5; Ex. 2005 at ¶¶ 71, 91; *see also* Ex. 1005 at 7:24-25. And even if “aggregated physical ports” was disclosed (which it is not), there is no reason a POSITA would modify Blease to include the LAGs disclosed in Hu. *Id.* Indeed, as explained above, a

POSITA would have added a higher capacity link instead of trying to incorporate the complexity of a LAG group into Blease's system. *Id.* The Petition Fails to Establish that the Proposed Combination Discloses Claim Elements 1[g.ii], 1[g.iii], 11[c.iii], 11[c.iv]

Petitioner fails to establish that the proposed combination discloses claim limitations 1[g.ii], 1[g.iii], 11[c.iii], 11[c.iv] for the same reasons provided above concerning 1[c]-1[f] because the Petitioner makes the same arguments here as it did for 1[c]-1[f]. *See* Petition at 51 (“As discussed for claims 1[c]-1[e], Blease discloses that the request indicates that the port on which the request is received is the port for forwarding the multicast packet stream. As discussed for claim 1[f], POSA would have been motivated to modify Blease to aggregate two or more links to form a high-bandwidth port for forwarding packets.”); *Id.* at 51-52 (“As discussed for claims 1[d] and 1[g.ii], Blease in view of Weyman and Hu discloses that the request indicates that the multicast packet stream is to be forwarded over the high-bandwidth link, and further updating the list responsively to the request.”).

G. The Petition Fails to Establish that the Proposed Combination Discloses Dependent Claims 2 and 12

Petitioner fails to establish that the proposed combination discloses dependent claims 2 and 12 for the same reasons the Petitioner fails to establish that the proposed combination discloses claim 1 and 11. Ex. 205 at ¶ 96; *see also* discussion above on claims elements 1[b], 1[d], 1[e].

H. The Petition Fails to Establish that the Proposed Combination Discloses Dependent Claims 4 and 14

Petitioner and Dr. Lavian provide nothing more than a conclusory statement that dependent claims 4 and 14 are disclosed by Blease in view of Weyman and a cite to claim 1[d] when discussing claims 4 and 14. Petition at pp. 55-56, 61; Ex. 1003 at ¶ 153. Because Petitioner failed establish that the proposed combination renders obvious claim 1[d], Petitioner also fails to establish that the proposed combination renders obvious claims 4 and 14. Ex. 2005 at ¶ 97.

IV. Ground 1.2: Blease in view of Weyman, Hu, and Deng Does Not Render Obvious Claim 16

Petitioner asserts that Blease in view of Weyman, Hu, and Deng discloses claim 16. But not only does Petitioner fail to establish that it would be obvious to modify Blease in view of Weyman and Hu (as discussed above), Petitioner further fails to establish that it would be obvious to further modify Blease in view of Deng.

Petitioner first asserts that Blease in view of Weyman and Hu discloses setting an upper limit on a number of multicast packet streams that are permitted for forwarding over a high-capacity port and that Hu teaches tracking limits and determining whether limits will be exceeded by new requests. Petition, pp. 63-64. Petitioner then asserts that Deng further teaches “track[ing] a use of a permission to forward a certain multicast packet” and “removing the permission from the respective lists responsively to determining the permission is aged.” Petition at pp. 63-64. In view of these purported prior art disclosures, Petitioner argues that a

POSITA would have been motivated to modify the combination of Blease in view of Weyman and Hu further in view of Deng's "particular policy to automatically drop streams." *Id.* at 65.

But a POSITA would not have been motivated to modify the combination of Blease, Weyman, Hu further in view of Deng. Ex. 2005 at ¶¶ 102-103. Hu already discloses dropping streams if the video traffic is below a threshold. *Id.* at ¶ 102 (citing Ex. 1007 at 5:44-49 ("In an illustrative, non-limiting embodiment, the request module 118 can determine, before rejecting the request, whether an existing stream can be dropped at one of the first plurality of physical ports 122, such that the video traffic load at the port does not exceed the threshold after the new video stream is added at the port.")). And a POSITA would understand that Hu's technique of using a timer to track the age of multicast stream permission and remove those permissions is better than the technique disclosed in Deng. Ex. 2005 at ¶ 103. Thus, a POSITA would have no reason to further modify the proposed combination to include Deng.

