

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CIENA CORPORATION,
Petitioner,

v.

K.MIZRA LLC,
Patent Owner.

Case No. IPR2025-01364

U.S. Patent 10,735,320

PETITIONER'S REPLY TO PATENT OWNER RESPONSE

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PETITIONER'S LIST OF EXHIBITS

Exhibit	Brief Description
1001	U.S. Patent No. 10,735,320 (“the ’320 Patent”)
1002	Prosecution History for U.S. Patent No. 10,735,320
1003	Declaration of Dr. Reddy
1004	Prosecution History for U.S. Patent No. 10,411,999 (parent to the ’320 Patent)
1005	U.S. Patent No. 7,477,657 (“ <i>Murphy</i> ”), filed May 8, 2002.
1006	Certified Translation of Japanese Patent Application Publication No. JP 2003-258857 (“ <i>Taguchi</i> ”), with certification of translation.
1007	<i>Awduche et al.</i> , “Internet traffic engineering using multi-protocol label switching (MPLS),” Elsevier Science B.V., Computer Networks 40, 111-129 (2002) (“ <i>Awduche</i> ”)
1008	U.S. Patent Application Publication No. 2004/0165600 (“ <i>Lee</i> ’600”)
1009	Certified Translation of Korean Patent Application Publication No. KR 10-2005-0077938 (“ <i>Lee</i> ’938”), with certification of translation, published August 4, 2005.
1010	<i>Deering et al.</i> , “Internet Protocol, Version 6 (IPv6),” The Internet Society, Network Working Group, Request for Comments: 2460 (December 1998) (“ <i>Deering</i> ”)
1011	<i>Stewart et al.</i> , “Stream Control Transmission Protocol,” The Internet Society, Network Working Group, Request for Comments: 2960 (October 2000) (“ <i>Stewart</i> ”)
1012	<i>Harry Newton</i> , “Newton’s Telecom Dictionary,” Miller Freeman, Inc., Fifteenth Edition (February 1999) (“ <i>Newton</i> ”)
1013	<i>Claise, et al.</i> , “Cisco Systems NetFlow Services Export Version 9,” The Internet Society, Network Working Group, Request for Comments: 3954 (October 2004) (“ <i>Claise</i> ”)
1014	<i>Basel et al.</i> , “Ports, Protocols, and Services Management Process for the Department of Defense,” Software Engineering Technology, Systems & Software Technology Conference (April 2005) (“ <i>Basel</i> ”)

Exhibit	Brief Description
1015	U.S. Patent Application Publication No. 2004/0037279 (“ <i>Zelig</i> ’279”), published February 26, 2004
1016	U.S. Patent Application Publication No. 2006/0285500 (“ <i>Booth</i> ”), filed June 15, 2005.
1017	U.S. Patent Application Publication No. 2004/0133619 (“ <i>Zelig</i> ’619”), published July 8, 2004.
1018	U.S. Patent Application Publication No. 2005/0013300 (“ <i>Akahane</i> ”), published January 20, 2005
1019	<i>Tschofenig et al.</i> , “RSVP Security Properties, draft-ietf-nsis-rsvp-sec-properties-06.txt,” The Internet Society, Internet-Draft (February 20, 2005)
1020	<i>Awduche et al.</i> , “Requirements for Traffic Engineering Over MPLS,” The Internet Society, Network Working Group, Request for Comments: 2702 (September 1999) (“RFC 2702”)
1021	Applications and Patents related to the ’320 Patent. Pulled from Patent Center on August 24, 2025
1022	<i>Bur Goode</i> , “Voice Over Internet Protocol (VoIP),” Proceedings of the IEEE, Vol. 90, No. 9 (September 2002) (“ <i>Goode</i> ”)
1023	NDGA Trial Statistics – U.S. District Court - Judicial Caseload Profile (June 2025), for the Northern District of Georgia, https://www.uscourts.gov/sites/default/files/document/fcms_na_distpr ofile0630.2025.pdf , accessed Dec. 9, 2025
1024	Complaint, <i>K.Mizra LLC v. Ciena Corp.</i> , Case No. 1:24-cv-05442 (N.D. Ga), Dkt. 1 (Nov. 25, 2024)
1025	Docket Sheet, <i>K.Mizra LLC v. Ciena Corp.</i> , Case No. 1:24-cv-05442 (N.D. Ga), retrieved Dec. 9, 2025
1026	Standing Order Regarding Civil Litigation, <i>K.Mizra LLC v. Ciena Corp.</i> , Case No. 1-24-cv-05442 (N.D. Ga), Dkt. 6 (Nov. 27, 2024)
1027	Excerpts of transcript, Oral Argument on Motions to Dismiss, <i>K.Mizra LLC v. Ciena Corp.</i> , Case No. 1-24-cv-05442 (N.D. Ga), Dkt. 63 (Nov. 10, 2025)

