

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CISCO SYSTEMS, INC.
Petitioner

v.

PORTSMOUTH NETWORK CORP.
Patent Owner

IPR2024-00506
U.S. Patent No. 8,014,394

PETITIONER'S REPLY

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PETITIONER'S EXHIBIT LIST

Exhibit No.	Description
1001	U.S. Patent No. 8,014,394 to Ram et al. ("394 Patent")
1002	Declaration of Dr. Henry Houh
1003	<i>Curriculum Vitae</i> of Dr. Houh
1004	Prosecution History of U.S. Patent No. 8,014,394
1005	U.S. Patent Publication No. 2005/0041665 ("Weyman")
1006	W.O. Patent Publication No. 2007/140702 ("Li")
1007	Certified Translation of W.O. Patent Publication No. 2007/140702 ("Li")
1008	U.S. Patent Publication No. 2007/0297406 ("Rooholamini")
1009	U.S. Patent No. 6,370,142 ("Pitcher")
1010	U.S. Patent Publication No. 2006/0224877 ("Jain")
1011	U.S. Patent No. 5,999,530 ("LeMaire")
1012	U.S. Patent Publication No. 2006/0146823 ("Ding")
1013	U.S. Patent Publication No. 2008/0151890 ("Zelig")
1014	U.S. Patent Publication No. 2006/0200575 ("Sherer")
1015	RFC 3376 ("IGMPv3"), Internet Group Management Protocol, Version 3
1016	U.S. Patent Publication No. 2005/0238018 ("Devi")
1017	U.S. Patent Publication No. 2006/0146857 ("Naik")
1018	U.S. Patent Publication No. 2003/0147412 ("412 Weyman")

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1019	U.S. Patent No. 6,034,957 (“Haddock”)
1020	U.S. Patent Publication No. 2006/0067213 (“Evans”)
1021	U.S. Patent Publication No. 2002/0024964 (“Baum”)
1022	U.S. Patent Publication No. 2002/0143951 (“Khan”)
1023	U.S. Patent Publication No. 2008/0298236 (“Ervin”)
1024	U.S. Patent Publication No. 2010/0020680 (“Salam”)
1025	U.S. Patent No. 8,238,344 (“Chen”)
1026	U.S. Patent No. 7,525,965 (“St. Pierre”)
1027	U.S. Patent Publication No. 2005/0041680 (“Tanaka”)
1028	Docket Control Order, <i>Portsmouth Network Corp. v. Cisco Sys., Inc.</i> , No. 2:23-cv-00441 (E.D. Tex. Dec. 18, 2023)
1029	Notice of Disclosures, <i>Portsmouth Network Corp. v. Cisco Sys., Inc.</i> , No. 2:23-cv-00441 (E.D. Tex. Jan. 8, 2024)
1030	Order Granting Unopposed Motion for Leave to File Amended Complaint for Patent Infringement, <i>Portsmouth Network Corp. v. Cisco Sys., Inc.</i> , No. 2:23-cv-00441 (E.D. Tex. Mar. 12, 2024)
1031	Director’s June 21, 2022, Memorandum on Discretionary Denials
1032	Exhibit B of EX1007
1033	Transcript of Dr. Olivier’s Deposition
1034	Transcript of Dr. Houh’s Deposition
1035	U.S. Patent Publication No. 2004/0177107 (“Qing”)
1036	U.S. Patent Publication No. 2006/0098613 (“Kish”)

Exhibit No.	Description
1037	Markman Briefs, <i>Portsmouth Network Corp. v. Cisco Sys., Inc.</i> , No. 2:23-cv-00441 (E.D. Tex. Jan. 8, 2024)
1038	Transcript of Dr. Olivier's Markman Deposition, <i>Portsmouth Network Corp. v. Cisco Sys., Inc.</i> , No. 2:23-cv-00441 (E.D. Tex. Jan. 8, 2024)
1039	Order of Dismissal, <i>Portsmouth Network Corp. v. Cisco Sys., Inc.</i> , No. 2:23-cv-00441 (E.D. Tex. Jan. 8, 2024), D.I. 96.

Citations to specific pages of exhibits follow the pagination added to those exhibits per 37 C.F.R. § 42.63(d)(2)(i).

All emphasis has been added unless noted otherwise.

I. INTRODUCTION

Patent Owner (“PO”) attempts to sidestep Petitioner’s strong showing of obviousness primarily by focusing on the prior art references in isolation and by disputing the rationale for their combination. These attempts, however, are unavailing because PO fails to squarely address the combination as presented in the Petition, and their arguments are, in large part, predicated on a misreading of the references.

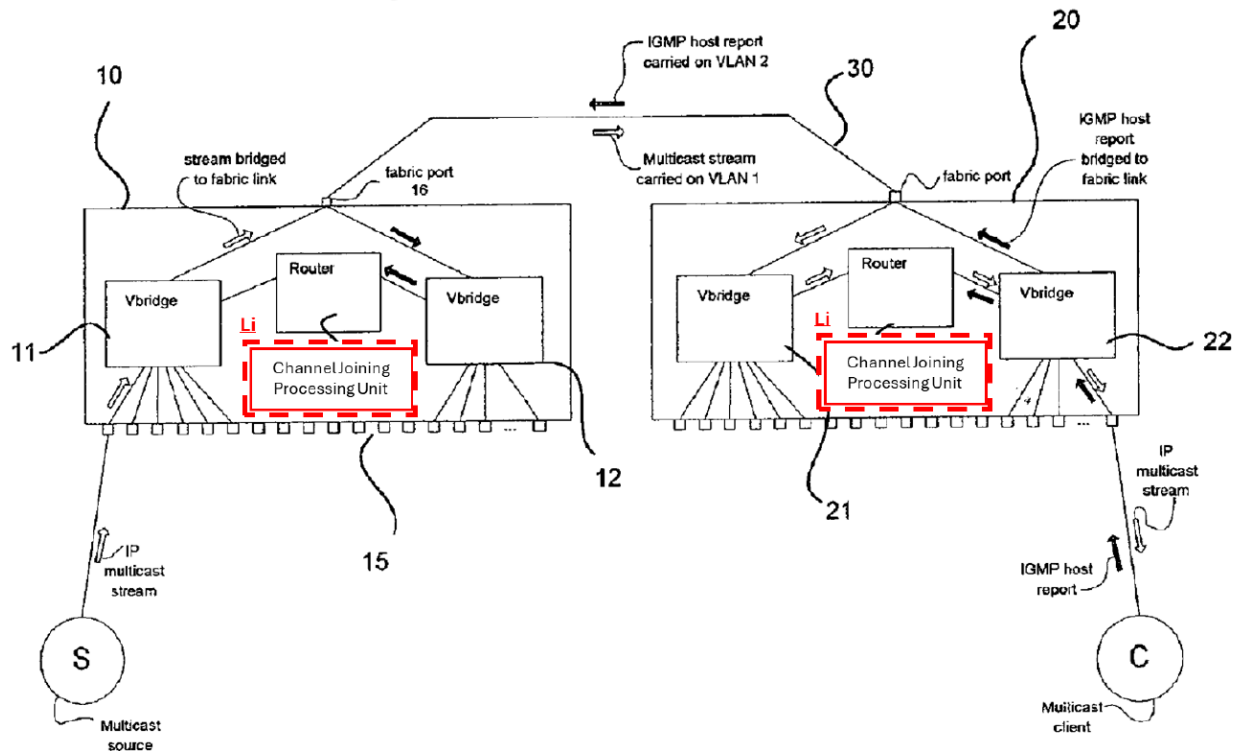
II. GROUND 1: WEYMAN IN VIEW OF LI RENDERS OBVIOUS CLAIMS 1 AND 11.

