

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CISCO SYSTEMS, INC.,
Petitioner,

v.

MONARCH NETWORKING SOLUTIONS LLC,
Patent Owner.

Case IPR2020-01226
Patent 8,130,775

**PATENT OWNER'S PRELIMINARY RESPONSE UNDER 37
C.F.R. § 42.107 TO PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT NO. 8,130,775**

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EXHIBIT LIST

Patent Owner's Exhibits

Exhibit	Description
EX2001	Affidavit in Support of Motion for Pro Hac Vice Admission of Alden G. Harris
EX2002	Monarch Networking Solutions LLC's Preliminary Claim Constructions and Extrinsic Evidence (P.R. 4-2) in <i>Monarch Networking Solutions LLC v. Cisco Systems Inc.</i> , No. 2:20-cv-00115-JRG (E.D. Tex.)
EX2003	Exhibit A to Cisco Systems, Inc.'s Preliminary Claim Constructions and Extrinsic Evidence (P.R. 4-2) in <i>Monarch Networking Solutions LLC v. Cisco Systems Inc.</i> , No. 2:20-cv-00115-JRG (E.D. Tex.)
EX2004	Court's Preliminary Claim Constructions in <i>Monarch Networking Solutions LLC v. Cisco Systems Inc.</i> , No. 2:20-cv-00115-JRG (E.D. Tex.)
EX2005	Monarch Networking Solutions LLC's Opening Claim Construction Brief in <i>Monarch Networking Solutions LLC v. Cisco Systems Inc.</i> , No. 2:20-cv-00115-JRG (E.D. Tex.)
EX2006	Cisco Systems, Inc.'s Responsive Claim Construction Brief in <i>Monarch Networking Solutions LLC v. Cisco Systems Inc.</i> , No. 2:20-cv-00115-JRG (E.D. Tex.)
EX2007	Monarch Networking Solutions LLC's Reply Claim Construction Brief in <i>Monarch Networking Solutions LLC v. Cisco Systems Inc.</i> , No. 2:20-cv-00115-JRG (E.D. Tex.)
EX2008	Jonathan P. Lang et al., "Link Management Protocol (LMP)," IETF RFC 4204
EX2009	M. Bocci & S. Bryant, "An Architecture for Multi-Segment Pseudo Wire Emulation Edge-to-Edge," IETF Network Working Group Internet Draft
EX2010	First Amended Docket Control Order, <i>Monarch Networking Solutions LLC v. Cisco Systems, Inc.</i> , No. 2:20-cv-00015-JRG, Dkt. No. 123 (E.D. Tex. Dec. 7, 2020).

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I. Introduction

Patent Owner Monarch Networking Solutions LLC (“Monarch,” “Patent Owner,” or “PO”) respectfully requests that the Board refuse to institute *inter partes* review of U.S. Patent No. 8,130,775 (Ex.1001, hereinafter “the ’775 Patent”) because Cisco Systems, Inc. (“Cisco” or “Petitioner”) has not shown a reasonable likelihood of prevailing on claims 1 and 6 of the ’775 Patent. In addition, the Board should exercise its discretion and deny institution because the Petition (Paper 2, “Pet.”) is duplicative of positions advanced by Petitioner in the ongoing litigation regarding the same Patent.

II. Summary of the Argument

This Preliminary Response identifies four fundamental flaws in the Petition where either no facts are disputed or the issue is a pure question of law. Each of these four flaws independently warrants denial. Accordingly, the Board can deny Cisco’s Petition at this preliminary stage without the need to weigh disputed facts or assess the credibility of witnesses.¹

First, Monarch and Cisco proposed competing constructions of the term “link” in the parallel district court proceeding. Cisco’s Petition does not even attempt

¹ If the Board institutes trial, Patent Owner will also dispute Cisco’s factual allegations and will support its positions with expert testimony.

to show that either party's construction of "link" is met under Ground 1. In fact, neither Aggarwal nor Hussain (alone or in combination) disclose either party's proposed construction of the term "link." In light of Cisco's failure of proof on the "link" term, and in light of the fact that Aggarwal and Hussain do not satisfy either party's construction of "link," Cisco has not demonstrated a reasonable likelihood of success. The Board can therefore deny the petition without the need to weigh disputed facts or construe the claims.

Second, neither Aggarwal nor Hussain nor their combination discloses a "first link being shared by the first and second pseudo-wires" as required by claims 1 and 6. This is shown below, in Section VIII.A.2.[1.7], through the admissions of Cisco's own Declarant, in addition to the teachings of Aggarwal and Hussain. Because Cisco's Declarant's admissions demonstrate that this limitation is not met by Aggarwal and Hussain, the Board can deny the Petition without the need to find facts or weigh the credibility of competing expert testimony.

Third, the Petition fails to meet the particularity requirement of 35 U.S.C. § 312(a)(3). Petitioner initially argues that "Claims 1 and 6 are obvious under 35 U.S.C. § 103(a) over Aggarwal and Hussain." Pet. at 23. However, Petitioner also relies on additional grounds, including a POSITA's knowledge. *See, e.g.*, Pet. at 38, 43. The Petition therefore fails to allege Ground 1 with the requisite particularity.

Because § 312(a)(3) imposes a legal requirement (about which there are no disputed facts), the Board can deny institution without any fact-finding.

Fourth, the Board should exercise its discretion to deny institution because it would be an inefficient duplication of ongoing litigation under § 314(a). The parties do not meaningfully dispute any facts regarding the parallel proceeding, including the fact that the same alleged prior art is asserted in the parallel proceeding and trial in the parallel proceeding is set to occur months before any final written decision will issue. This determination is committed to the sound discretion of the Board.

III. Note

Patent Owner cites to exhibits' original page numbers where possible. Emphasis in quoted material has been added throughout, unless otherwise noted.

IV. Background

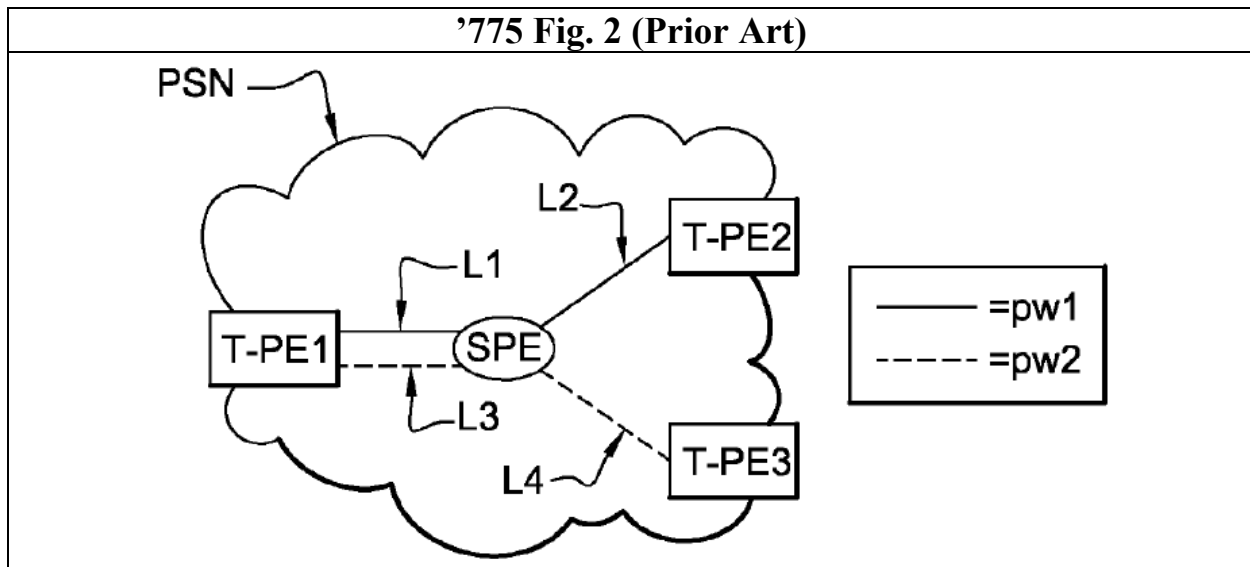
A. State of the Art

In a packet-switched network (PSN), data is transmitted and routed in the form of packets, which are processed and forwarded by routers until the packets reach their destination. '775 Patent at 1:30-32. Various prior art techniques existed for routing these packets through the network, including multi-protocol label switching (MPLS). *Id.* at 1:34-36. MPLS works by adding labels to the headers of data packets; these labels contain information the routers can use to determine the next "hop" (*i.e.*

the path to the next router) along which the packet can travel to reach its intended destination. *See id.* at 1:36-39. MPLS is discussed in RFC3031. Ex.1036.

One limitation of MPLS is that it can only route a particular type of data packet: a packet that conforms to the Internet Protocol (IP). '775 Patent at 1:43-44. To address this limitation, the Internet Engineering Task Force (IETF) promulgated RFC3985, which describes a concept known as a “pseudo-wire” or “PW.” *Id.* at 1:45-50; Ex.1010. Pseudo-wires have the advantage of allowing non-IP packets (*e.g.* ATM protocol packets) to be transmitted and routed across a packet-switched network. '775 Patent at 1:49-52; *see also* Ex.1010 at 17. Once a pseudo-wire has been set up, it can transmit a data stream across the packet-switched network, from an input router to an output router. '775 Patent at 1:53-2:2; Ex.1010 at 3 (“PWs provide the following functions ... [c]arriage of the encapsulated data across a PSN tunnel.”).

It was known in the art that a network operator might want to set up two or more pseudo-wires within the same network. *See* '775 Patent at 2:3-27. For example, the operator may wish to set up a second pseudo-wire that acts as a “backup” in case the first pseudo-wire fails. *Id.* An example of this configuration is shown in Figure 2 of the '775 Patent:



In Figure 2, a first pseudo-wire pw1 is set up across the PSN from input router T-PE1 to output router T-PE2. '775 Patent at 2:12-15. This pw1 consists of two links: L1 from input router T-PE1 to intermediate router SPE, and L2 from intermediate router SPE to output router T-PE2. *Id.* at 2:15-20.

In case of a fault affecting pw1 (e.g. a fault at link L2 or output router T-PE2), pw1 will cease to function properly, so a “backup” pseudo-wire pw2 is also set up across the PSN to ensure continuity of service. *See id.* at 2:20-23; 2:33-39. This pw2 goes from input router T-PE1 to output router T-PE3, and also consists of two links: L3 from input router T-PE1 to intermediate router SPE, and L4 from intermediate router SPE to output router T-PE3. *Id.* at 2:20-27. In the event of a fault affecting pw1, the PSN can relay a message indicating the fault to T-PE1, which can switch the data stream from pw1 to pw2 to bypass the fault. *Id.* at 2:33-39.