Exhibit	Brief Description
1028	K.Mizra's Opp. to Ciena's Motion to Dismiss for Failure to State a Claim Under Fed. R. Civ. P. 12(B)(6), <i>K.Mizra LLC v. Ciena Corp.</i> , Case No. 1-24-cv-05442 (N.D. Ga), Dkt. 36 (March 14, 2025)
1029	Lawsuits filed by K.Mizra LLC, retrieved from Docket Navigator (docketnavigator.com) Dec. 10, 2025
1030	Proceedings Involving the '320 Patent, retrieved from Docket Navigator (docketnavigator.com) Dec. 10, 2025
1031	Transcript of July 9, 2026 Deposition of Dr. Robert Akl

I. INTRODUCTION

K.Mizra's Response (POR) does not overcome the strong case of obviousness set forth by the Petition. For the reasons set forth in the Petition and below, the Board should reject the flawed arguments advanced by K.Mizra.

II. K.MIZRA IS WRONG ABOUT *TAGUCHI*'S DISCLOSURE OF THE CLAIMED "*DISTRIBUTED MAPPING*"

K.Mizra's primary argument is that *Taguchi* fails to disclose "*a distributed mapping of the application flow*" (Limitation [1cii]). POR 7, 20-28.¹ K.Mizra's argument rests on the theory that *Taguchi* does not disclose the claimed distributed mapping because it discloses LSPs that are purportedly used *only* sequentially at different times, one after the other, which it calls "serial." *Id.* Not so. K.Mizra attempts to explain away *Taguchi*'s teachings with its "serial" use theory, but there is no mention whatsoever in *Taguchi* of such serial use. Moreover, the theory conflicts with the text of *Taguchi*.

A. *Taguchi* Discloses "Distributed Mapping" as Claimed

As explained in the Petition, *Taguchi* disclosed distributed mapping by

¹ K.Mizra additionally argues that *Murphy* does not teach distributed mapping (POR §V.B.1), but the Petition relies on the modification of *Murphy* using *Taguchi*'s distributed mapping teachings. *See, e.g.*, Pet. 33-40 (describing the *Murphy-Taguchi* combination), 56-61 (same in the context of [1cii])).

teaching embodiments that sent a single stream over a “virtual communication path” using two or more, parallel LSPs (each a *pseudowire*). *See, e.g.*, Pet. 31-32 (*e.g.*, *Taguchi*, ¶¶52, 54, 73, FIG. 1), 34-36 (¶¶1-2, 52, FIG. 4), 60-61 (¶73 and referencing back to 34-36).

For example, in paragraph 73, *Taguchi* summarized the benefit of the multiple LSPs (shown in FIGS. 1 and 4) by describing the scenario of a single data stream being sent to “a virtual communication path” that “is made of a plurality of LSPs” and teaching that “**the stream is transferred while being scheduled for each LSP so as not to exceed the resource capacity of each LSP.**”² Pet. 60-61 (discussing, *e.g.*, EX-1006 ¶73, 50-52 and the parallel LSPs annotated in FIG. 1). The text refers to a single stream transferred over “each” LSP, *i.e.*, both. By distributing the single stream onto the two paths, *Taguchi* was able to send a stream that might otherwise “exceed” the capacities of the individual paths. *Id.* This discloses parallel, not serial, transfer because parallel transfer is the only way to beneficially transfer the stream over the two LSPs while avoiding exceeding individual capacities of each one. *Id.*

K.Mizra’s serial-only theory does not square with the remainder of *Taguchi*’s teachings about its multi-LSP embodiments. K.Mizra’s silence

² All emphasis herein is added unless stated otherwise.

concerning *Taguchi*'s FIG. 4 is particularly telling. *See* POR (generally). As explained in the Petition, *Taguchi* taught using a virtual communication path, comprising a plurality of LSPs, with the path having sufficient bandwidth to transmit a stream. Pet. 32-36 (citing, *e.g.* EX-1006 ¶52 and FIG. 4). Annotating FIG. 4 (reproduced below), the Petition explained that "virtual communication path...(VID) 1 had an overall resource capacity of 50 Mbps, which included LSP 1...with a resource capacity of 40 Mbps and LSP 2...with a resource capacity of 10 Mbps":

FIG. 4

• Virtual communication path

VID	CoS	Resource capacity	Destination address/ address mask	LSPs that configure virtual communication path		
				LSPID	Resource capacity	Route
1	TP:1	50Mbps	Access network 8	LSR41:1	40Mbps	LSR41→LSR42→LSR43→LSR44
	LP:2			...	...	...
				LSR41:n	10Mbps	LSR41→LSR46→LSR45→LSR44
...	...	...	...	...	...	...
n	...	...	...	...	...	...