PO raises two arguments against Ground 1: (1) a POSITA would not have combined Weyman and Li; and (2) the combination would not have taught limitation [1k] (“setting an upper limit on a number of the multicast packet streams that are permitted for forwarding over the high-capacity port”). POR, 10-23. PO’s arguments are meritless.

A. It Would Have Been Obvious To Combine Weyman And Li.

The Petition establishes that it would have been obvious to combine Weyman and Li to provide Li’s channel joining processing unit in each of Weyman’s units in a distributed multicast router so that Weyman’s units would control the number of multicast packet streams handled by their ports, including any aggregated links. Pet., 18-24.

Weyman in combination with Li



Pet., 22.

PO does not directly dispute the specific reasons for combining Weyman and Li set forth in the Petition. Nevertheless, PO asserts that a POSITA would not have combined the references due to some alleged differences between them. *See* POR, 10-13. Specifically, PO argues that “Weyman and Li relate to two different types of products using two different types of media in two different types of networks” (POR, 13), and those differences purportedly guide against the combination.

PO’s argument fails for two independent reasons. **First**, it is predicated on a misreading of the references—contrary to PO’s allegations, Weyman and Li “relate to similar subject matter,” as the Board already recognized. DI, 25. For example,

as PO concedes, Weyman relates to a distributed router that: (1) operates in “a ***packet switched network***”; and (2) performs “operations on ***layer 2 ethernet***.” POR, 10-12. Li likewise relates to an access device that is: (1) coupled to an “IP metropolitan area network—which PO’s own expert admits is a ***packet switched network*** (EX1033 [Olivier Dep. Tr.], 70:6-8); and (2) operates on ***layer 2***. EX1032¹, 20:10-11 (“A ***layer-2*** multicast table on a line card ...”). In fact, just like Weyman’s distributed router, Li’s access device operates on ***layer 2 Ethernet***: it uses information relating to “802.1p” (EX1032, 17:23-27 (“802.1p information”); Claim 17), which is one of the IEEE protocol specifications defining Ethernet. See EX1035 [US2004/0177107], [0008] (“a concept about priority of ***Ethernet frame*** is defined in ***IEEE Standard 802.1p protocol for Ethernet environment***.”). Those similarities undermine PO’s claim that Weyman and Li are too different to combine.

Second, PO’s argument is unsupported by the well-established obviousness doctrine. The Federal Circuit has made clear that “[t]he motivation-to-combine

¹ Due to a formatting error, Exhibit B of Exhibit 1007 (the English translation of Li) does not include page numbers. To address the error, Petitioner submits Exhibit 1032, which is identical to Exhibit B of Exhibit 1007 except that Exhibit 1032 also includes page numbers at the bottom of the specification. Pincites to Exhibit 1007 in the Petition are directly applicable to Exhibit 1032.

analysis is a *flexible* one,” and “in many cases, a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle.” *Intel Corp. v. PACT XPP Schweiz AG*, 61 F.4th 1373, 1379-80 (Fed. Cir. 2023)). The mere allegation that Weyman and Li relate to “different products,” “different media,” and “different networks” does not preclude a motivation to combine them.

PO also contends that Petitioner’s combination would have contravened Weyman’s teachings. POR, 15-20. Specifically, PO argues that, when Petitioner’s combination (shown below) receives IGMP report messages over an aggregated link, “the IGMP report message may go to either unit 10 or unit 20,” and that uncertainty allegedly would have required further coordination between the units using the fabric link. POR, 17-18. That need to use the fabric link purportedly contravenes Weyman’s teaching to “minimize the usage of bandwidth on the links between fabrics,” according to PO. POR, 18.

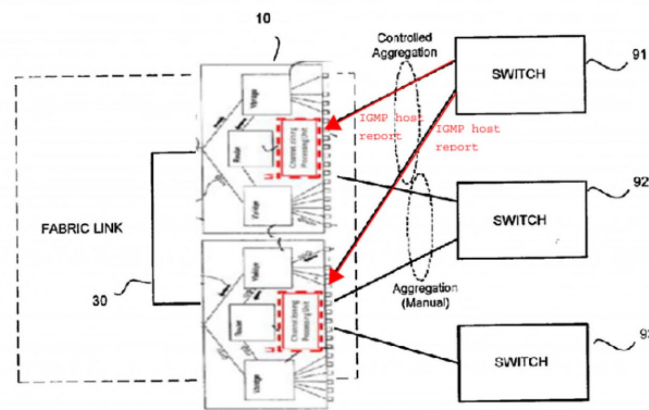


FIG.6

POR, 18.

PO's argument is fundamentally flawed. **First**, contrary to PO's assertion, the Weyman/Li combination does **not** require further modification to coordinate "the reception of the IGMP report messages at two different network units" (POR, 19); Weyman already discloses such coordination. Specifically, Weyman teaches that when one of the units in the distributed router receives an IGMP host report, that receiving unit distributes the received IGMP host report to all other units in the distributed router. EX1005, [0162]. In fact, PO's expert, Dr. Olivier, admitted as much during his deposition:

Q. So when one of the units in the distributor router receives an IGMP host report, ***the IGMP host report is shared with all the units in the distributor router.*** Correct?

A. ***Correct.***

EX1033 [Olivier Dep. Tr.], 36:14-18.

In short, Weyman already teaches distributing every IGMP report to all units in the distributed router—regardless of which unit initially receives the report—so the system appears externally as "a single network entity." EX1005, Abstract, [0002], [0024]. As a result, the Weyman/Li combination needs no additional modification to coordinate the receipt of IGMP host reports. PO's argument, which assumes otherwise, is therefore fundamentally misplaced.

Second, even if the Weyman/Li combination required an additional modification to distribute IGMP host reports—which, to be clear, Petitioner

disagrees for the reasons provided above—nothing in Weyman prohibits distributing the IGMP host reports using the fabric link. In fact, Weyman expressly permits the use of the fabric link for this purpose. Figure 11 of Weyman illustrates this directly using an arrow labeled “IGMP host report” next to the fabric link (see red box in Figure 11 reproduced below), and the specification confirms it. *See* EX1005, [0137]-[0138]. PO’s expert admitted as much:

Q. Correct. But Weyman – *there’s nothing in Weyman that says you cannot use the fabric link to transmit and receive the IGMP host report.* Correct?

...

A. ***Correct.*** It just says you should be very cognizant of any traffic you’re sending over that fabric link because in distributor routers such as the one in Weyman, these fabric links are the bottlenecks of the system.

EX1033 [Olivier Dep. Tr.], 37:13-22.