Further, a POSITA would not have been motivated to modify Blease, Weyman, and Hu further in view of Deng because Blease does not keep track of individual multicast streams while Hu or Deng both apply to individual multicast streams. Ex. 2005 at ¶ 104; § III.A.1.c.

Petitioner also argues that the combination is the application of a known technique to a known system ready for improvement that would yield predictable

results. Petition at p. 65. But as described above, the combination is worse than the known system and is incompatible. Thus, and contrary to Petitioner's arguments, A POSITA would not have a reasonable expectation of success in combining Deng with the combination of Blease in view of Weyman and Hu. Ex. 2005 at ¶¶ 109-112. Further, because the proposed combination would not be obvious, Petitioner also fails to establish that claim 16 is rendered obvious.

V. Ground 2.1: Blease in view of Weyman Does Not Render Obvious Claim 8 and 18

A. A POSITA Would Not Have Been Motivated to Modify Blease in view of Weyman

See § III.A.

1. Dr. Lavian's Motivations to Combine are Based on a Misunderstanding of Weyman

Petitioner argues that “Weyman explains that new processing units added to a router should be synchronized with the rest of the router by updating its configuration from that of a distribute router so it can ‘operate as a single distributed router.’ While Weyman does not describe the exact method that must be used to update a new unit” Petition at pp. 24-26; Ex. 1103 at ¶ 93. This statement is misleading because Weyman describes a method of updating a unit with a default configuration when it joins the fabric. Ex. 2005 ¶¶ 59-61; *see also* Ex. 1006 at [0069] (“For the routers to operate as a single distributed router every defined router configuration should be identical on all units in the fabric. Preferably the configuration is stored in non-volatile storage in all the units. If the system can

accommodate the addition or removal of units, then when a unit with a default configuration joins the fabric, it needs to update its configuration to that of the distributed router.”).

Weyman further teaches that the way to update the newly added router's configuration is to select a unit and use its configuration. Ex. 2005 at ¶ 60; *see also* Ex. 1006 at [0069] (““If a unit with a non-default configuration joins the fabric then there should be a selection mechanism which determines the distributed router's configuration. This may be as simple as selecting the lowest numbered unit to provide the configuration. Alternatively, the fabric could be configurable through a priority system.”). Thus, contrary to Dr. Lavian's opinion, Weyman teaches a number of ways to add a processing unit to the fabric. Ex. 2005 at ¶ 64. Therefore, a POSITA would not have looked to the teachings in Blease to add a processing unit in Weyman's system because Weyman already taught a number of ways to add a processing unit. *Id.*

B. Petitioner Fails to Establish that the Proposed Combination Discloses Claims 8[pre], 8[a.i], 8[a.ii], 8[b], 8[c], 8[d], 8[e], 18[pre], 18[a], 18[b.i], 18[b.ii], 18[b.iii], 18[b.iv], 18[b.v], 18[b.vi], 18[c.i], and 18[c.ii]

Petitioner fails to establish that Blease in view of Weyman renders obvious claim elements 8[pre], 8[a.i], 8[a.ii], 8[b], 8[c], 8[d], 8[e], 18[pre], 18[a], 18[b.i], 18[b.ii], 18[b.iii], 18[b.iv], 18[b.v], 18[b.vi], 18[c.i], and 18[c.ii] for the same reason. Petitioner fails to establish that Blease in view of Weyman fail to show the claims

elements 1[pre], 1[a.i], 1[a.ii], 1[b], 1[c], 1[d], 1[e], 11[pre], 11[a], 11[b.i], 11[b.ii], 11[b.iii], 11[b.iv], 11[b.v], 11[b.vi], 11[b.vi.α], 11[b.vi.β]. See § III.B – G.