VID: Virtual communication path identifier
TP: Transfer priority class
LP: Discard priority class

Pet. 35-36 (EX-1006 FIG. 4, ¶52), 60-61 (cross-referencing Petition). In other words, the LSPs are two paths, used in parallel as illustrated in FIGS. 1 and 4 to increase the virtual communication path's total capacity. If a stream (in data per second) were only carried by the LSPs sequentially during different periods of time

as K.Mizra posits, then the “total line resource capacity...forming the virtual communication path” (*Taguchi* ¶52) would be either **40 Mbps** for virtual communication path VID 1 or **10Mbps** — not “**50 Mbps.**” *Id.* It is not. K.Mizra is wrong. The POR does not discuss *Taguchi*’s FIG. 4 because K.Mizra’s argument is based on other embodiments.

Consistent with FIG. 4, *Taguchi* describes that “the **total** line resource **capacity of these LSPs** forming the virtual communication path is determined so as to **match** the line resource **capacity of the virtual communication path.**” EX-1006 ¶52, Pet. 34. In other words, the *total* capacity of the virtual communication path is available for a given stream, which only makes sense if the single stream can make use of the full capacity, *i.e.*, by using the constituent LSPs in combination. Indeed, in the embodiments relied upon by Petitioner, *Taguchi* repeatedly refers to checking whether the “capacity” of the “virtual communication path”—not an individual LSP—can “accommodate” a stream.³

³ See, e.g., EX-1006 ¶12 (“Herein, a virtual communication path...is composed of one or more LSPs.”; “[S]elects a **virtual communication path** that accommodates a **stream**”; “[A] determination is made that the remaining resource **capacity of the selected virtual communication path** can **accommodate** the resource capacity of the **stream.**”); see also *id.* ¶¶29, 30, 41, 42, 61, 62, Abstract.

K.Mizra's serial use theory makes no sense. By analogy, if one needs to drain water at a rate of 50 liters per second, it does no good to start with a pipe that can only handle 40 liters per second, and then at some later time, switch to a pipe that can only handle 10 liters per second. The capacity of the pipes would not add; the demand would exceed the capacity. So too with *Taguchi* in the context of real-time streams. Pet. 34-35.

Finally, K.Mizra ignores the knowledge of a POSITA in reading *Taguchi*. As set forth in the Petition, it was already well known to a POSITA to partition application flows over parallel paths, including pseudowires, to increase bandwidth and efficiency. Pet. §§IV.F.3-4 State of the Art, (citing, *e.g.*, EX-1007, EX-1009, EX-1010, EX-1011, EX-1016, EX-1020). These were the same or highly similar concepts described by *Taguchi*. Pet. 59-60 (*e.g.*, EX-1006 FIGS. 1 and 4, ¶73, ¶52 (“the LSPs of two routes...can be considered as a structural element of the virtual communication path.”). A POSITA thus readily understood *Taguchi*'s multi-LSP teachings and would not limit its understanding to “serial” incarnations not even discussed by *Taguchi*.

K.Mizra's arguments are unsupported by *Taguchi* and the objective evidence of record.

B. K.Mizra's Subsidiary Arguments Fail

K.Mizra tries to support its argument with several subsidiary arguments, but

each falls short. First, K.Mizra tries to negate *Taguchi*'s multi-LSP teachings by arguing that "*Taguchi*'s objective is to *select a single LSP*" to accommodate the stream. POR 22-23 (citing EX-1006 ¶¶21-23, 27-28, 45-46, original emphasis). K.Mizra attempts to support its position by selecting a few summaries of other embodiments of *Taguchi* that select an "LSP" to accommodate a stream. *Id.* However, the embodiments relied on by Petitioner state that it is the "virtual communication path"—not an LSP—that is selected to accommodate the stream, and that virtual communication path may comprise multiple LSPs. Pet. 31-32, 34-36, 58-61. Thus, K.Mizra's characterization of *Taguchi*'s "objective" fails to account for the embodiments of *Taguchi* that the Petition is based on. One cannot negate *Taguchi*'s distributed mapping teachings discussed above by pointing to other embodiments.