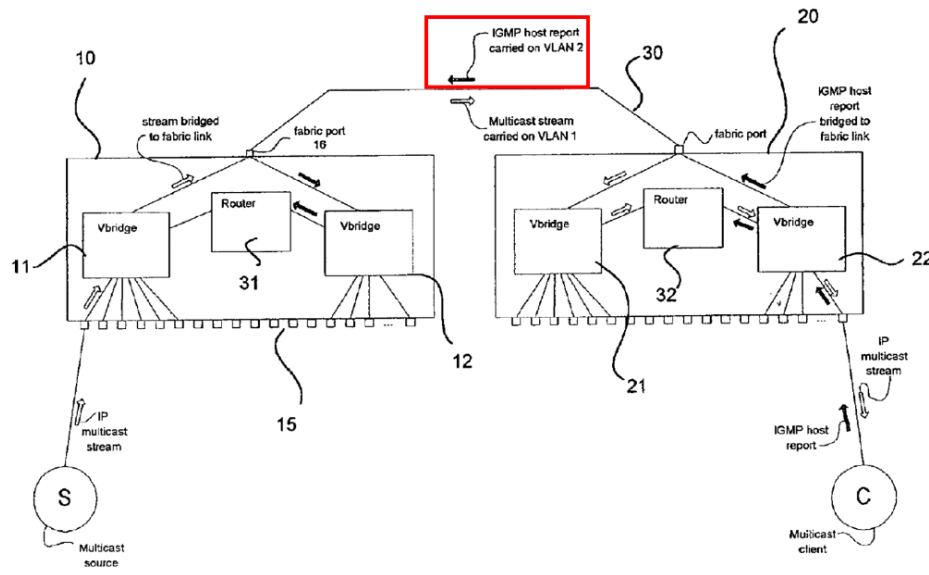


FIG.11

EX1005, Figure 11.²

Accordingly, even if the additional modification were needed, that modification would have been entirely consistent with Weyman.

Lastly, the Petition establishes that “it would have been *obvious to try* Li’s channel joining processing unit in Weyman’s distributed router.” Pet., 25. Neither PO nor its expert rebuts Petitioner’s prima facie showing of obviousness to try. *See generally* POR, 10-20. Since there is no countervailing argument or evidence, Petitioner respectfully requests the Board to find that, at a minimum, it would have been obvious to try to combine Weyman and Li.

² All annotations are added unless stated otherwise.

B. The Combination Of Weyman And Li Teaches Limitation [1k].

The Petition explains that it would have been obvious to combine Weyman and Li so that Li's channel joining processing unit controls the workload of Weyman's ports (including aggregated links), by limiting the number of multicast packet streams carried by Weyman's ports/aggregated links. Pet., 21-25.

PO's does not dispute that the Weyman/Li combination discloses limitations [1Pre]-[1j], [1l]-[1m] of Claim 1. *See generally* POR, 20-23; EX1033 [Olivier Dep. Tr.], 89:10-22 (PO's expert testifying that he did not opine on any limitation of claim 1 other than limitation 1k). But PO argues that the Weyman/Li combination does not teach limitation [1k] ("setting an upper limit on a number of the multicast packet streams that are permitted for forwarding over the high-capacity port"). POR, 21-24. PO's arguments are unavailing.

1. PO's Argument Against Li *In Isolation* Does Not Undercut Petitioner's Weyman/Li *Combination*.

PO argues that the Weyman/Li combination does not meet limitation [1k] because "Li does not describe using a channel joining processing unit with an aggregated link." POR, 21. But PO's argument misses the mark because Petitioner is *not* mapping limitation [1k] to Li in isolation. The Petition explains that limitation [1k] is taught by the application of Li to Weyman that discloses an aggregated link. *See, e.g.*, Pet., 23 ("[A] POSITA would have been motivated to use Li's channel

joining processing unit to control the workload of *Weyman's aggregated link*"), 24 (In the combination, "Li's channel joining processing unit would have provided a predictable result of limiting the number of multicast streams carried on *Weyman's ports and aggregated links*."). Accordingly, the attack on Li alone is insufficient to show that the Weyman/Li **combination** does not meet limitation [1k]. See *Palo Alto Networks, Inc. v. Centripetal Networks, LLC*, 122 F.4th 1378, 1386 (Fed. Cir. 2024) ("Where, as here, the grounds for obviousness are based on a specific combination of references, arguments that 'attack the disclosures of the two references individually' lack merit.") (quoting *Bradium Techs. LLC v. Iancu*, 923 F.3d 1032, 1050 (Fed. Cir. 2019)).

To the extent PO is arguing that Li's channel joining processing unit cannot be bodily incorporated into Weyman's units because Li uses its channel joining processing unit only for an xDSL port, that argument is legally deficient. The Federal Circuit has held that "[t]he test for obviousness is **not** whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference. Instead, the question is whether a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention." *Intel Corp. v. PACT XPP Schweiz AG*, No. 2022-1038, 2023 WL 2198649, at *3 (Fed. Cir. Feb. 24, 2023) (*PACT II*) (quotation marks and citations omitted). Under the proper legal framework, the record is clear that a POSITA

would have found it obvious to implement Li's channel joining processing unit in Weyman's units to limit the number of multicast packet streams handled by Weyman's aggregated link. Pet., 21-25. That is particularly so in light of PO's expert's admission that an aggregated link has a limited bandwidth, and overloading an aggregated link would deteriorate the quality of multicast streams handled by the aggregated link. *See* EX1033 [Olivier Dep. Tr.], 65:1-7; 66:7-21.

2. PO Overlooks Weyman's Disclosure That IGMP Messages Are Received By *All* Units In Weyman's Distributed Router.

PO asserts that the Weyman/Li combination does not satisfy limitation [1k] because "no single channel joining processing unit is guaranteed to receive both the channel joining and channel quit messages." POR, 21-22. But PO is technically wrong here. As explained above, Weyman discloses a mechanism that ensures that IGMP messages—*i.e.*, channel joining and channel quit messages—are received by *all* units in Weyman's distributed router. *See* Section II.A; EX1005, [0162]. Therefore, all units in the distributed router are guaranteed to receive the channel joining and channel quit messages, regardless of which unit receives the messages first.

3. In The Weyman/Li Combination, Li's Channel Joining Processing Unit Is Applied To Control Multicast Packet Streams Over Aggregated Links Already Taught By Weyman.

PO also contends that the Weyman/Li combination fails to teach limitation [1k] because Li teaches limiting the number of “channels” which, according to PO, is different from limiting the number of “multicast packet streams.” POR, 22-23. According to PO, “[a] POSITA would understand that [Li's] channels typically have *multiple* streams, including at least one video stream and at least one audio stream,” and thus, limiting the number of channels is allegedly different from limiting the number of multicast streams. POR 22-23. PO has previously presented a substantially similar argument in its POPR and the Board has already preliminarily rejected the argument. *See* DI, 27-29. The Board's preliminary findings should not be disturbed for three reasons.

First, PO misunderstands Petitioner's combination. Petitioner is not relying on Li alone to show limiting the number of “multicast packet streams.” Rather, Petitioner is relying on an application of Li's channel joining processing unit to Weyman's distributed router to control the number of multicast packet streams indisputably taught by Weyman. *See* Section II.B.1; EX1034 [Houh Dep. Tr.], 73:5-10. Thus, even if Li in isolation does not show limiting the number of “multicast packet streams” as PO contends, that is irrelevant because: (1) that is not the

invalidity ground that Petitioner relies on (*Honeywell Int'l Inc. v. 3G Licensing, S.A.*, 124 F.4th 1345, 1355 (Fed. Cir. 2025) (“deviating impermissibly from the invalidity theory set forth in the petition” is “legal error”) (citations omitted)); and (2) as explained above, individual attacks on Li is insufficient to show that the Weyman/Li **combination** is deficient. *Palo Alto Networks*, 122 F.4th at 1386.