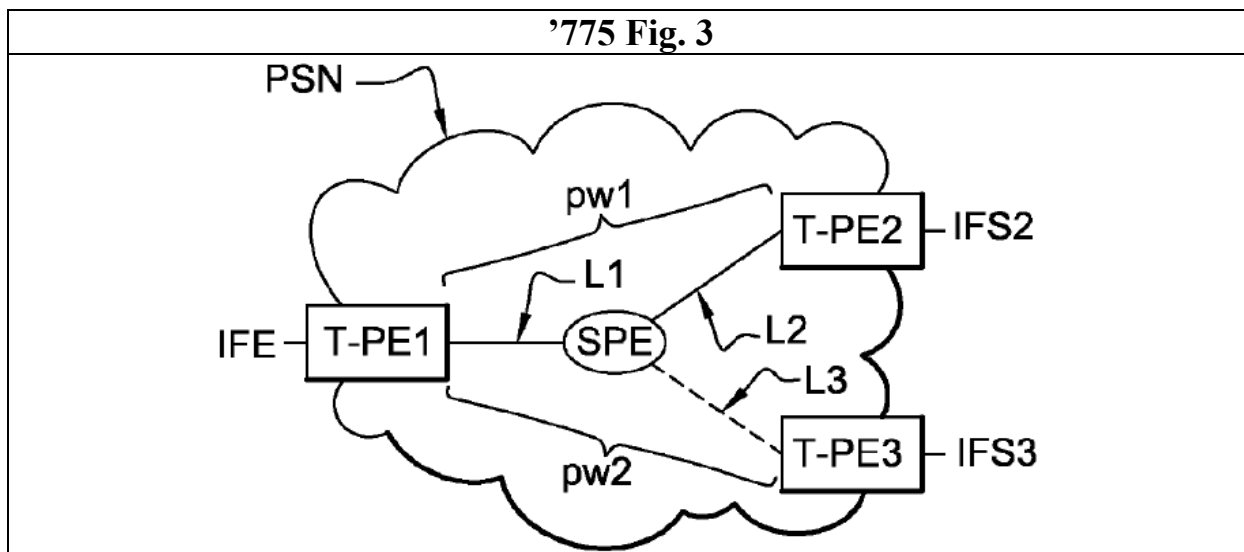
It was uniformly understood in the prior art that two pseudo-wires would always use different links and would not share any links between them. For example, RFC3985 states that a “PW is characterized as an **unshared link** or circuit of the chosen service.” Ex.1010 at 3. Links were not shared even when the two pseudo-wires shared the same connection path between the same two routers; for example even though pw1 and pw2 share the same connection path between T-PE1 and SPE, they use two separate links L1 and L3 to traverse their common connection path. ’775 Patent at Fig. 2. The ’775 Patent explains that “In the prior art, when a main pseudo-wire and a back-up pseudo-wire are set up between an input router and a first, respectively a second, output router, **a link is set up between the input router and the intermediate router for each pseudo-wire, i.e. two links.** The person skilled in the art has always considered a pseudo-wire as a point-to-point link set up between an input router and an output router, with the result that each input router/output router pair is associated with a pseudo-wire. Moreover, this kind of approach is recommended in the standards.” *Id.* at 3:5-14.

As a result of this view in the prior art that pseudo-wires should use “unshared” links to traverse the PSN, network operators would set up multiple pseudo-wires in a configuration like the one shown in figure 2, in which the pseudo-wires are shaped like the letter “Y” (laying on its side) with a double-lined stem (representing the two unshared links from T-PE1 to SPE).

B. The '775 Patent Invention

The '775 Patent inventors recognized a drawback of the prior art “double-stem Y” approach shown, for example, in Fig. 2: “this kind of solution has the drawback of consuming network resources, for example processing resources in the network equipments (storage capacity, computation capacity, etc.), signaling streams for setting-up two pseudowires, and bandwidth, especially between the input router and the intermediate router.” '775 Patent at 2:40-45.

The '775 Patent inventors realized this drawback of the prior art could be avoided with a “single-stem Y” configuration, in which the two pseudo-wires share the same link along their shared connection path. “Going against this received wisdom of the person skilled in the art, the inventors of the present application propose, in contrast, to share the link set up between the input router and the intermediate router, which improves the use of network resources ... Because the main pseudo-wire and the back-up pseudo-wire share the link set up between the input router and the intermediate router, the network resources that in the past were reserved for the back-up pseudo-wire are released and can be used in a manner closer to the optimum.” *Id.* at 3:15-29. This novel approach is shown, for example, in '775 Patent Figure 3:



See also '775 Patent at 6:44-48 (“the first link L1 is shared by the two pseudowires pw1 and pw2. This optimizes the use of network resources, such as bandwidth, between the input router T-PE1 and the intermediate router S-PE, as only one link is set up between these two routers.”).

C. Petitioner’s References

1. Aggarwal

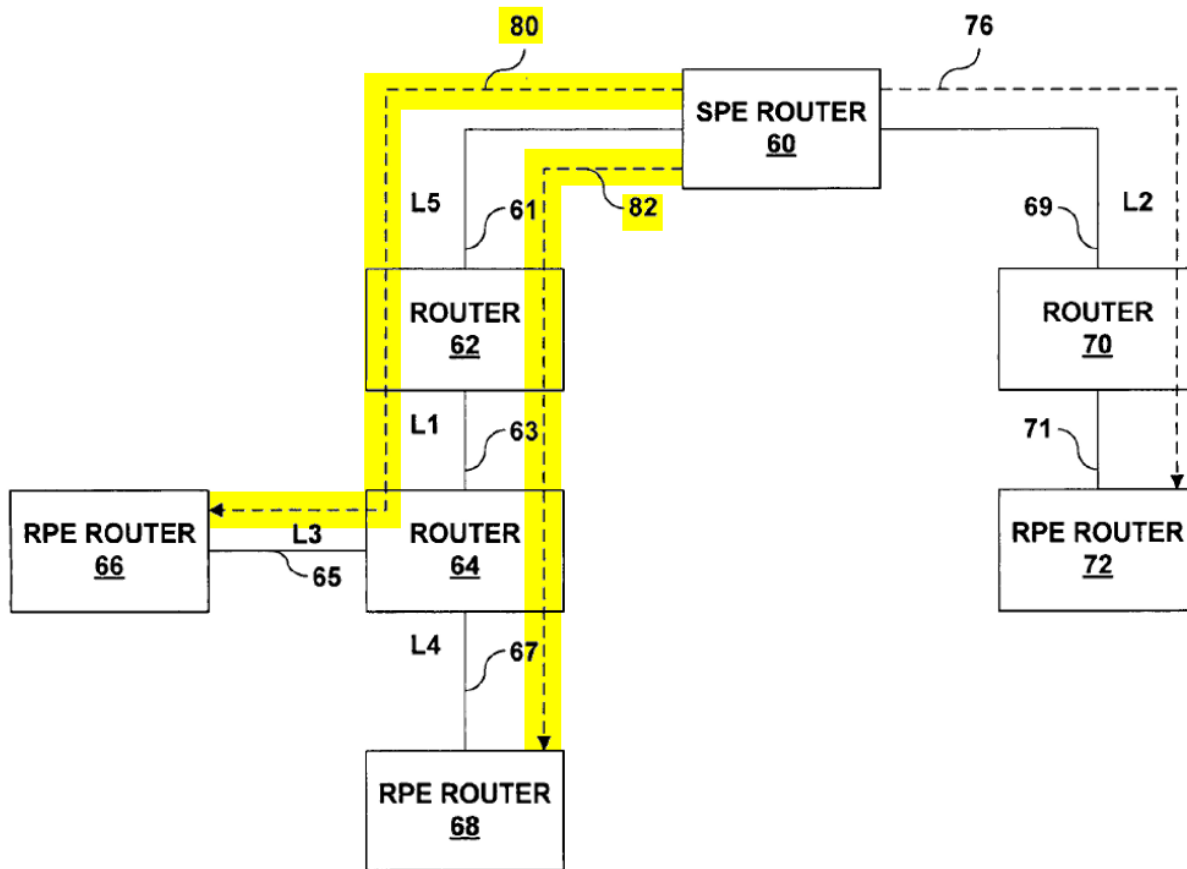
U.S. Patent No. 7,602,702 to Aggarwal (“**Aggarwal**”) bears a purported filing date of February 10, 2005. Ex.1005. Aggarwal is titled “Fast Reroute of Traffic Associated with a Point to Multi-Point Network Tunnel.”

Aggarwal teaches “techniques for fast reroute of traffic associated with a point to multi-point (P2MP) tunnel.” *Id.* at 1:62-64. The P2MP tunnel is set up using label switched paths, called “branch LSPs,” between input and output routers. *Id.* at 2:2-3. These LSPs are set up using MPLS: “By utilizing MPLS, a source device can request a path through a network, i.e., a Label Switched Path (LSP). An LSP defines

a distinct path through the network to carry MPLS packets from the source device to a destination device.” *Id.* at 1:34-37.

Aggarwal does not mention or discuss pseudo-wires at all. This makes sense, because Aggarwal is exclusively focused on using MPLS to route IP traffic across IP networks. *See, e.g., id.* at 1:32-34 (“Multi-protocol Label Switching (MPLS) is a mechanism used to engineer traffic patterns within Internet Protocol (IP) networks.”). Recall that one of the benefits of pseudo-wires is the ability to route non-IP traffic across a PSN. *See* ’775 Patent at 1:49-52; *see also* Ex.1010 at 17. Because of Aggarwal’s exclusive focus on IP networks and using MPLS to route IP packets, the inventors of Aggarwal had no reason to consider or discuss pseudo-wires.

Petitioner cites to Aggarwal’s Figure 5 embodiment and accompanying description. *See* Ex.1005 at Fig. 5; 6:26-7:56. Figure 5 includes “Branch LSPs” 80 and 82, with Branch LSP 80 taking a path through the network from SPE router 60 to RPE Router 66, and Branch LSP 82 taking a path from SPE router 60 to RPE Router 68. *Id.* at 6:45-47.



Ex.1005 at Fig. 5 (highlighting added).

Aggarwal Figure 5 shows a “double-stem Y” configuration similar to the prior art depicted in ’775 Patent Figure 2. Although Aggarwal’s LSPs 80 and 82 share a portion of their connection path (from router 60 to router 64) they do not share any links along that path, as illustrated by the non-overlapping LSPs 80 and 82.

Aggarwal states that “Branch LSPs 80 and 82 share links 63 and 61 between router 64 and SPE router 60.” Ex.1005 at 6:47-49; *see also id.* at 6:40-42 (“These branch LSPs are computed to share the same links where possible as they belong to the same session.”). However, as discussed in more detail below, Aggarwal does not

use the term “link” in the same way as the ’775 Patent, and therefore does not teach the shared link “single-stem Y” configuration shown, for example, in ’775 Patent Figure 3 and recited in claims 1 and 6. Instead, Aggarwal describes a “link” as follows: “The term ‘link’ is often used to refer to the connection between two devices on a network. The link may be a physical medium, such as a copper wire, a coaxial cable, any of a host of different fiber optic lines or a wireless connection. In addition, network devices may define ‘virtual’ or ‘logical’ links, and map the virtual links to the physical links.” Ex.1005 at 1:22-27.