Second, K.Mizra points to *Taguchi*'s teaching of monitoring the "remaining resource capacity" of the virtual communication path by subtracting the capacity of a stream being carried by the path. POR 24. But, that teaching (EX-1006 ¶62) is consistent with distributed mapping. If another stream is carried on a first LSP of the virtual communication path, reducing its capacity, that only increases the potential need to distribute the next incoming stream among the remaining capacity of the first LSP and a second LSP that, as discussed above, together determine the capacity of a virtual communication path accommodating the stream. *See, e.g.,*

EX-1006 FIGS. 1 and 4, ¶¶52, 73.

Finally, K.Mizra argues that *Taguchi* did not disclose distributed mapping because it did not disclose “reassembling sub-streams of data back to a single stream.” POR 26. However, as described in the State of the Art section in the Petition, a POSITA was well aware of partitioning, fragmenting, and sequencing methods that were used in the reassembly of application flows, including distributed flows. Pet. 21-24 (citing, *e.g.*, EX-1007, EX-1009, EX-1010, EX-1011, EX-1016, EX-1020). K.Mizra fails to address any of this evidence demonstrating that reassembly and resequencing was routine and well-known to a POSITA prior to the ’320 Patent and provides no contrary, objective evidence. Furthermore, *Taguchi*’s disclosure is consistent with the ’320 Patent, which likewise does not include a detailed explanation of how to perform reassembly or resequencing, subject matter that was not new. That the ’320 Patent does not discuss such features in detail is not surprising given their well-known nature. Likewise, there was no need for *Taguchi* to explain to the POSITA that which was already well within the general knowledge in the art.

C. K.Mizra’s Proposed Construction Is Unnecessary, Unworkable and Unsupported

K.Mizra attempts to prop up its argument with a contrived negative claim construction, *i.e.*, “wherein distributed mapping does not include sending the application flow on a single pseudowire at a time selected from a plurality of

pseudowires, *i.e.*, serial one-to-one mapping.” POR 7-8. This construction is unnecessary, unworkable and unsupported.

The claim construction is unnecessary because *Taguchi* discloses Limitation [1cii] even under K.Mizra’s construction. The proposed construction does not distinguish *Taguchi*’s disclosure of mapping a stream to parallel LSPs.

The construction is unworkable in that it adds more ambiguity than clarity. The construction requires determining what is meant by “sending the application flow on a single pseudowire at a time.” In contrast, the ’320 Patent describes “dividing” or “separating” packets of the incoming flow. EX-1001 5:53-6:12. It also refers to packets arriving in “sequence.” *Id.* at 6:24-26. It is readily apparent that packets that arrive in sequence and then split/divided may involve transmitting packets on the different pseudowires *at different times*. That K.Mizra’s proposed construction would exclude preferred embodiments is a red flag that it is unworkable, confusing and wrong.

The construction is also unsupported. K.Mizra’s construction adds a slew of words not present on the face of any claim (or even in the specification). K.Mizra could have sought amendment if it wanted to redraft its claims, but did not do so. It is impermissible to redraft claims under the guise of claim construction. Nor does K.Mizra point to lexicography or statements of manifest exclusion in the specification to support its construction. The redrafting is particularly problematic

here in that K.Mizra's arguments try to *exclude* from the scope of its claims, disclosures that use both distributed mapping and 1-to-1 mapping. Such exclusion is confusing, and contrary to the specification. The '320 Patent expressly discussed that "a number of mapping schemes are possible, including n-to-1, 1-to-1, and 1-to-n," without any suggestion or teaching that any one embodiment would be incompatible with the others, or to be used exclusively. Pet. 9 (discussing EX-1001 4:29-39). It is beyond black letter law that one cannot negate a teaching in a reference that is within the scope of a claim by pointing to other teachings/embodiments in the reference that may be outside the claims. Yet, that is exactly what K.Mizra attempts to do here. The construction should be rejected.

III. K.MIZRA'S CRITICISMS OF THE MOTIVATION TO COMBINE FAIL

None of K.Mizra's arguments against the reasons to combine detailed in the Petition are factually or legally well-founded.