Second, additional evidence developed during trial further supports Petitioner's combination because, as explained below, both Weyman and Li use the “multicast group” to identify their “multicast stream” and “channel,” respectively, and it would have been straightforward and common sense to apply Li's technique of limiting the number of “channels” to limit the number of Weyman's “multicast streams.”

More specifically, Weyman teaches that its **multicast stream** is associated with a “**multicast group**.” EX1005, [0152] (“In the system of FIG. 12 it may be supposed that router 157 and client 1 are the only network devices that need to receive the **multicast stream for multicast group A**.”). Indeed, PO's expert admits that a “**multicast group identifies** the multicast connection that transmits **a sequence of multicast packets**,” i.e., a multicast stream. EX1033, 28:14-20 (“Q. Yeah. So the multicast group identifies the multicast connection that transmits a sequence of multicast packets. Right? A. Yeah, packets that are -- the multicast packets are packets within the multicast connection.”). *See also* EX1036 [US2006/0098613],

[0034] (“In IGMP, a multicast client (e.g., the receiving node 130) joins a multicast group (e.g., the group 160) to enable group reception of a multicast traffic stream.”).

Li, on the other hand, teaches limiting the number of *multicast groups* handled by a port. For example, Li teaches limiting the number of “channels” handled by a port. EX1032, 30:25-31:3; EX1033 [Olivier Dep. Tr.], 82:10-13 (“Q. So *Li discloses limiting the number of channels of a port* so the bandwidth of the port is not overloaded. Right? A. *Correct.*”). And PO admits that Li uses the term “channel” synonymously with the term “multicast group.” POPR (Paper 7), 11 (“*Li clearly defines ‘channel’ as a multicast group.*”). Consequently, Li teaches limiting the number of “channels” (*i.e.*, “multicast groups”) handled by a port.

Accordingly, consistent with the arguments presented in the Petition, it would have been straightforward and common sense to apply Li’s technique of limiting the number of “multicast groups” to Weyman’s distributed router to limit the number of Weyman’s “multicast streams” expressly associated with multicast groups. *See* Pet., 21-25. Indeed, PO’s expert admits that Li’s technique could be implemented as “software operating on a processor” (EX1033, 82:18-21), and thus, implementing Li’s technique in Weyman’s units would have been “within the skill of the art.” *Keynetik, Inc. v. Samsung Elecs. Co.*, No. 2022-1127, 2023 WL 2003932, at *2 (Fed. Cir. Feb. 15, 2023).

Third, even under PO's interpretation of Petitioner's combination—which, to be clear, is incorrect as described above—PO's argument fails because Li's "channel" *does* teach the claimed "multicast packet stream," as the Board correctly found in the institution decision. DI, 27.

For example, as the Board already noted, Li uses the term "channel" to refer to a sequence of multicast packets that carry a multicast content, such as a TV channel. *See* EX1032, 3:9-22; 3:23-4:15; 4:18-27. *Accord* POPR, 11 ("*Li* clearly defines 'channel' as a *multicast group*."); EX1033 [Olivier Dep. Tr.], 28:14-20 (PO's expert admitting that a "*multicast group identifies* the multicast connection that transmits a *sequence of multicast packets*."). That is precisely how the '394 Patent's specification uses the term "multicast packet stream." *See* EX1001, 5:64-6:3 ("Source 24 may transmit *multicast packet streams* that *carry*, for example, live IP *Television (IPTV) channels* ..."); 2:1-3 ("selectively forwarding *multicast packets associated with the given multicast packet stream*"). Indeed, Li's "channel" is requested or stopped using an IGMP message, just as the '394 Patent's "multicast packet stream" is requested or stopped using an IGMP message. *Compare* EX1032, 33:17-18 ("The user to order a multicast *channel* sends to the access device through the STB an *IGMP message requesting for selecting the multicast channel*."), 3:9-12 *with* EX1001, 3:34-41 ("In a disclosed embodiment, the *request* specifies a requested action selected from a group of actions consisting

of *receiving the given multicast packet stream* and stopping to receive the given multicast packet stream. The *request may conform to one of an Internet Group Management Protocol (IGMP)*). Accordingly, the “channel” in Li shows the “multicast packet stream” in the ’394 Patent.

PO suggests that limiting the number of “channels” in Li is different from limiting the number of “multicast packet streams” because “[a] POSITA would understand that [Li’s] channels typically have multiple streams.” POR, 22-23. PO attempts to support such “understand[ing]” using a wholly unrelated patent—U.S. Patent No. 8,516,531 (“’531 Patent”) (EX2005)—that allegedly teaches that a “channel” contains both “video and audio multicast streams.” POR, 22-23.

But PO’s reliance on the ’531 Patent is misplaced. Although a background reference like the ’531 Patent can provide evidence of the background knowledge that a POSITA would have had in interpreting a prior art reference like Li, such a background reference cannot override the clear teachings of the prior art reference being interpreted. Here, as described above, Li clearly teaches that the “channel” in Li is just like the “multicast packet stream” in the ’394 Patent, and an unrelated background reference like the ’531 Patent cannot override Li’s teachings.

In addition, the ’531 Patent does not even support PO’s position that “channels typically have multiple streams.” POR, 22. The portions of the ’531 Patent cited by PO do not say anything about a channel having multiple streams. Instead, they

merely state that a “[v]ideo stream 202 typically contains multimedia content corresponding to a *program channel*, such as video and audio *content*,” and that the *video stream* is encoded as “*an* MPEG-2 transport stream.” EX2005, 4:43-50, 6:30-35. And the ’531 Patent makes clear, in the paragraph immediately preceding 6:30-35, that the described example is directed to a “*single* multicast video stream.” EX2005, 6:18-25 (“Although the exemplary illustration refers only to a *single multicast video stream*, ...”). See also EX2005, 8:44-47 (“Video stream 202 (FIG. 2) is a real-time *multicast video stream* which has been encoded for eventual transmission to a presentation device 116 via network 102.”). Nothing in the ’531 Patent suggests that “channels typically have multiple streams,” as PO contends.

For those reasons, the Weyman/Li combination teaches limitation [1k], and renders claim 1 obvious.