Accordingly, Aggarwal uses the term “link” to mean a connection path, and any two LSPs that share the same connection path are described by Aggarwal as sharing the same “link.” This understanding is further confirmed by Aggarwal’s repeated conflation of the concept of a “shared link” with a “shared path.” *See, e.g., id.* at 7:23-25 (“The next branch LSP may **follow the same path** as the first branch LSP up to a certain branch LSR.”); *id.* at 7:50-56 (“When setting a P2MP LSP, a source router has a view of the entire network topology and can accordingly compute the **path** for each P2P LSP **sharing links where possible** with other branch LSPs belonging to the P2MPLSP. This can also be described as a P2MP constrained **shortest path first** (CSPF), where **a path to a destination router is set up as a P2P LSP.**”).

In other words, Aggarwal teaches that the two Branch LSPs should be computed to use the “shortest path” through the network, which will typically result in these Branch LSPs sharing a portion of the same connection path between routers in the network (*e.g.* the paths 61 and 63 in Figure 5). This is akin to the prior art shown in Figure 2 of the ’775 Patent in which pw1 and pw2 share the same path between the same devices (T-PE1 to SPE) without sharing any links. Aggarwal does not teach a “shared link” as that concept is used in the ’775 Patent (*e.g.* the “single-stem Y” configuration of Fig. 3).

2. Hussain

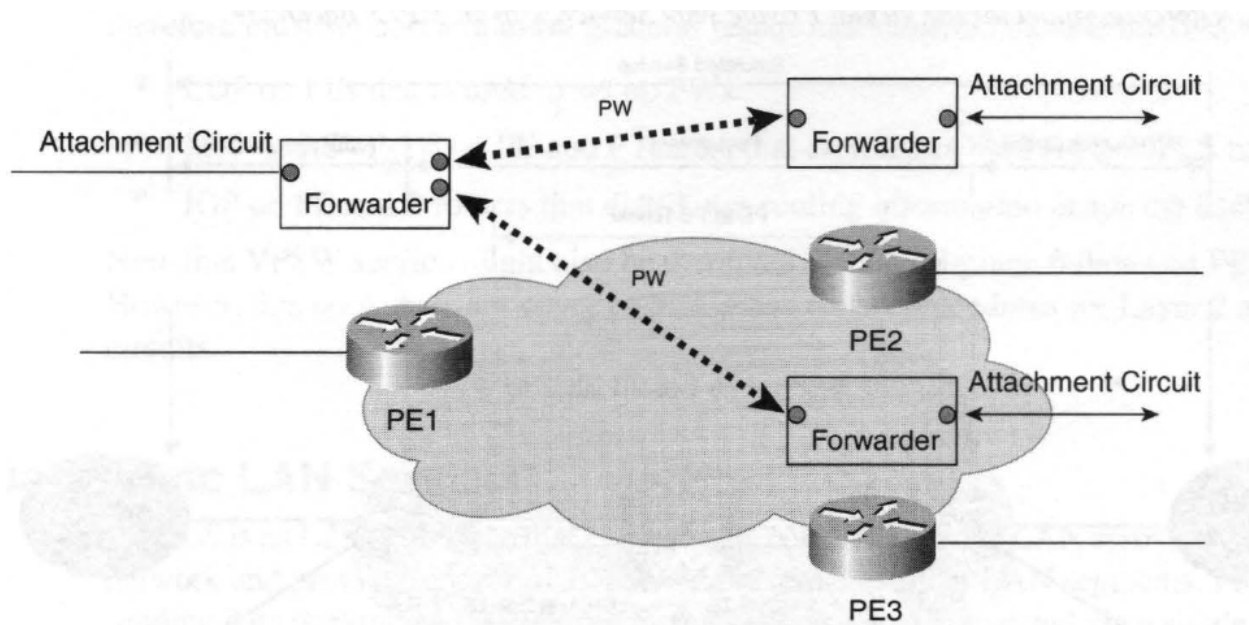
FAULT-TOLERANT IP AND MPLS NETWORKS by Iftexhar Hussain (“**Hussain**”) is a textbook. Ex.1006. It was purportedly published by Cisco Press in 2004.

Because Hussain is a textbook, it does not purport to improve upon the state of the art as of its publication date. Instead, Hussain describes how certain network technologies (including pseudo-wires) were understood to operate at that time.

Accordingly, Hussain teaches that a pseudo-wire is “a mechanism that emulates the essential attributes of a service, such as FR, ATM, Ethernet, Time Division Multiplexing [TDM], and SONET/SDH over IP and/or MPLS network.” Ex.1006 at 272. Consistent with the prior art teaching of RFC3985 that a “PW is characterized as an **unshared link** or circuit of the chosen service” (Ex.1010 at 3), Hussain’s PWs are separate from one another, with PWs distinguished, for example,

by the use of separate labels. Ex.1006 at 274-75 (“The demultiplexer [is used] to distinguish individual PWs within a single tunnel ... the tunnel header and demultiplexer fields are based on MPLS labels.”).

Because shared links between pseudo-wires were not known in the prior art, Hussain never discusses or teaches pseudo-wires sharing links. For example, Hussain illustrates two pseudo-wires taking different paths through the network without overlap:



Ex.1006 at 273.

D. The Parallel Proceeding

Patent Owner asserted the '775 Patent against Petitioner Cisco in parallel proceeding *Monarch Networking Solutions LLC v. Cisco Systems Inc.*, No. 2:20-cv-00115-JRG (E.D. Tex.–Judge Rodney Gilstrap), filed Jan. 21, 2020. Monarch also

asserted three additional patents (not related to the '775 Patent) in that parallel proceeding: U.S. Pat. Nos. 8,451,844; 8,451,845; and 9,019,965.

Monarch and Cisco proposed competing constructions for one '775 Patent claim term in the parallel proceeding: the term “link.” The parties’ positions regarding that term are discussed in more detail below.

V. Legal Standards

An IPR should not be instituted unless Petitioner has shown a likelihood of success on the invalidity grounds *presented in the petition*. See *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1381 (Fed. Cir. 2016) (“[T]he Board must base its decision on arguments that were advanced by a party, and to which the opposing party was given a chance to respond.”).

“In an IPR, the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (petitions must identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”); 35 U.S.C. § 312(a)(3). This burden of persuasion never shifts to the patent owner. See *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015).

“To satisfy its burden of proving obviousness, a petitioner cannot employ mere conclusory statements. The petitioner must instead articulate specific

reasoning, based on evidence of record, to support the legal conclusion of obviousness.” *In re Magnum Oil Tools Int’l*, 829 F.3d at 1380. The obviousness inquiry requires considering whether one of skill in the art “would have been motivated to combine the prior art to achieve the claimed invention.” *In re NuVasive, Inc.*, 842 F.3d 1376, 1381 (Fed. Cir. 2016) (quoting *In re Warsaw Orthopedic, Inc.*, 832 F.3d 1327, 1333 (Fed. Cir. 2016)). “[T]he factual inquiry whether to combine references must be thorough and searching...” *Id.*

“If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious.” MPEP § 2143.01 (citing *In re Ratti*, 270 F.2d 810, 813 (C.C.P.A. 1959)).

VI. Level of Ordinary Skill in the Art

For purposes of this Preliminary Response, Patent Owner does not contest Petitioner’s recitation of the level of skill in the art, because even under Petitioner’s proposed level of skill Petitioner has failed to demonstrate a reasonable likelihood of success. Patent Owner reserves the right to propose its own definition of a person of ordinary skill in the art (“POSITA”) in the future if necessary.

VII. Claim Construction

Claims are construed according to *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). *See* 37 C.F.R. § 42.100(b). “Any prior claim construction

determination concerning a term of the claim in a civil action...will be considered.”

Id.

Petitioner did not propose any claim constructions in this IPR. However, in the parallel proceeding, Petitioner and Patent Owner proposed competing claim constructions for the term “link,” and the Court issued a preliminary construction, as follows:

Term²	Patent Owner Monarch’s Proposal	Petitioner Cisco’s Proposal	Court’s Preliminary Construction³
“link” (cls. 1, 6)	“a connection between an interface on a first device and an interface on a second device”	“part of a pseudo-wire (<i>i.e.</i> , a segment) with its own label that is used when broadcasting data streams”	“connection between an interface of a first router and an interface of a second router”

See Ex.2002 at 9-10 (Monarch’s proposed construction); Ex.2003 at 12 (Cisco’s proposed construction); Ex.2004 at 1 (court’s preliminary construction).

Because the meaning of the term “link” is disputed by Petitioner in the parallel proceeding and is relevant to the issues presented in this IPR, the Board

² The parties originally proposed construing the larger phrase “link set up” but later agreed to construe only the term “link.” Their proposed constructions did not change.

³ The Court’s preliminary construction substitutes the word “device” in Monarch’s construction for the word “router.” For purposes of this IPR, these two constructions are equivalent because the devices in Aggarwal and Hussain are routers.

should construe this term. Patent Owner respectfully requests that the Board follow the guidance provided by the district court and construe the term “link” to mean “a connection between an interface on a first router and an interface on a second router.”

Patent Owner’s proposed construction (and the court’s preliminary construction) of the term “link” in the parallel proceeding—a “connection between an interface of a first router and an interface of a second router”—is the correct construction and should be adopted by the Board. Under this construction of “link,” and as explained in more detail below, the Petition should be denied because Petitioner has not shown that the combination of Aggarwal and Hussain discloses a “link.”

However, even under the construction advanced by Petitioner in the parallel district court proceeding, the Petition should still be denied because Petitioner has not shown that the combination of Aggarwal and Hussain discloses a “link” under that construction either.

Accordingly, irrespective of which construction the Board adopts, the Petition should be denied.

It is also noteworthy that Petitioner did not notify the Board of either party’s “link” claim construction positions in the parallel proceeding, nor did Petitioner notify the Board of the Court’s preliminary construction of this term. “Parties and individuals involved in the proceeding have a duty of candor and good faith to the

Office during the course of a proceeding.” 37 C.F.R. § 42.11; *see also* 37 C.F.R. § 42.51(b)(1)(iii) (“a party must serve relevant information that is inconsistent with a position advanced by the party during the proceeding”). In particular, as shown below, Petitioner Cisco’s own proposed claim construction of “link” in the parallel proceeding is inconsistent with Cisco’s positions in the Petition. Cisco had a duty of candor to notify the Board about its inconsistent position in the parallel proceeding, but did not.