C. Petitioner Fails to Establish that the Proposed Combination Discloses Claim Elements 8[f.i], 18[d.i] “wherein operating the network element comprises initializing a new processing unit added to the network element”

Petitioner's assertion that claim elements 8[f.i] and 18[d.i], which recite initializing a new processing unit added to the network element, are disclosed is based on the incorrect assumption that Weyman teaches how to replace a new unit. §V.A.1; Petition_989 at 43. But Petitioner does not support its conclusory statement that these references disclose this limitation. Instead, Petitioner simply refers to Dr. Lavian in support. Petition_989⁹ at pp. 43-44. But Dr. Lavian's declaration fares no better as Dr. Lavian also fails to provide any support in the prior art that establishes that these claim limitations are disclosed. Instead, he just generally refers to his discussion concerning his alleged motivation to combine Blease in view of Weyman. Ex. 1103 at ¶ 134. But he does not specify which portion of that discussion discloses these specific limitations.

Therefore, Petitioner fails to meet its burden that the proposed combination discloses this claim limitation because Petitioner fails to provide any support for the conclusory statements provided in the Petition and in Dr. Lavian's declaration. Ex.

⁹ Petition _989 refers to the Petition filed in the -00989 IPR proceeding.

2005 at ¶ 94.

D. The Petition Fails to Establish that the Proposed Combination Discloses Claim Elements 8[f.ii], 18[d.ii] “wherein operating the network element comprises initializing a new processing unit added to the network element”

Petitioner fails to disclose that the proposed combination discloses claim limitations 8[f.ii] and 18[d.ii] for the same reasons provided above concerning claim elements 8[f.i], 18[d.i] because the Petitioner makes the same arguments here, as it did for claim elements 8[f.i], 18[d.i]. § V.C .

VI. Ground 2.2: Blease in view of Weyman and Hu Does Not Render Obvious Claim 9

A. A POSITA Would Not Have Been Motivated to Modify Blease in view of Weyman

B. See § III.A. Petitioner Fails to Establish that Blease in View of Weyman Discloses Dependent Claim 9

Petitioner fails to disclose claim 9 for the same reasons provided above concerning claim elements 1[f], 1[g.i]-[g.iii], 11[c.i]-11[c.iii] because the Petitioner makes the same arguments here, as it did for claim elements 1[f], 1[g.i]-[g.iii], 11[c.i]-11[c.iii]. See §§ III.F and III.G; see also Ex. 2005 at ¶ 101.

VII. Ground 2.3: Blease in view of Weyman, Hu, and Deng Does Not Render Obvious Claim 10

A. A POSITA Would Not Have Been Motivated to Modify Blease in view of Weyman

See § III.A.

B. The Petitioner Fails to Establish that the Proposed Combination Discloses Dependent Claim 10

Petitioner fails to establish that the proposed combination discloses dependent claim 10 for the same reasons provided above concerning dependent claim 16

because the Petitioner makes the same arguments here, as it did for dependent claim

16. *See* § IV.B; *see also* Ex. 2005 at ¶¶ 102-105.

VIII. Ground 2.4: Blease in view of Weyman, and Rao Does Not Render Obvious Claims 8 and 18

A. A POSITA Would Not Have Been Motivated to Modify Blease in view of Weyman and Rao

Petitioner asserts that Blease in view of Weyman renders obvious claims 8 and 18 (Petition at 64), but even if not, a POSITA would have been motivated to combine Rao with the combination of Blease in view of Weyman and that the proposed combination renders obvious these claims (Petition_989 at 64-65).

In proposing this combination, Petitioner admits that Blease in view of Weyman does not explicitly spell out how to add a new unit. Petition at pp. 64-65. Petitioner then goes on to explain that a POSITA would have been motivated to modify Blease in view of Weyman further in view of Rao because Rao purportedly teaches “a new processing unit should not operate in an inconsistent manner with respect to the multicast state prior to its activation, and therefore it should assess the current state through membership queries prior to activation.” *Id.* at 65. The Petition also argues that Rao is in the same field as the '394 patent. *Id.* at p. 63.