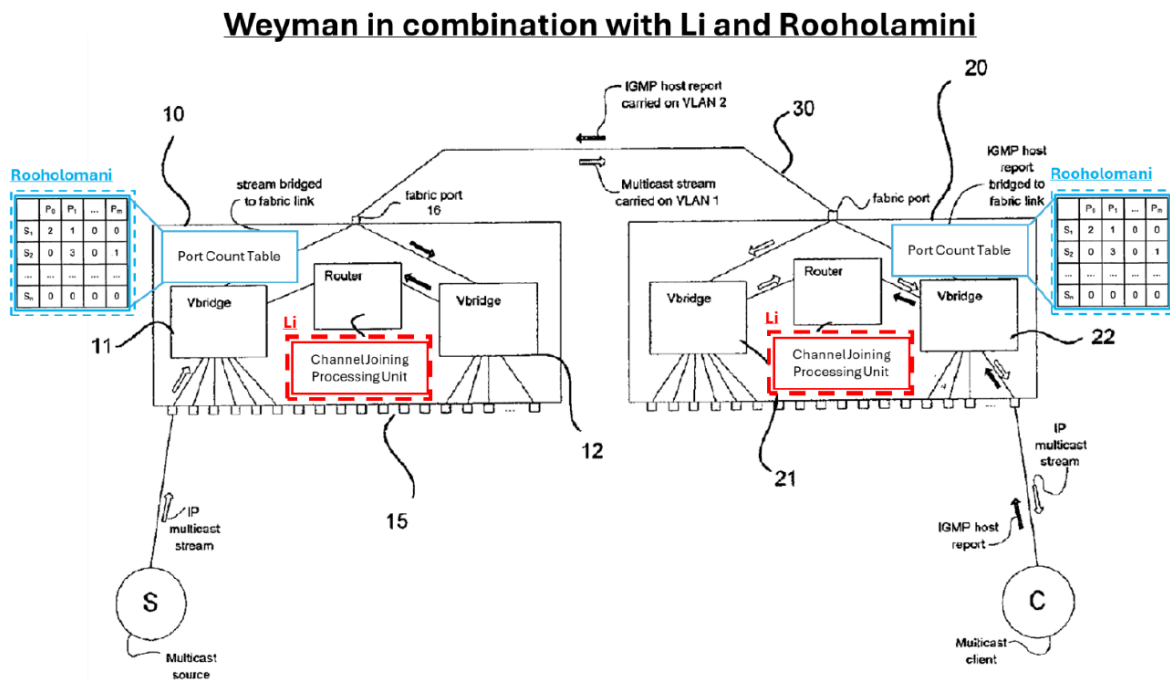
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PO asserts that “Weyman and Li fail to render obvious claim 11 for the same reasons as claim 1.” POR, 24. For the reasons provided in the Petition and above for claim 1, the combination of Weyman and Li renders claim 11 obvious.³

³ PO further asserts that “[d]ependent claims 2, [4, 6, 7], 12, and [14, 16, 17] are nonobvious” for the same reasons as claim 1 or 11. POR, 29. For the reasons

III. GROUND 2: WEYMAN IN VIEW OF LI AND ROOHOLAMINI RENDERS OBVIOUS CLAIMS 5 AND 15.

In Ground 2, the Petition explains that a POSITA would have combined the Weyman/Li combination described in Ground 1 with Rooholamini's port count table to provide a port count table in each unit of the distributed router, as shown below. Pet., 56-61.



Pet., 59.

provided above for claim 1 or 11, the combination of Weyman and Li (and any additional reference(s) as presented in the Petition) renders dependent claims 2, 4, 6, 7, 12, 14, 16, and 17 obvious.

PO appears to acknowledge that the combination of Weyman/Li and Rooholamini (“Weyman/Li/Rooholamini combination”) satisfies all additional limitations of claims 5 and 15. *See generally* POR, 29-31. But PO asserts that “a POSITA would not have been motivated to combine Weyman, Li, and Rooholamini” because incorporating Rooholamini’s port count table locally at each of the unit would have required “further synchronization efforts” amongst the port count tables and “[a] POSITA would understand that the additional synchronization efforts would lead to increased bandwidth usage in the fabric, which contradicts Weyman’s teachings to minimize fabric bandwidth usage.” POR, 31.

But the Weyman/Li/Rooholamini combination requires no such “additional synchronization efforts.” As explained in the Petition, the port count tables in each of the units are synchronized using the IGMP host reports distributed between each of the units. Pet., 63-64; EX1005, [0162]. As long as the IGMP messages are shared amongst all units in the distributed router, the port count tables would remain synchronized. And as explained in Section II.A, under the ***default configuration of Weyman***, IGMP messages are distributed to each of the units in the distributed router. EX1005, [0162]; EX1033 [Olivier Dep. Tr.], 36:14-18. Because Weyman, by default, provides IGMP reports to each unit, the Weyman/Li/Rooholamini combination does not require any additional synchronization effort.

Besides, the Federal Circuit has reiterated that for obviousness, “[i]t’s not necessary to show that a combination is ‘the best option, only that it be a suitable option.’” *Intel Corp. v. Qualcomm Inc.*, 21 F.4th 784, 800 (Fed. Cir. 2021) (quoting *PAR Pharm., Inc. v. TWI Pharms., Inc.*, 773 F.3d 1186, 1197–98 (Fed. Cir. 2014)). As explained above and in the Petition, the Weyman/Li/Rooholamini combination is more than “suitable” for keeping track of the number of multicast streams handled by the ports (including aggregated links) (*see* Pet., 58-61), and thus, it would have rendered obvious claims 5 and 15.

IV. GROUND 4: WEYMAN IN COMBINATION WITH JAIN AND LEMAIRE RENDERS OBVIOUS CLAIMS 8 AND 18.

As explained in the Petition, the Weyman/Jain/LeMaire combination is simple. *See* Pet., 68-75. Weyman teaches a distributed multicast router with multiple units, where each unit has **user ports** and a **fabric port**, as shown below in Figure 11. EX1005, [0029], [0036], [0064].

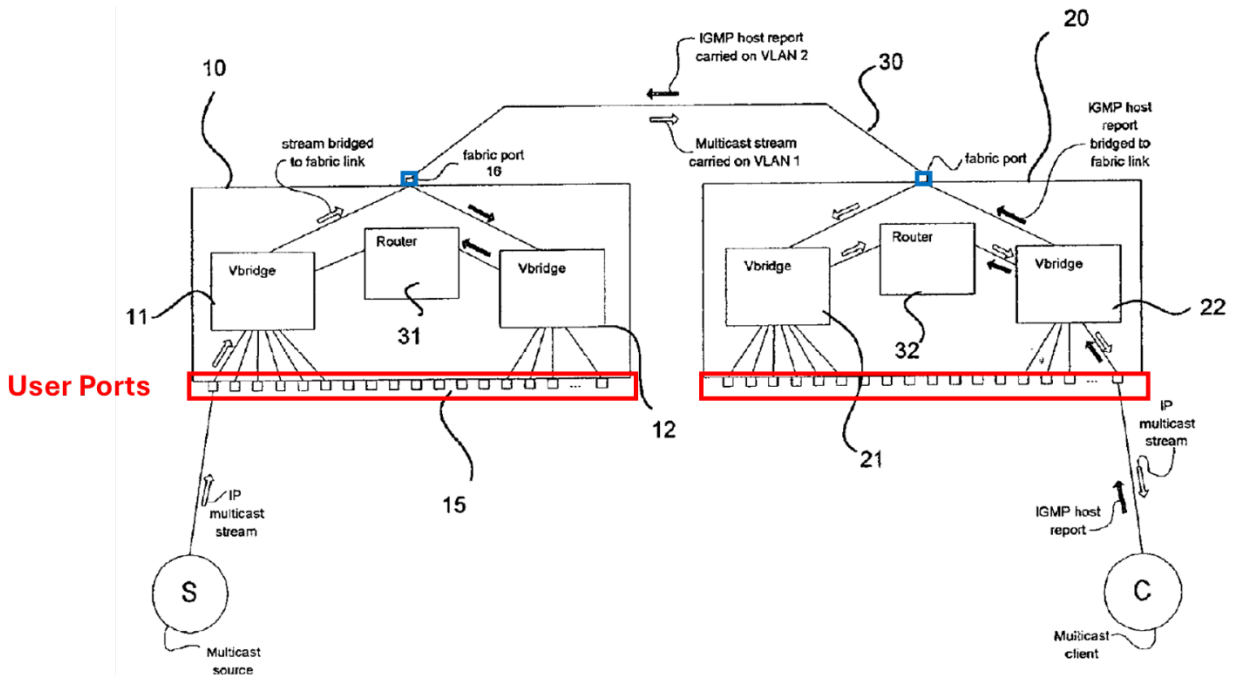


FIG.11

EX1005, Figure 11.