A. The Proper Construction of “Link”

The parties’ arguments about the proper construction of the term “link” are elaborated in the attached claim construction briefing from the parallel proceeding. Ex.2005 at 15-17; Ex.2006 at 15-17; Ex.2007 at 5-6. Patent Owner summarizes its position as follows:

To minimize the duplicative nature of setting up and reserving processing resources along two different routing paths through the packet-switched network, the ’775 Patent introduces the concept that two pseudo-wires can share a “link.” This is required by all asserted claims, and an example is shown by comparing the prior art approach of Figure 2 with the disclosed solution provided in Figure 3:

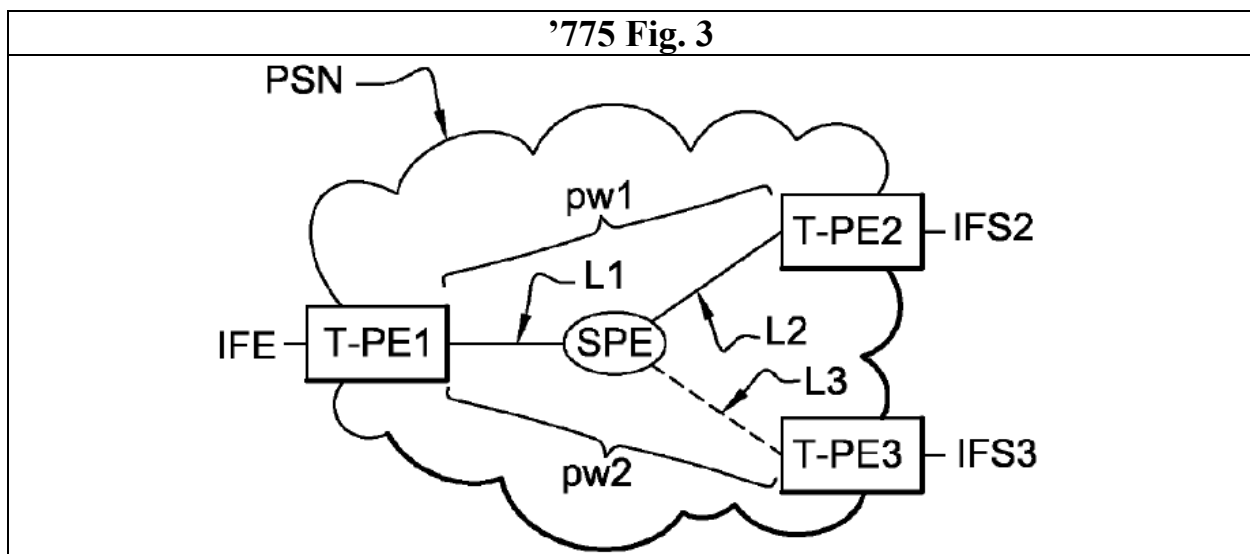
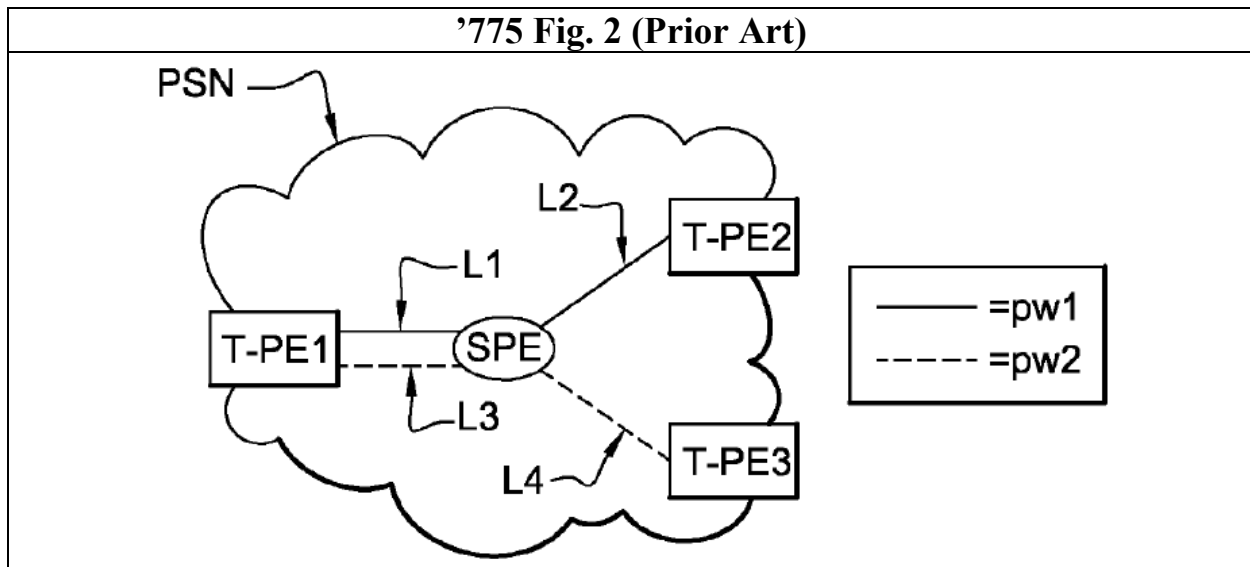


Figure 2 illustrates the prior art approach in which two pseudo-wires (pw1 and pw2) share a portion of their connection paths (the path from T-PE1 to SPE) but do not share any “links” because each pseudo-wire reserves its own separate link to traverse the shared path (links L1 and L3, respectively). *See* Ex.1001 at 2:12-39. This prior art approach has the drawback of consuming additional network resources

to set up and maintain two separate links along the same path. *Id.* at 2:40-47. Figure 3 shows the '775 solution—instead of using two links along the shared path from T-PE1 to SPE, the two pseudo-wires instead share a single link (L1) along this path. *Id.* at 6:44-48. This solution optimizes the use of network resources by allowing the two pseudo-wires to share a link along their routing paths. *Id.* As Figures 2 and 3 show, a shared path is not necessarily the same thing as a shared link, and the same two routers can support multiple links between them (*e.g.* L1 and L3 in Fig. 2). Accordingly, it is important to give the term “link” a precise and clear meaning.

The specification gives examples that show the endpoints of a link each terminate on a particular interface on a device: “The packets sent to the first output router T-PE2 are directed to the **interface if2** of the intermediate router S-PE. **This interface if2 constitutes a first end of the link L2.**” *Id.* at 8:5-8; *see also id.* at 6:60-7:2 (“the pseudowires pw1 and pw2 are set up at the initiative of the input router T-PE1 and setting them up is based on the exchange of set-up messages ... [the] first set-up message includes an identifier SAI of the input router T-PE1 [and] **an identifier of an input interface IFE** associated with an equipment connected to the input router.”). These examples show that in order to set up a link, one must identify both the device (*e.g.* SPE or T-PE1) and the particular interface (*e.g.* if2 or IFE) where the link will terminate on that device. As these examples show, a link is “a

connection between an interface of a first router and an interface of a second router,” and not merely any connection between two devices.

This plain meaning of “link” is supported by extrinsic evidence, such as IETF RFC4204, which defines “data link” as follows: “A data link is a pair of interfaces that are used to transfer user data.” Ex.2008 at 5; *see also id.* at 6 (“Port: An interface that terminates a data link.”).

Cisco stated in its Responsive Claim Construction Brief in the parallel litigation: “The Court should reject Monarch’s proposed construction because although **it is descriptive of a data link, in general**, it is not definitional regarding the types of links claimed in the ’775 Patent. ... So although **Cisco does not object to the concept of interfaces in the Court’s construction**, the Court should not omit the critical aspects of Cisco’s proposal that provide definition and come from the intrinsic record.” Ex. 2006 at 17. In the quoted passage, Cisco told the district court that it believes additional limitations should be added to Monarch’s construction because of allegedly “definitional” statements in the intrinsic record. However, Cisco also told the district court that **both parties agree** the proper construction of “link” should include “the concept of interfaces” even though Patent Owner and Petitioner disagree about other aspects of the construction.

Cisco's proposed construction attempts to re-define a "link" as a "segment." But the term "segment" has a different meaning from the term "link" to one skilled in the art. Nothing in the specification equates a "link" with a "segment."

The only use of the term "segment" in the '775 Patent specification appears in citations to a prior art document titled "An Architecture for Multi-Segment Pseudo-Wire Emulation Edge-to-Edge." *See, e.g.*, '775 Patent at 2:1-2. Cisco cited this document as extrinsic evidence in the parallel proceeding in support of its proposed construction. This document defines a "PW [pseuo-wire] Segment" as "A part of a single-segment or multi-segment PW, which is set up between two PE [provider edge] devices, T-PEs and/or S-PEs." Ex.2009 at 6. In other words, this document says that a "segment" connects two "provider edge" devices, which are devices located at the edge of the network. For example, in figures 2 and 3, these would be the devices labeled T-PE1, T-PE2, and T-PE3, located at the edges of network labeled "PSN" (packet switched network). This extrinsic document further confirms this meaning of "segment" when it says "[s]cenarios are discussed where each **segment** of a given **edge-to-edge** emulated service **spans** a different provider's **PSN** [packet switched network]." *Id.* at 2.

Thus a "segment" is different from a "link" as shown in Figures 2 and 3. The links in these figures (*e.g.* L1) do not "span" the entire PSN network from "edge-to-edge." Rather, links such as L1 span only part of the PSN (*e.g.* from T-PE1 to SPE)

and do not go all the way from edge to edge. Cisco's proposed "segment" construction therefore contradicts Figures 2 and 3.

Cisco's proposed requirement that each link has "its own label" also unduly limits this term to a preferred embodiment. The '775 teaches embodiments in which each link is assigned a label (*e.g.*, '775 Patent at 7:25-26), but further teaches that the link can carry multiple different labels: "On reception of a data packet sent by the input router T-PE1, the intermediate router S-PE uses the label added to the packet by the input router to determine to which output interface if2, if3 to direct the data packet." *Id.* at 8:1-5. Accordingly, a packet traveling along link L1 from T-PE1 to SPE can have one of at least two different labels, indicating which of two interfaces (if2 or if3) the data packet should be directed to so it can be routed to the next link (L2 or L3). Thus, if Cisco's construction requires each link to have a single label, it would improperly exclude this embodiment, in which link L1 can carry at least two different labels.

B. Cisco's Petition Fails Under the Proper Construction of "Link"

Cisco's Petition fails to show a reasonable likelihood of success under Patent Owner's proposed construction, which has been adopted by the district court in its tentative Order. As discussed above, both parties agree the proper construction of "link" should include "the concept of interfaces." However, Cisco's Petition does not discuss interfaces at all. The word "interface" does not appear anywhere in

Cisco's arguments in the Petition or the corresponding portions of the Declaration.⁴ Thus, Petitioner cannot meet its burden to show that the prior art discloses a "link" that is a "connection between an interface of a first router and an interface of a second router" because Petitioner never attempts to show that the "interface" limitations are met in its Petition. The Petition thus is fundamentally deficient.

Aggarwal does not disclose a "link" as "a connection between an interface on a first router and an interface on a second router." Instead, Aggarwal defines "link" differently: "The term 'link' is often used to refer to the connection between two devices on a network." Ex.1005 at 1:22-27. This definition does not include the concept of interfaces. Instead, under the Aggarwal definition, two links that use different interfaces but that share the same physical path (*i.e.* the same "connection between two devices on a network") would be considered one link. For example, under the Aggarwal definition of "link," the two separate links L1 and L3 shown in

⁴ The word "interface" appears exactly once in Cisco's Petition because this word is part of the title of Ex. 1020. Pet. at 5. The petition never discusses or presents any arguments about interfaces. The term "interface" appears exactly three times in the Declaration of Henry Houh, once when citing Ex. 1020, and twice in his "Qualifications and Professional Experience" section. Ex. 1003 at 5, 6, 9. He offers no opinions about "interfaces" when discussing the alleged prior art or Ground 1.