But, although Petitioner states that Blease, Weyman, and Rao are in the same field as the '394 Patent, a POSITA would disagree. Ex. 2005 at ¶¶ 109-110. Unlike Blease and Weyman, Rao discloses a system in which the control is in a master slave set of centralized processors. *Id.* at ¶¶ 43, 110. Moreover, Rao fails to disclose using

a “list” that contains “all of the multicast parings in the network element.” Id. at ¶ 117. To illustrate, Rao teaches that the multicast routing tables in the line card contain a portion of the multicast routing information. Ex. 2005 at ¶ 44(citing Ex. 1024 at 8:53-55 (“Process MFCU1 receives multicast forwarding updates relevant to the LC1 via IP protocol stack IPSL1.”)). Thus, Rao teaches that only the relevant multicast forwarding information is distributed to the lines cards. Ex. 2005 at ¶ 44. Accordingly, a POSITA would not have been motivated to combine Blease in view of Weyman and Rao in order to disclose to construct a list based on received multicast membership reports. Id. at ¶ 117.

Petitioner also incorrectly states that “a person of ordinary skill in the art would have been motivated to look to known implementations, as in Rao, for details,” but Weyman already describes how to initialize an added unit by choosing another active unit to synchronize configurations. Ex. 2005 (Olivier Decl.) at ¶ 111. Thus, a POSITA would not look to Rao for details, when the details are already provided in Weyman.

B. The Petitioner Fails to Establish that the Proposed Combination Discloses claim elements 8[f.ii] and 18[d.ii]

Petitioner argues that “a POSA would have recognized that the RPM and its ports would have been ‘deactivated’ prior to being ready for normal operations” is flawed. Petition at p. 63. A POSITA would understand that the standby RPM is never initialized, instead it is kept alive and receives updates from the master. Ex. 2005 at

¶ 113. In fact, initializing the RPM would cause it to lose all of its current information. *Id.* In addition, Rao never teaches that the links are set to inactive, nor could they as doing so may prevent the line card from sending the sending of PIM hellos or Host membership queries as taught by Rao. Ex. 2005 at ¶ 120. Rao also does not teach that the links would be re-activated after the timer has expired. *Id.* Thus, Petitioner has failed to meet its burden to show that the prior art discloses this claim element.

IX. Ground 2.5¹⁰: Blease in view of Weyman, Rao, and Huy Does Not Render Obvious Claim 9; Blease in view of Weyman, Rao, and Deng Does Not Render Obvious Claim 10

Petitioner's argument for Ground 2.5 is the same as its argument for Grounds 2.3 and 2.4. Petition_989 at pp. 66-67. Therefore, Petitioner fails to meet its burden of showing that prior art discloses claims 9 and 10 here, for the same reason Petitioner failed to meet its burden of showing that the prior art disclosed the claim limitations at issue in grounds 4 and 5. §§ V.II and V.III.

¹⁰ Ground 2.5 refers to Grounds 5 and 6 in the Petition_989 because Petitioner combines both grounds into a single heading. See Petition_989 at pp. 66-67.

X. CONCLUSION

For the foregoing reasons, Petitioner has not established that any challenged claims of the '394 Patent are obvious, and the Board should affirm the patentability of the challenged claims.

Date: May 9, 2025

Respectfully submitted,

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CERTIFICATION UNDER 37 C.F.R. § 42.24

Under the provisions of 37 C.F.R. § 42.24, the undersigned hereby certifies that the foregoing document contains 10,962 words, and thus complies with the word-count limits of 37 C.F.R. § 42.24.

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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. §§ 42.6(e), the undersigned hereby certifies that a copy of the foregoing PATENT OWNER'S RESPONSE, were served on May 9, 2025 by filing this document through the P-TACTS platform as well as by delivering a copy via the delivery method indicated to the attorneys of record for the Petitioner as follows:

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