Weyman also teaches that the distributed router “can accommodate the **addition** or removal of unit” (EX1005, [0069]) and the newly added unit “update[s] its configuration to that of the distributed multicast router” (EX1005, [0156]). *See also* Pet., 68-69. Figure 11 of Weyman is modified below to expressly show the **newly added unit** with its **user ports** and **fabric port**.

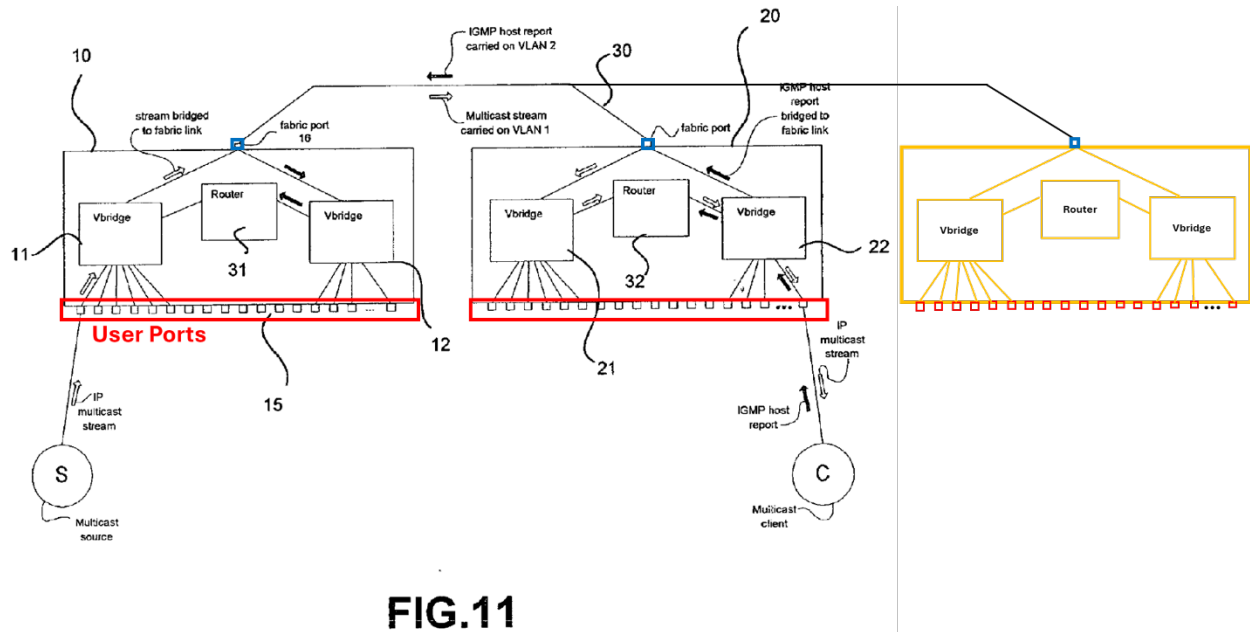
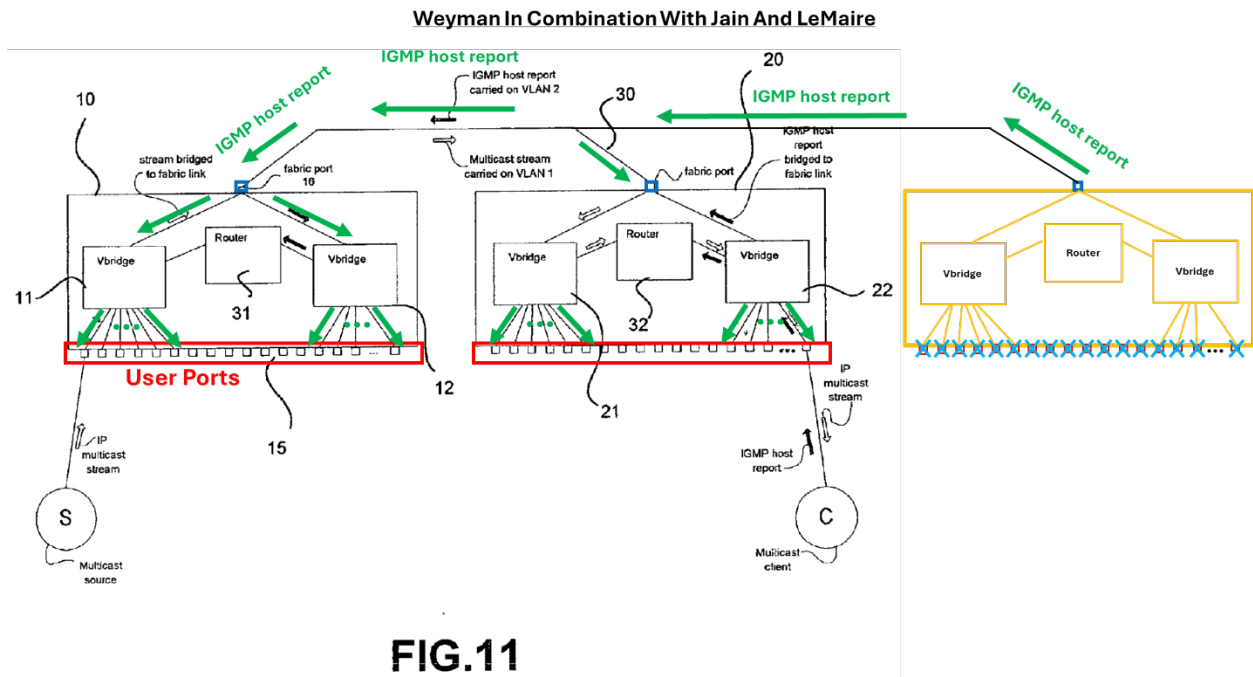


FIG. 11

EX1005, Figure 11 (modified).

As explained in the Petition, it would have been obvious to use well known prior art techniques to update the configuration of the newly added unit, such as disabling the newly added unit's user ports (but not the fabric port) during configuration (as taught by Jain) (*see* Pet., 69-71) and sending IGMP messages to clients to update the new unit's configuration (as taught by LeMaire) (*see* Pet., 72-75). The combination of Weyman, Jain, and LeMaire ("Weyman/Jain/LeMaire combination"), as described in the Petition, is illustrated below, where the blue Xs show the deactivated user ports on the newly added unit, per Jain, and the green arrows show sending IGMP messages to clients using active user ports in the distributed router, per LeMaire.