Figure 2 of the '775 Patent would be considered one link because they share the same physical path between T-PE1 and SPE, *i.e.* they share the same “connection between two devices on a network.” Accordingly, Aggarwal’s definition of link is different from the narrower meaning of “link” in the '775 Patent. Aggarwal’s definition would result in the '775 claims reading on prior art configurations such as Fig. 2 (with two links using different interfaces to traverse the same path). But that definition does not disclose the shared link configuration of Fig. 3, in which a shared link is defined by shared interfaces rather than merely a shared path. *See* Ex.1001 at 8:5-8; *see also id.* at 6:60-7:2.

Hussain similarly fails to disclose a “link” as a “a connection between an interface on a first router and an interface on a second router.” Hussain does not define what it means when it uses the term “link.” But Hussain includes the following statement: “A VPN tunnel is a logical link between two devices such as PE routers that carries customer traffic across the backbone.” Ex.1006 at 255 (emphasis added). This description does not mention interfaces, and in fact Hussain never describes a link as being related to interfaces in any way. Accordingly, Petitioner has not shown, and cannot show, that Hussain discloses this limitation.

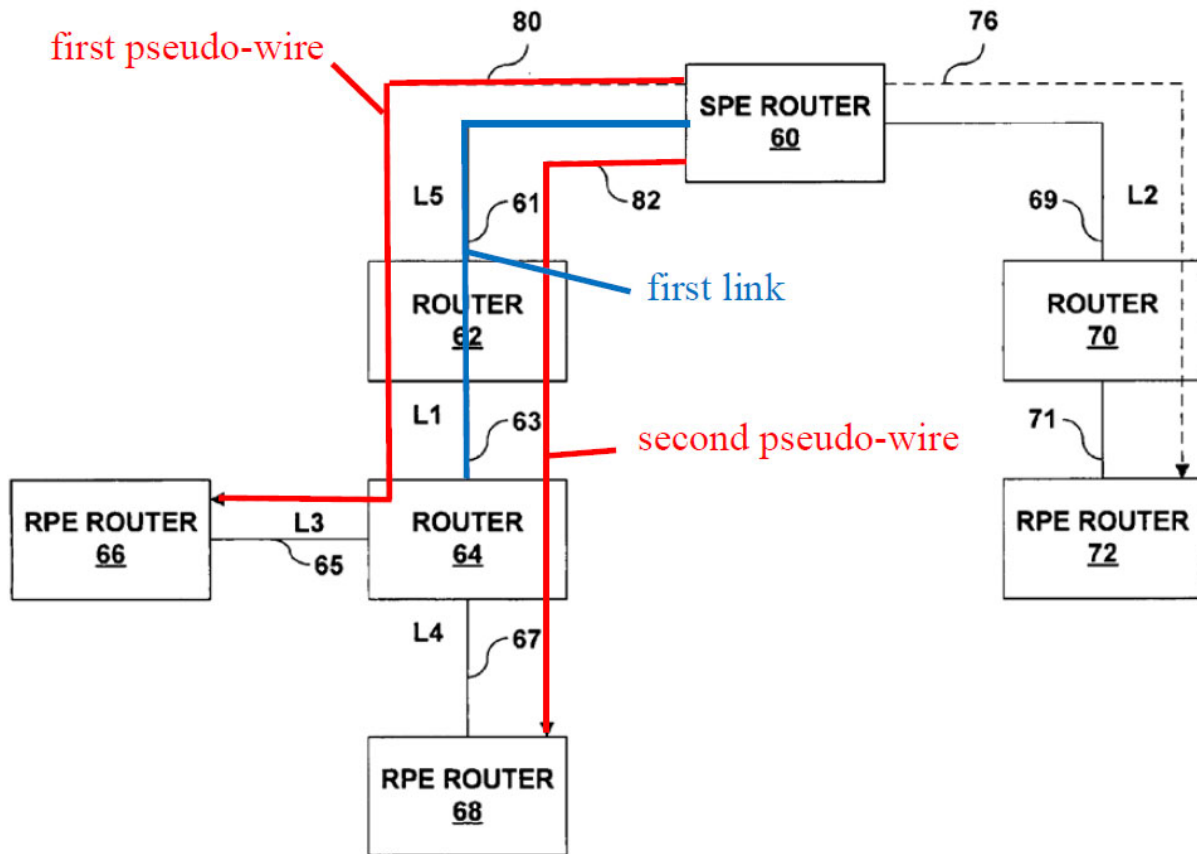
C. Cisco’s Petition Fails Under Petitioner’s Own Construction of “Link”

The situation is even worse for Petitioner if the Board adopts Petitioner’s proposed construction of “link” from the parallel proceeding—“part of a pseudo-

wire (*i.e.*, a segment) with its own label that is used when broadcasting data streams.”

Petitioner told the district court: “The Court should reject Monarch’s proposed construction because ... it is not **definitional regarding the types of links claimed in the ’775 Patent**. ... the Court should not omit the **critical aspects of Cisco’s proposal** that provide definition and come from the intrinsic record.” Ex. 2006 at 17. Yet the Petition and Declaration never mention this allegedly “critical” and “definitional” proposed claim construction, nor does the Petition attempt to show it is satisfied.

Aggarwal’s “link” definition, cited above, does not include any of the limitations recited in Cisco’s proposed construction. Ex.1005 at 1:22-27. Aggarwal’s links cannot possibly be “part of a pseudo-wire (*i.e.*, a segment)” because the words “pseudo-wire” and “segment” do not appear anywhere in Aggarwal. Moreover, the structure that Petitioner identifies as the “first link” in Aggarwal does not have “its own label” but rather is shown with multiple different labels (L1 and L5) corresponding to different parts of the alleged “first link”:



Pet. at 42 (Petitioner’s annotations shown); *see also* Ex.1005 at 50-59 (identifying L1 and L5 as different labels set up by different RESV messages). Accordingly, the alleged “links” of Aggarwal do not satisfy the limitations of Petitioner’s own proposed construction of “link.”

Similarly, Hussain does not disclose the limitations in Cisco’s own proposed construction. Hussain states: “A **VPN tunnel** is a **logical link** between two devices such as PE routers that carries customer traffic across the backbone.” Ex.1006 at 255 (emphasis added). Hussain further explains that “**PWs [pseudo-wires] correspond to nested LSPs in the PE-to-PE tunnel** in which an individual PW is identified

based on the MPLS label.” Ex.1006 at 273. Thus, Hussain does not say that a “link” is “part of a pseudo-wire” as required by Cisco’s construction, but rather says the opposite: Hussain says a tunnel is a type of link, and multiple pseudo-wires are nested inside the tunnel link. In other words, Hussain says a single link comprises multiple pseudo-wires, not that a single pseudo wire comprises multiple links. *Compare* ’775 Pat. Cl. 1 (“a first pseudo-wire comprising a first link ... and a second link”).

Hussain similarly fails to disclose that each link “has its own label.” Rather, Hussain says that multiple pseudo-wires are nested inside of a link and “an individual PW is identified based on the MPLS label.” Ex.1006 at 273. Thus each link in Hussain carries multiple different labels, with each label corresponding to a different pseudo-wire nested inside that link. *See also id.* at 275 (“The demultiplexer [is used] to distinguish individual PWs within a single tunnel ... demultiplexer fields are based on MPLS labels.”).

As shown above and as discussed in further detail below under Ground 1, neither Aggarwal, nor Hussain, nor their combination discloses a “link,” irrespective of whether the Board adopts Patent Owner’s construction or Petitioner’s construction of “link” from the parallel litigation. For this reason, the Petition should be denied.

VIII. Argument

A. Ground 1: No Claims are Obvious based on Aggarwal and Hussain

Petitioner argues that claims 1 and 6 are obvious based on Aggarwal and Hussain. Pet. at 16, 23. Ground 1 is the only ground asserted by Petitioner. Petitioner has not shown a reasonable likelihood of success on the merits with regard to its patentability challenge.

1. Petitioner has not asserted its grounds for invalidity with particularity.

35 U.S.C. § 312(a)(3) requires that the Petitioner identify the grounds for each claim challenged with particularity. Petitioner initially argues that “Claims 1 and 6 are obvious under 35 U.S.C. § 103(a) over Aggarwal and Hussain” Pet. at 23. However, Petitioner also relies on additional grounds, including a POSITA’s knowledge. *See, e.g.*, Pet. at 38 (“A POSITA would have found it obvious to implement Aggarwal’s branch LSP’s as pseudo-wires to improve network efficiency”); *id.* at 43 (“a POSITA would understand that router 62 could be removed (and labels L5 and L1 consolidated into a single label) in the example network in Figure 5 above”). Because it is not clear whether Petitioner’s Ground 1 is based solely on Aggarwal and Hussain, or whether it is actually Aggarwal in view of Hussain and in further view of a POSITA’s knowledge, Petitioner has failed the particularity requirement that “the petition identifies, in writing and with particularity, each claim challenged, [and] the grounds on which the challenge to

each claim is based...” Even if Patent Owner could infer what Petitioner’s intention was, the Board cannot institute on grounds other than those specifically proposed by Petitioner. *See Koninklijke Philips N.V. v. Google LLC*, 948 F.3d 1330, 1336 (Fed. Cir. 2020). Thus, Petitioner has failed to show a reasonable likelihood of success for Ground 1.

2. Claim 1

[1.0] *A method of setting up at least two pseudo-wires able to broadcast a data stream, comprising:*

Cisco presents two different theories about what allegedly discloses the “setting up at least two pseudo-wires” limitations. First, Cisco says that a POSITA would implement Aggarwal’s branch LSPs as pseudo-wires. Pet. at 37 (“a POSITA would have found it obvious to implement Aggarwal’s branch LSPs as pseudo-wires”). Second, Cisco says that a POSITA would implement Hussain’s pseudo-wires *within* Aggarwal’s LSPs. *Id.* at 39 (“Alternatively, a POSITA would have found it obvious to implement pseudo-wires *within* Aggarwal’s branch LSPs”).

As noted above, both of these argument fail because they purport to rely on the knowledge of a POSITA to supply the “setting up at least two pseudo-wires” claim limitation, but Petitioner did not identify the knowledge of a POSITA as a basis for Ground 1. Accordingly, the Petition fails the particularity requirement of 35 U.S.C. § 312(a)(3).