PO asserts that the Weyman/Jain/LeMaire combination fails to satisfy limitation [8k]. See POR, 24. But PO does not identify any specific term within limitation [8k] that is purportedly not met by the combination. See generally POR, 24-28. And that is understandable: as illustrated above, the **user ports** of the **newly added unit**—*i.e.*, “ports to which the new processing unit is assigned”—are clearly deactivated (shown with the **blue Xs**), as required by limitation [8k]. See Pet., 70-71, 78.

Instead of addressing the actual language of limitation [8k], PO contends that a POSITA would have implemented the Weyman/Jain combination differently—by deactivating both the **user ports** and the **fabric port** of the **newly added unit**, rather than just the **user ports** as proposed by Petitioner. Specifically, PO argues that a

POSITA would have also deactivated the fabric port because Jain allegedly teaches “deactivating *all* of the active ports in a network node.” POR, 26-27.

Not so—Jain does not require deactivating all of the active ports; it expressly teaches deactivating “*a portion*” of (but not necessarily all) the active ports during the controlled boot-up process. EX1010, [0020]. For example, Figure 1 of Jain (reproduced below) shows a network system in which “network node[] 102A [has] a number of link ports.” EX1010, [0017], [0018]. When the “network node 102A is down for some reason” and is later “powered up again (i.e., power-on or system reset condition), it engages in a controlled boot-up process.” EX1010, [0019]. During that process, “a ‘Link Down’ condition is effectuated on at least *a portion of* the link ports of the network node” to “discontinue[]” the use of the “portion of” the link ports. EX1010, [0020]. Thus, nothing in Jain requires deactivating “all” link ports, and Jain is entirely consistent with the Petitioner’s combination that deactivates some of the ports in the newly added unit (*i.e.*, the user ports.)

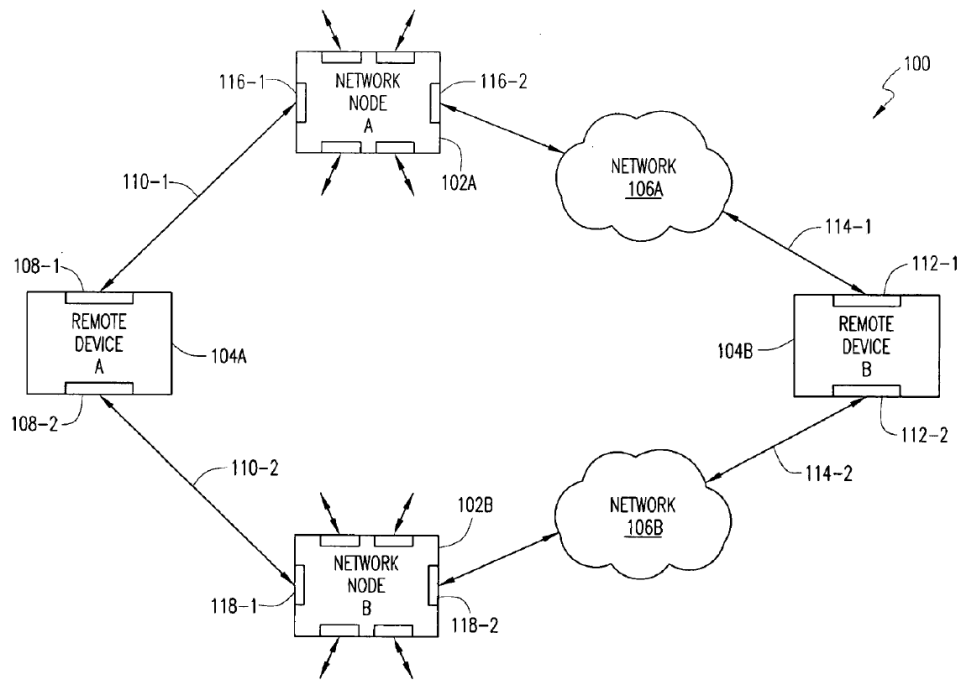


FIG. 1

EX1010, Figure 1.

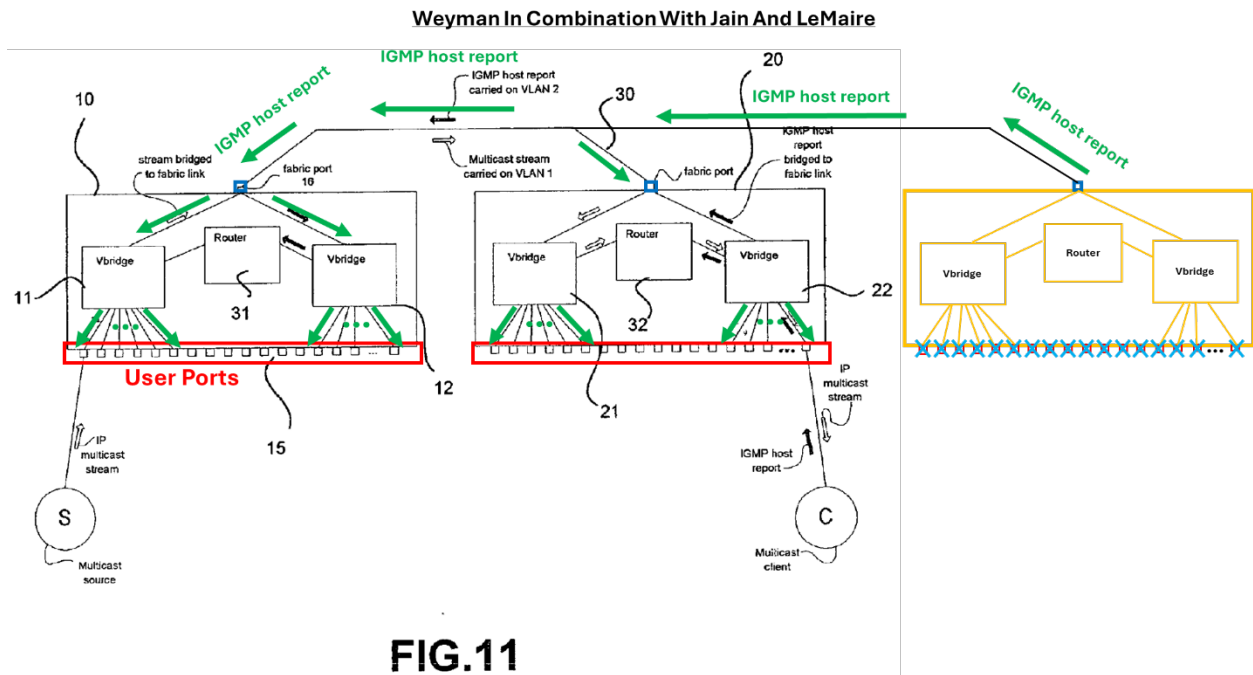
PO also argues that a POSITA would have deactivated the fabric port of the newly added unit because “fabric ports would experience the same issues as the active ports of Jain.” POR, 26. PO’s argument is unavailing because PO is interpreting Jain too broadly. Jain teaches that during a controlled boot-up process, a network node deactivates ports specifically to prevent spurious *network traffic* with *external* entities—namely, other “devices” and “nodes” on the network. EX1010, [0019] (“When network node 102A is powered up again (i.e., power-on or system reset condition), it engages in a controlled boot-up process thereafter, as will be set forth in detail below, such that its link ports do not exhibit spurious logic conditions that may cause the interfacing entities (i.e., *remote devices as well as*

other network nodes) to commence *network traffic* while the switch software (*i.e.*, system software) is still in an incomplete operational state.”). In short, Jain teaches deactivating ports that are *externally* connected. That point is further confirmed by PO’s own expert, who acknowledged that disabling Jain’s ports prevents unintended *network traffic* with *other remote devices and network nodes*. See also EX1033 [Olivier Dep. Tr.], 87:10-14 (“Q. Okay. And by issuing the ‘Link Down’ position, Jain prevents unintended *network traffic* with *other remote devices and network nodes*. Right? A. Correct.”). Nothing in Jain suggests that ports that internal to the network device would present the same concerns or require deactivation.

Unlike the external-facing ports described in Jain, the fabric ports in Weyman are *internal* ports, used exclusively to communicate with units within the distributed router. As PO itself acknowledges, “fabric ports [in Weyman] are ports which are connected *internally to other units* within the fabric and *not externally*.” POR, 26. See also EX1005, [0025] (“fabric ports (*i.e.* ports connected only to other units within the fabric and not to the external network)”); EX1033 [Olivier Dep. Tr.], 21:1–3; 23:7–10. And as explained above, nothing in Jain suggests that internal ports—such as Weyman’s fabric ports—would present the same concerns or require deactivation. Accordingly, there is nothing in the record that suggests that a POSITA would have deactivated an internal port like Weyman’s fabric port,

particularly given a POSITA's understanding that the fabric port would be used during the newly added unit's configuration process. EX1002 [Houh Decl.], ¶227.

PO further contends that the Petitioner's combination "fails because LeMaire teaches the opposite of Jain." POR, 27. But PO is off-base. As explained in the Petition, "it [would have been] obvious to combine Weyman/Jain's distributed router [as described above] with LeMaire's bridge initialization technique such that when a new unit is added to the distributed router, the distributed router uses LeMaire's initialization technique to update its forwarding table while the new unit's user ports are disabled." Pet., 73. And as in LeMaire, the newly added unit in the Weyman/Jain/LeMaire combination sends the IGMP queries to its clients. Pet., 73. Because the added unit's user ports are disabled in the Weyman/Jain combination, the added unit "transmit[s] IGMP queries to its clients, as taught by LeMaire, ***using other units in the distributed router***" (Pet., 73), as illustrated below. Nothing in LeMaire suggests that the IGMP queries cannot be sent using other units in the distributed router. To the extent PO is arguing that LeMaire's technique cannot be implemented specifically using the user ports of the new unit, that amounts to requiring a bodily incorporation, which is "basically irrelevant." *In re Etter*, 756 F.2d 852, 859 (Fed. Cir. 1985); *PACT II*, 2023 WL 2198649, at *3.



Lastly, PO challenges the use of the fabric link in the Weyman/Jain/LeMaire combination to send IGMP host reports, arguing that this contradicts an alleged objective of Weyman—namely “to minimize bandwidth usage on the fabric links.” POR, 27-28. That argument is misplaced. Weyman does not prohibit the use of the fabric link; on the contrary, Weyman expressly permits it. EX1033 [Olivier Dep. Tr.], 24:10-13; 37:13-22. In fact, Weyman teaches that IGMP host reports may be distributed to all units in the fabric using the fabric link, which is precisely what the Weyman/Jain/LeMaire combination does. EX1005, [0162] (“Alternatively the IGMP message could be delivered to every unit in the fabric for processing.”); EX1033 [Olivier Dep. Tr.], 36:14-18. Accordingly, far from undermining the

Weyman/Jain/LeMaire combination, Weyman's own teachings affirmatively support it.

Besides, the Federal Circuit has reiterated that for obviousness, "[i]t's not necessary to show that a combination is 'the best option, only that it be a *suitable* option.'" *Qualcomm*, 21 F.4th at 800. As explained above, the Weyman/Jain/LeMaire combination is "suitable" for updating the configuration of the newly added unit.

For those reasons, the Weyman/Li combination teaches limitation [8k], and renders claim 8 obvious.

* * *

PO asserts that "Weyman, Jain, and LeMaire fail to render obvious claim 18 for the same reasons as claim 8." POR, 29. For the reasons provided in the Petition and above for claim 8, the combination of Weyman, Jain, and LeMaire renders claim 18 obvious.⁴

V. CLAIM CONSTRUCTION

⁴ PO further asserts that "[d]ependent claims [9 and 10] are nonobvious" for the same reasons as claim 8 and 18. POR, 29. For the reasons provided above for claim 8 or 18, the combination of Weyman, Jain, and LeMaire (and any additional reference(s) as presented in the Petition) renders dependent claims 9 and 10 obvious.

In this IPR proceeding, all parties—including their experts—uniformly applied the ordinary and customary meaning of claim terms. Pet., 12; POR, 7; EX1002 [Houh Decl.], ¶61; EX1033 [Olivier Dep. Tr.], 88:17-19 (“Q. In your declaration, you have not proposed a construction of any of the terms. Correct? A. Correct.”). Because neither party has advanced constructions of claim terms nor disputed their meanings, the Board need not construe any of the claim terms in this proceeding. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (“[W]e need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy’”) (citing *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

As PO notes, the parties were engaged in the claim construction process in the parallel district court proceeding, and there, Petitioner—as well as PO—proposed constructions of certain claim terms. POR, 7-8; EX2003, 25-37.⁵ But PO’s conclusory assertion that “Petitioner has failed to establish that the asserted prior art combinations render the challenged claims obvious under these proposed [district

⁵ To ensure that the Board has the full record, Petitioner submits the claim construction briefs exchanged in the district court proceeding (EX1037) and the deposition transcript of Dr. Olivier who was deposed on his declaration in support of PO’s proposed claim constructions (EX1038).

court] constructions” lacks merit. As the PTAB has recognized, petitioners are not categorically barred from advancing different claim construction positions in district court and before the Board. *See Cambridge Mobile Telematics, Inc. v. SFARA, Inc.*, IPR2024-00952, Paper 12, 8 (Dec. 13, 2024) (precedential). That is particularly true here because: (1) neither party is advocating for the constructions proposed in the district court (Pet., 12; POR, 7); (2) neither party has applied the constructions proposed in the district court in the analysis of claims in this proceeding (Pet., 12; POR, 7); (3) as explained in the preceding sections, the proposed constructions are unnecessary to resolve the disputes between the parties; and (4) the district court proceeding was dismissed without any claim construction ruling (*see* EX1039).

VI. CONCLUSION

For the reasons provided above, Petitioner respectfully requests the Board to cancel all challenged claims.

Dated: April 22, 2025

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

Pursuant to 37 C.F.R. § 42.24(d), Petitioner hereby certifies, in accordance with and in reliance on the word count provided by the word-processing system used to prepare this Petition, that the number of words in this paper is 5,174. Pursuant to 37 C.F.R. § 42.24(d), this word count excludes the table of contents, table of authorities, mandatory notices under § 42.8, certificate of service, certificate of word count, appendix of exhibits, and any claim listing.

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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. §42.6(e), the undersigned certifies that a complete copy of the foregoing materials:

- Petitioner's Reply in Support of Its Petition for Inter Partes Review Under 35 U.S.C. §312 and 37 C.F.R. §42.104 of U.S. 8,014,394;
- Exhibit List;
- Exhibits 1032-1039; and
- Word Count Certification Under 37 CFR §42.24(d)

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