Additionally, in the context of using a POSITA's knowledge to supply a missing limitation, the Federal Circuit considers whether “the [missing] limitation in question [is] unusually simple and the technology particularly straightforward.” *Koninklijke Philips N.V. v. Google LLC*, 948 F.3d 1330, 1338 (Fed. Cir. 2020) (quoting *Arendi S.A.R.L. v. Apple Inc.*, 832 F.3d 1355, 1361-62 (Fed. Cir. 2016)). Petitioner and Petitioner's Declarant have provided no evidence or argument that it would have been unusually simple and straightforward “to implement Aggarwal's branch LSPs as pseudo-wires” or “to implement pseudo-wires *within* Aggarwal's branch LSPs.” Pet. at 37-39; Ex.1003 at ¶¶ 84-89. Aggarwal does not mention “pseudo-wires” at all, and Hussain does not mention “branch LSPs.” As such, it would not have been particularly simple or straightforward to connect these concepts, nor would it have been simple or straightforward to figure out, from the teachings of these references, how to combine them. The fact that Cisco proposes two alternative ways to combine a “pseudo-wire” and a “branch LSP” demonstrates that the combination is not simple or straightforward.

[1.1] *setting up a first pseudo-wire comprising a first link*

As discussed above in section VII, incorporated by reference here, neither Patent Owner's nor Petitioner's proposed construction of “link” is disclosed by Aggarwal or Hussain or their combination. The Petition does not attempt to show

that either construction of “link” is met. Accordingly, Petitioner has not shown a reasonable likelihood of success on this limitation.

Cisco improperly relies on the knowledge of a POSITA to supply this limitation. *See, e.g.* Pet. at 42 (“A POSITA implementing the method of setting up the first pseudo-wire would have understood that a link may consist of multiple hops. Therefore, a POSITA would have found it obvious that ‘a first link’ would extend from SPE router 60 to intermediate router 64.”); *id.* at 43 (“To the extent that a link is found to be the connection between pairs of routers that do not include intermediate routers, a POSITA would understand that router 62 could be removed (and labels L5 and L1 consolidated into a single label) in the example network in Figure 5 above.”). Petitioner did not identify the knowledge of a POSITA as a basis for Ground 1. Accordingly, the Petition fails the particularity requirement of 35 U.S.C. § 312(a)(3).

Petitioner argues that Aggarwal discloses “a first pseudo-wire comprising a first link” because “Branch LSPs 80 and 82 share links 63 and 61” and “links 61 and 63 either individually or together teach the claimed ‘first link.’” Pet at 41. Assuming *arguendo* that Petitioner’s statements correctly characterize Aggarwal, Petitioner has at most shown that Aggarwal teaches “a first **branch LSP** comprising a first link” but not “a first **pseudo-wire** comprising a first link” because Aggarwal does not mention pseudo-wires at all.

To supply the pseudo-wire limitation, Petitioner would need to rely on Hussain. But Petitioner does provide any citations to Hussain (Ex.1006) in its analysis of this limitation. Pet at 41-43.

Hussain states that “**multiple PWs** may be **carried in a single tunnel** (which in the case of MPLS is **an LSP**)” and teaches that a “**VPN tunnel is a logical link** between two devices such as PE routers.” Ex.1006 at 197, 255. Thus, Hussain teaches that a tunnel is a link, and that multiple PWs may be carried inside a single tunnel link. This means that Hussain does not teach “a first pseudo-wire comprising a first link [... and a second link]” but rather teaches the exact opposite: “a link comprising a pseudo-wire nested inside.”⁵

This understanding of Hussain is confirmed by Petitioner’s Declarant, who states: “Hussain teaches implementing **pseudo-wires within a PE-to-PE tunnel**... Like Hussain’s PE-to-PE tunnel, Aggarwal’s **Branch LSPs are tunnels** between edge routers.” Ex.1003 at ¶ 75. Thus, assuming *arguendo* that the Declarant’s statements are correct, Hussain’s pseudo-wires would need to be implemented

⁵ As a matter of logic and common sense, “A comprises B” does not mean the same thing as “B comprises A.” A face comprises eyes, but eyes do not comprise a face. The human race comprises Tom Hanks, but Tom Hanks does not comprise the human race.

within links 61 and/or 63 of Aggarwal's Branch LSPs, such that links 61 and 63 comprise a pseudo-wire nested inside. But the opposite is required by this claim limitation: "a first pseudo-wire comprising a first link."

Petitioner has not attempted to show how a POSITA would combine Aggarwal and Hussain to arrive at this claim limitation. To do so would "change the principle of operation" of Hussain because Hussain's links comprise pseudo-wires and not the other way around. MPEP § 2143.01.

Accordingly, Petitioner has not shown a reasonable likelihood of prevailing on this limitation.

[1.2] [a first link] set up between an input router of a packet-switched network and an intermediate router of the packet-switched network and

As discussed above in section VII, incorporated by reference here, neither Patent Owner's nor Petitioner's proposed construction of "link" is disclosed by Aggarwal or Hussain or their combination. The Petition does not attempt to show that either construction of "link" is met. Accordingly, Petitioner has not shown a reasonable likelihood of success on this limitation.

[1.3] [a first pseudo-wire comprising . . .] a second link set up between said intermediate router and a first output router of the packet-switched network; and

Petitioner fails to show a reasonable likelihood of success on this limitation for the same reasons recited above regarding limitation [1.1], which is incorporated by reference here. Those reasons are summarized as follows:

First, Petitioner has not shown that Aggarwal, Hussain, or their combination disclose a “link” under either party’s proposed construction of this term.

Second, Petitioner improperly relies on the alleged knowledge of a POSITA. *See, e.g.*, Pet. at 48 (“A POSITA would have recognized that the description of SPE routers and RPE routers in the embodiment of Fig. 1 would have applied to the SPE routers and RPE routers in the embodiment of Fig. 5.”). Accordingly, the Petition fails the particularity requirement of 35 U.S.C. § 312(a)(3).

Third, because Aggarwal does not mention pseudo-wires at all, Petitioner would need to rely on Hussain to supply the “pseudo-wire” portion of this limitation, but Petitioner never cites to Hussain (Ex.1006) in its analysis of this limitation. Pet at 46-48.

Fourth, Hussain could not supply this limitation because Hussain teaches that links comprise pseudo-wires, not that pseudo-wires comprise links. *See, e.g.*, Ex.1006 at 197, 255. Further, Petitioner has not attempted to show how a POSITA would combine Aggarwal and Hussain to arrive at this claim limitation. To do so would “change the principle of operation” of Hussain because Hussain’s links comprise pseudo-wires and not the other way around. MPEP § 2143.01.

[1.4] *setting up a second pseudo-wire between said input router and a second output router of the packet-switched network,*

[1.5] *wherein the second pseudo-wire comprises said first link and*

[1.6] *[wherein the second pseudo-wire comprises . . .] a third link set up between said intermediate router and said second output router,*

Petitioner fails to show a reasonable likelihood of success on these limitations [1.4], [1.5], and [1.6] for the same reasons recited above regarding limitations [1.1] and [1.3], which are incorporated by reference here. Those reasons are summarized as follows:

First, Petitioner has not shown that Aggarwal, Hussain, or their combination disclose a “link” under either party’s proposed construction of this term.

Second, Petitioner improperly relies on the alleged knowledge of a POSITA. *See, e.g.*, Pet. at 49-50 (citing to sections [1.1] and [1.3] in which Petitioner improperly relied on the alleged knowledge of a POSITA). Accordingly, the Petition fails the particularity requirement of 35 U.S.C. § 312(a)(3).

Third, because Aggarwal does not mention pseudo-wires at all, Petitioner would need to rely on Hussain to supply the “pseudo-wire” portion of this limitation, but Petitioner never cites to Hussain (Ex.1006) in its analysis of this limitation. Pet at 48-53.

Fourth, Hussain could not supply this limitation because Hussain teaches that links comprise pseudo-wires, not that pseudo-wires comprise links. *See, e.g.*,

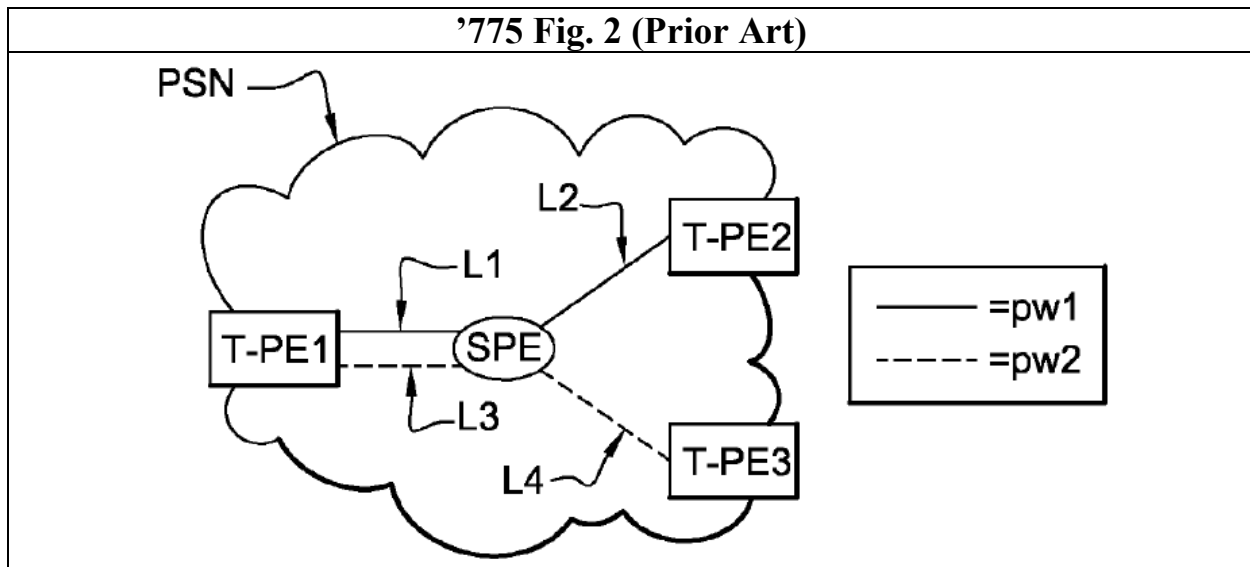
Ex.1006 at 197, 255. Petitioner has not attempted to show how a POSITA would combine Aggarwal and Hussain to arrive at this claim limitation. To do so would “change the principle of operation” of Hussain because Hussain’s links comprise pseudo-wires and not the other way around. MPEP § 2143.01.

[1.7] *said first link being shared by the first and second pseudo-wires.*

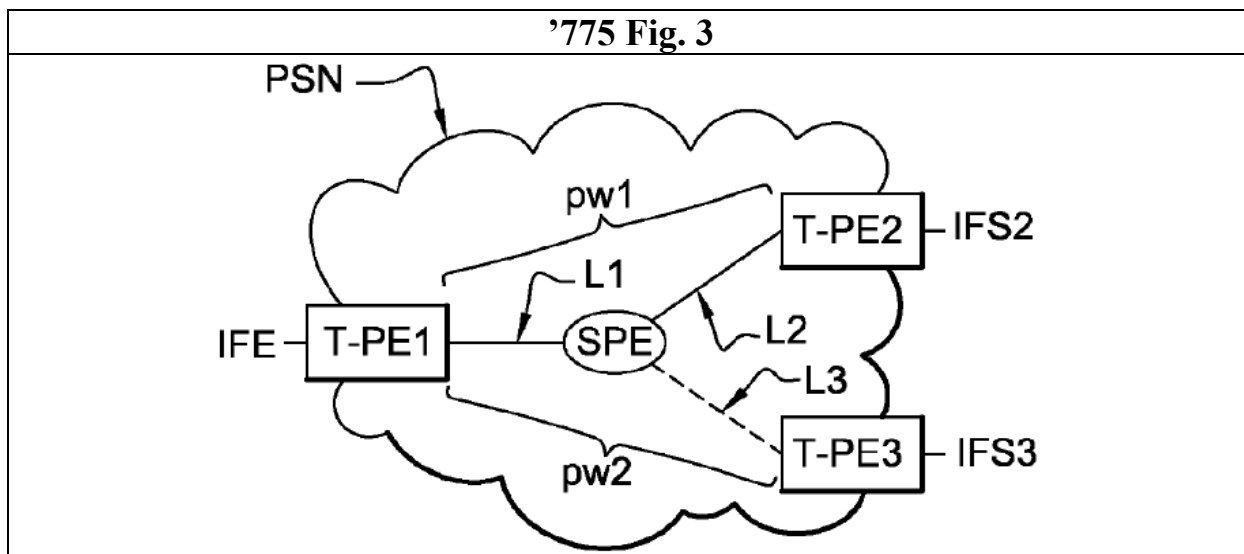
As discussed above in section VII, incorporated by reference here, Petitioner has not shown that Aggarwal, Hussain, or their combination disclose a “link” under either party’s proposed construction of this term.

Petitioner states that Aggarwal discloses this limitation because “Branch LSPs 80 and 82 share links 63 and 61 between router 64 and SPE router 60” as shown in Figure 5. Pet. at 53; *see also* Ex.1005, 6:47-49. However, Aggarwal is using the term “share links” differently from the meaning of “link being shared” in the ’775 Patent.

As discussed above, the ’775 Patent teaches that in the prior art, pseudo-wires might share the same connection path, but would not share links along that path. An example of this is shown in the prior art “double-stem Y” configuration of Fig. 2, in which the same connection path from T-PE1 to SPE is traversed by two different links, L1 and L3.



The '775 Patent teaches combining separate links along the shared connection path, thereby using a shared link (with a shared set of interfaces on T-PE1 and SPE). This results in the “single-stem Y” configuration shown for example in Figure 3. Shared link L1 in Figure 3 is an example of a “first link being shared by the first and second pseudo-wires” as required by limitation [1.7]. *See* Ex.1001 at 6:44-45 (In Fig. 3 “the first link L1 is shared by the two pseudo-wires pw1 and pw2”); *see also id.* at 6:60-7:2; 8:5-8.



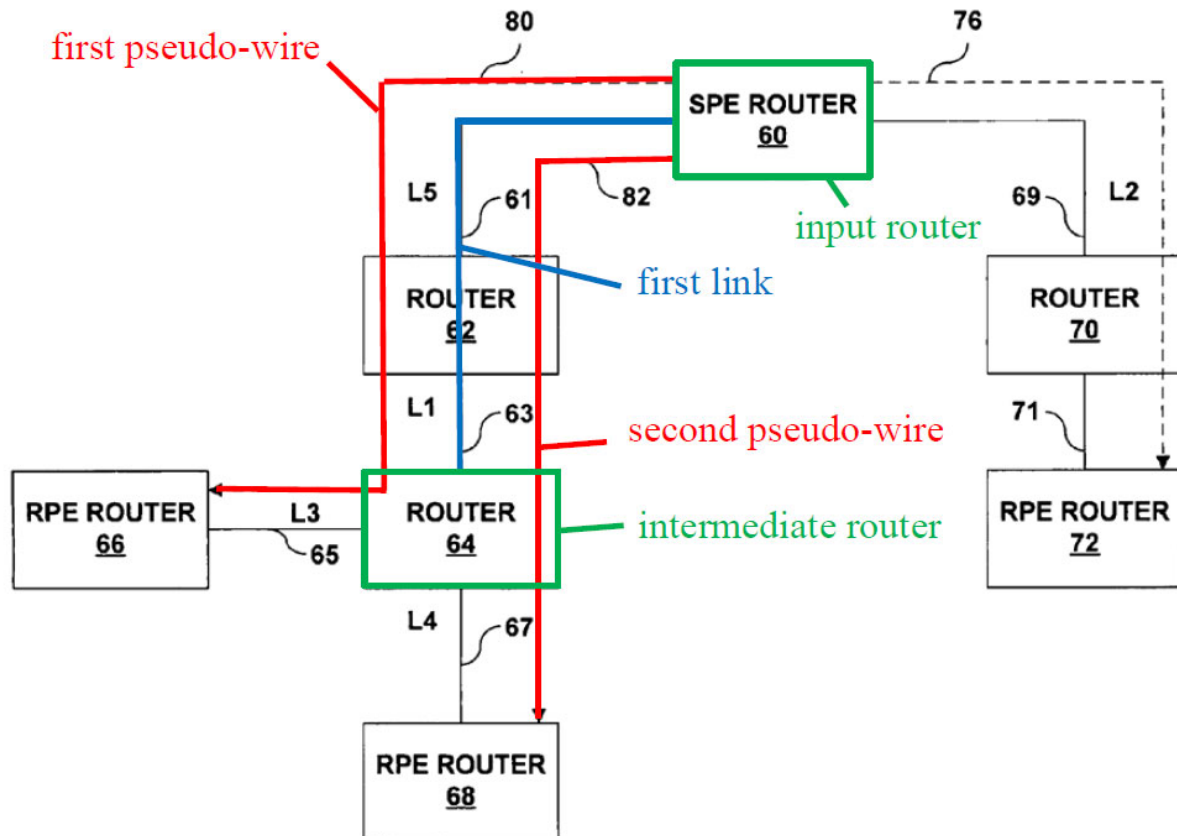
Aggarwal explicitly states what it means when it uses the term “link”: “The term ‘link’ is often used to refer to the connection between two devices on a network.” Ex.1005 at 1:22-27.

Aggarwal therefore defines a link broadly as a connection path between two devices. If multiple links share the same connection path between two devices, Aggarwal considers these links to be a single shared “link” because they share the same “connection between two devices.” But, as shown in Figure 2 of the ’775 Patent, this is not what the ’775 Patent means by a “link being shared.” Links L1 and L3 in Figure 2 traverse the same “connection between two devices on a network” but they are nevertheless different links, as taught by the ’775 Patent. *See* ’775 Patent at 2:12-39.

Accordingly, when Aggarwal says that “Branch LSPs 80 and 82 share links 63 and 61 between router 64 and SPE router 60,” Aggarwal is referring to a double-

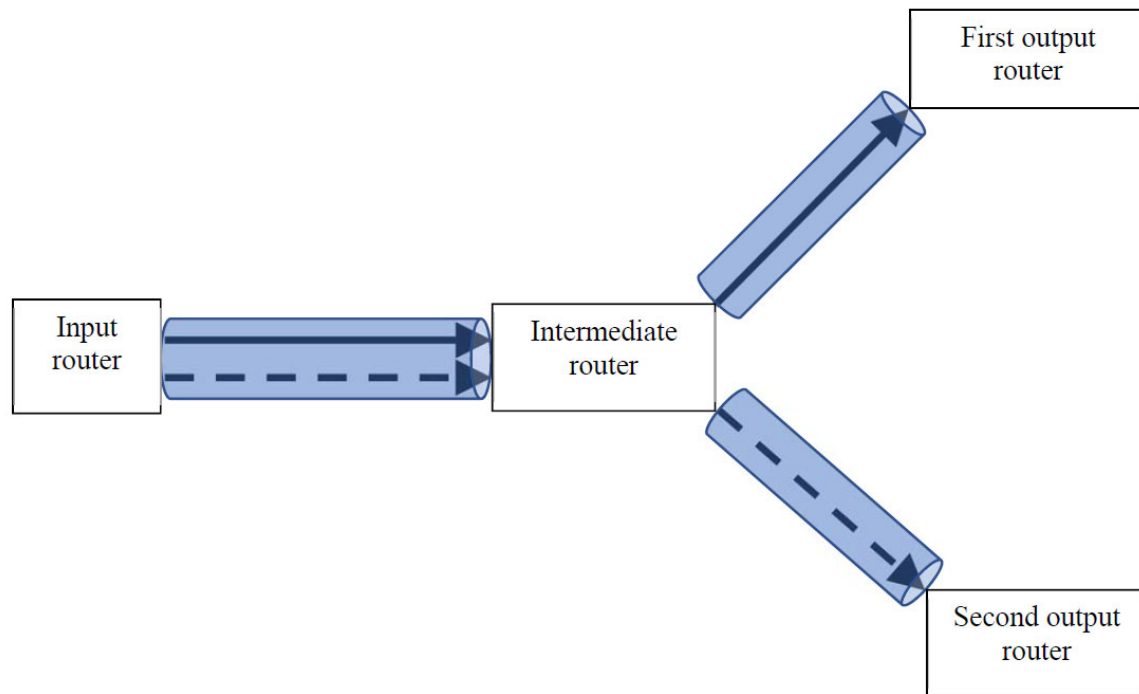
stem Y configuration like the one shown in prior art Fig. 2, in which branch LSPs 80 and 82 share the same physical path or “connection between two devices on a network” but do not actually share any links. *See* Ex.1005, 6:47-49. This is further shown by Aggarwal’s conflation of the concept of a “link” and a “path” when describing Figure 5: “When setting a P2MP LSP, a source router has a view of the entire network topology and can accordingly compute the **path** for each P2P LSP **sharing links where possible** with other branch LSPs belonging to the P2MPLSP. This can also be described as a P2MP constrained **shortest path first** (CSPF), where **a path to a destination router is set up as a P2P LSP.**” Ex.1005 at 7:50-56; *see also id.* at 7:23-25 (“The next branch LSP may **follow the same path** as the first branch LSP up to a certain branch LSR.”).

This double-stem Y configuration is illustrated even more clearly in Petitioner’s annotated Figure 5 of Aggarwal:



Pet. at 44 (Ex.1005 at Fig. 5 with Petitioner’s annotations). Figure 5 shows branch LSPs 80 and 82 (in red) in a double-stem Y configuration like Figure 2 of the ’775 Patent. There is no overlap between the two red lines. Aggarwal says Branch LSPs 80 and 82 share “links” because they share the same path along the connections 61 and 63 between devices 60, 62, and 64. This is consistent with Aggarwal’s broad definition of a “link” as any “connection between two devices” and is also consistent with Aggarwal’s conflation of the terms “link” and “path.” But this is akin to ’775 Patent Figure 2, in which two separate links L1 and L3 share the same connection path between devices T-PE1 and SPE.

The fact that Aggarwal teaches the prior art double-stem Y configuration is further demonstrated by the admissions of Petitioner’s Declarant. He states that “Aggarwal discusses taking ‘advantage of a LSP hierarchy [LSP-HIER] while building P2MP LSPs.’... The figure created below illustrates a P2MP LSP tunnel with the branch LSPs from the figure above nested inside the tunnel.” Ex.1003 at ¶ 83. The Declarant then provides the following figure which purports to show how Aggarwal’s Branch LSPs are configured:



Ex.1003 at ¶ 83 (figure prepared by Petitioner’s Declarant); *see also id.* at ¶ 82.

The Declarant’s figure clearly shows Aggarwal’s Branch LSPs in a double-stem Y configuration, just like Aggarwal’s Figure 5 and the ’775 Patent’s prior art Figure 2. There is no overlap or “first link being shared” by the two Branch LSPs.

Instead, the two Branch LSPs use different links to get from the Input Router to the Intermediate Router, even though they share the same connection path between those routers.

Accordingly, Aggarwal does not teach a “first link being shared” by Aggarwal’s Branch LSPs. As discussed above, Petitioner argues that a POSITA would have known to “implement Aggarwal’s branch LSPs as pseudo-wires” or “implement pseudo-wires *within* Aggarwal’s branch LSPs.” Pet. at 37-39. Assuming *arguendo* that such a combination is possible, the combination would not include a “first link being shared by the first and second pseudo-wires” because the pseudo-wires would use the same double-stem Y configuration as Aggarwal’s Branch LSPs, and therefore would not share any links.

Accordingly, Petitioner has not shown a reasonable likelihood of prevailing on this limitation.

3. Claim 6

[6.0] *A computer program product stored on a non-transitory computer-readable medium and comprising program code instructions for implementing a method of setting up at least two pseudo-wires able to broadcast a data stream when said program is executed by a computer, the program code instructions comprising instructions for:*

Petitioner has not shown a reasonable likelihood of success on this limitation for the same reasons discussed in [1.0], incorporated here by reference.

[6.1] *setting up a first pseudo-wire comprising a first link*

Petitioner has not shown a reasonable likelihood of success on this limitation for the same reasons discussed in [1.1], incorporated here by reference.

[6.2] *[a first link] set up between an input router of a packet-switched network and an intermediate router of the packet-switched network and*

Petitioner has not shown a reasonable likelihood of success on this limitation for the same reasons discussed in [1.2], incorporated here by reference.

[6.3] *[a first pseudo-wire comprising . . .] a second link set up between said intermediate router and a first output router of the packet-switched network; and*

Petitioner has not shown a reasonable likelihood of success on this limitation for the same reasons discussed in [1.3], incorporated here by reference.

[6.4] *setting up a second pseudo-wire between said input router and a second output router of the packet-switched network,*

Petitioner has not shown a reasonable likelihood of success on this limitation for the same reasons discussed in [1.4], incorporated here by reference.

[6.5] *wherein the second pseudo-wire comprises said first link and*

Petitioner has not shown a reasonable likelihood of success on this limitation for the same reasons discussed in [1.5], incorporated here by reference.

[6.6] *[wherein the second pseudo-wire comprises . . .] a third link set up between said intermediate router and said second output router,*

Petitioner has not shown a reasonable likelihood of success on this limitation for the same reasons discussed in [1.6], incorporated here by reference.

[6.7] *said first link being shared by the first and second pseudo-wires.*

Petitioner has not shown a reasonable likelihood of success on this limitation for the same reasons discussed in [1.7], incorporated here by reference.

B. The Board should deny institution under § 314(a)

Patent Owner asserted the '775 Patent against Petitioner Cisco in the parallel proceeding *Monarch Networking Solutions LLC v. Cisco Systems Inc.*, No. 2:20-cv-00015-JRG (E.D. Tex.—Judge Rodney Gilstrap), filed Jan. 21, 2020. Given the advanced state of that litigation, which addresses the same issues raised in the instant Petition, the Board should deny institution because it would be an inefficient duplication of ongoing litigation. Under § 314(a), the Director has discretion to deny institution. *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2140 (2016).

The Board considers the presence and status of parallel district court litigation in determining whether to deny institution. *See NHK Spring Co. Ltd. v. Intri-Plex Techs. Inc.*, IPR2018-00752, Paper 8 at 20 (P.T.A.B. Sept. 12, 2018) (precedential); *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 15 (P.T.A.B. May 13, 2020); *see also General Plastic Industrial Co., Ltd. v. Canon Kabushiki Kaisha*, IPR2016-

01357, Paper 19 at 16-17 (P.T.A.B. Sept. 6, 2017) (“[W]e recognize that an objective of the AIA is to provide an effective and efficient alternative to district court litigation”). *Fintiv* “sets forth factors that balance considerations of system efficiency, fairness, and patent quality when a patent owner raises an argument for discretionary denial due to the advanced state of a parallel proceeding.” *Apple*, IPR2020-00019, Paper 15 at 7 (citing *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 at 5-6 (P.T.A.B. Mar. 20, 2020) (precedential)). The factors are:

1. whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted;
2. proximity of the court’s trial date to the Board’s projected statutory deadline for a final written decision;
3. investment in the parallel proceeding by the court and the parties;
4. overlap between issues raised in the petition and in the parallel proceeding;
5. whether the petitioner and the defendant in the parallel proceeding are the same party; and
6. other circumstances that impact the Board’s exercise of discretion, including the merits.

Id. These factors favor a discretionary denial under § 314(a).

Factor 1: The parallel proceeding is ongoing in front of Judge Gilstrap in the Eastern District of Texas. “District courts [in EDTX] typically consider three factors when determining whether to grant a stay pending inter partes review of a patent in suit: (1) whether the stay will unduly prejudice the nonmoving party, (2) whether the proceedings before the court have reached an advanced stage, including whether discovery is complete and a trial date has been set, and (3) whether the stay will

likely result in simplifying the case before the court.” *Solas OLED Ltd. v. Samsung Display Co.*, No. 2:19-CV-00152-JRG, 2020 U.S. Dist. LEXIS 125973, at *3 (E.D. Tex. July 17, 2020). Based on these factors, it is unlikely that Judge Gilstrap would grant a stay in the parallel proceeding.

First, a stay would unduly prejudice Monarch. Monarch’s Preliminary Response deadline is December 8, 2020. If an institution decision issues three months after that date (*see* 35 U.S.C. § 314(b)), it would be March 8, 2021 before the parties know whether institution will occur. By that point, both fact and expert discovery will be completed, meaning that Monarch will have already incurred the majority of expenses associated with the litigation—which Judge Gilstrap has previously found to be a sufficient showing of prejudice. *See Solas*, 2020 U.S. Dist. LEXIS 125973, at *4-6.

At the request of the parties, the District Court recently issued an amended Docket Control Order extending all remaining case deadlines by approximately 30 days. *See* Ex.2010. Thus, fact discovery closes on January 14, 2021, and expert discovery concludes by February 19, 2021. *See id.* at 3. Even after amendment of the Docket Control Order, these dates occur well before the likely date for an institution decision, and expenses relating to fact and expert discovery already will have been incurred by the parties.

Second, by the time of an institution decision the parallel proceeding will have reached an advanced stage. As noted above, all discovery will be completed by approximately February 19, 2021. Jury Selection is scheduled for early June 7, 2021. *See* Ex.2010 at 1. Judge Gilstrap has held that even when a party is diligent about filing an IPR, if claim construction has been completed and all discovery is closed, then the factor still favors denial of a stay. *See Solas*, 2020 U.S. Dist. LEXIS 125973, at *6-7.

Third, any simplification of issues would be minimal, because four patents and twenty-nine claims are asserted in the parallel proceeding. Of those twenty-nine asserted claims, only two claims are asserted from the '775 Patent. Even if this proceeding would slightly simplify issues for trial, Judge Gilstrap has held that factor alone does not outweigh the prejudice to the non-moving party and the advanced stage of the proceeding. *See Solas*, 2020 U.S. Dist. LEXIS 125973, at *7-9. Thus, it is unlikely that a stay would be granted if institution occurred, and this factor favors denial.

Factor 2: Trial is scheduled to start on June 7, 2021. Ex.2010 at 1. If the Board reaches its institution decision within three months of receiving the preliminary response, 35 U.S.C. § 314(b), and issues a final written decision within 1 year of institution, 35 U.S.C. § 316(a)(11), a final written decision would likely issue in March 2022—well after the likely conclusion of the litigation in June 2021. This

factor favors denial, even if the trial date is further extended as Petitioner hypothesizes.⁶

Factor 3: For the same reasons discussed above, this factor also favors denial. By the time the institution decision issues, the parties likely will have received the Court's claim construction order, completed discovery, and filed all dispositive motions. Both the Court and the parties have already made significant investments in the litigation, and most pretrial matters likely will be disposed of before any decision on institution issues. Thus, this factor favors denial.

Factor 4: As Petitioner concedes, Petitioner asserted the exact same invalidity grounds in the parallel proceeding. Pet. at 21. Petitioner further explains that it plans to withdraw the overlapping grounds from the district court litigation only if the Petition is instituted, *see id.*, which means the parties will continue to litigate the asserted grounds in the parallel proceeding at least through the submission of expert

⁶ Petitioner cites two cases for the proposition that the Board declines to guess whether a district court will grant a stay. *See* Pet. at 30 (citing *Intel Corp. v. VLSI Tech. LLC*, IPR2020-00158, Paper 16, at 7 (PTAB May 20, 2020) and *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 15, at 12 (PTAB May 13, 2020)). Applying that same rationale, the Board should likewise decline to guess whether a court will modify the trial date for a co-pending litigation.

reports and dispositive motions—creating significant overlap between the proceedings. Because of this significant overlap, this factor weighs in favor of discretionary denial.

Factor 5: Petitioner is the Defendant in the parallel litigation. This factor favors denial.

Factor 6: As discussed above, the merits of this Petition are particularly weak. In particular, Petitioner has not shown that Aggarwal or Hussain, alone or in combination, disclose a “link” or a “link being shared” within the meaning of the ’775 Patent claims. Therefore, this factor favors denial.

On balance, the *Fintiv* factors favor discretionary denial because costly litigation discovery will be complete approximately one month from the filing of this Preliminary Response.

IX. Conclusion

PO respectfully requests that the Board refuse to institute *inter partes* review for the reasons stated herein.

Dated: December 8, 2020

Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned certifies that pursuant to 37 C.F.R. § 42.6(e), a copy of the foregoing PATENT OWNER'S PRELIMINARY RESPONSE UNDER 37 C.F.R. § 42.107 TO PETITION FOR INTER PARTES REVIEW OF U.S. PATENT NO. 8,130,775 was served via email to lead and backup counsel of record for Petitioners as follows:

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CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(d), the undersigned hereby certifies that this brief complies with the type-volume limitation of 37 C.F.R. § 42.24 because this brief contains 10,219 words.

Dated: December 8, 2020

Respectfully submitted,

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