First, K.Mizra argues that Petitioner's reasoning (higher utilization of *Murphy*'s LSPs while maintaining QoS at the application level) is hindsight. POR 29. But both *Murphy* and *Taguchi* repeatedly disclose providing QoS for application flows. And, as described below (§IV), *Murphy* identifies flows using the same application flow data described by the '320 Patent. Moreover, the Petition explains how additional capacity is provided by using multiple LSPs in a single virtual communication path, as already discussed. Pet. 34-35. Thus, there is

no hindsight argument but, rather, express disclosures in the art of providing QoS to identified application flows.

Second, K.Mizra argues that adding *Taguchi*'s mapping technique to various mapping techniques in *Murphy* is superfluous because *Murphy* teaches its own solution regarding the selection of LSPs. POR 30-31. This argument falls short. K.Mizra once again assumes that mapping techniques (*e.g.*, N-to-1 (aggregating) or 1-to-1 mappings) are incompatible with others (*e.g.*, distributed mapping (1-to-N)). That is inconsistent with the teachings of the references, as well as the '320 Patent's own description of the various mapping schemes merely being options and co-existing in the same network diagram, as discussed above.

K.Mizra points to descriptions from *Murphy* (selecting among several LSPs, dynamic mappings, establishing new LSPs), but K.Mizra assumes that the necessary LSP resources are always present and available with the bandwidth needed. Again, *Taguchi*'s distributed mapping teaching complements *Murphy*'s techniques by improving utilization of existing LSPs beyond their individual capacities, as already explained. The Petition described benefits resulting from modifying *Murphy* with the teachings of *Taguchi* that hold true notwithstanding the additional techniques taught by *Murphy*. *E.g.*, Pet. 33-40. For example, a POSITA would have recognized that incorporating *Taguchi*'s teachings using multiple LSPs (combined to form *Taguchi*'s "virtual communication path") would

be advantageous at least because it would allow the system in *Murphy* to continue providing QoS for larger packet flows by distributing the packet flows among two or more LSPs without having to establish a new LSP, which could require installing additional routing equipment, if no LSP could meet the QoS or other traffic flow requirements. EX-1003 ¶93. Such benefits were well known to the POSITA in the context of MPLS. Pet. 35 (citing §IV.F.3; EX-1003 ¶93; EX-1007, EX-1009, and EX-1020).

Third, K.Mizra argues that the Petition’s additional “bandwidth sharing” and “load balancing” motivations fail to supply sufficient rationale (POR 31).

However, the “bandwidth sharing” and “load balancing” benefits complement *Murphy*’s disclosed techniques, flow directly from *Taguchi*’s multi-LSP teachings for increasing available bandwidth, and would be readily recognized by a POSITA. Indeed, the Petition sets forward evidence demonstrating that these benefits were already well known in MPLS and pseudowires. Pet. 18-23. K.Mizra does nothing to rebut this evidence in Petitioner’s motivation to combine, which provides even more evidence of obviousness. *See, e.g.*, Pet. 14-15, 35-38.

Fourth, K.Mizra argues that the modification would be “fundamentally inconsistent with *Murphy*’s stated architectural objectives,” arguing that *Murphy* has an “aggregation-oriented design” that limits “RSVP/resource protocols.” POR 31-32. This argument fails at multiple levels. First, *Murphy* is not limited to

mapping techniques that aggregate flows, as K.Mizra admits (POR 17). Nowhere does *Murphy* state that aggregation *must* be used. Second, there is no basis to contend that a system or reference that teaches aggregation (N-to-1), would not also benefit from distributed mapping, as already explained. Third, K.Mizra's argument is based on a misunderstanding of *Murphy*. For example, K.Mizra states that *Murphy* addresses the overhead problem of RSVP through its optional aggregation of flows and "simplified forwarding behavior." POR 31-32. In actuality, by using LSPs, *Murphy* describes that interior MPLS nodes need not separately process the RSVP protocol to maintain application flow QoS, but instead simply route packets using MPLS, thereby saving the RSVP-protocol overhead. Pet. 29. This aspect of *Murphy* is not exclusive to a particular mapping scheme. It is also consistent with the disclosure of the '320 Patent, which likewise discusses the benefit of alleviating interior MPLS nodes of RSVP processing by using MPLS. Pet. 29 (*comparing* EX-1005 with EX-1001). Thus, there is no basis to argue that *Taguchi's* MPLS-based techniques are in any way incompatible or inconsistent with *Murphy*.

Finally, K.Mizra argues that the combination would add complexity because it would purportedly require the incorporation of *Taguchi's* other teachings, *e.g.*, the "centralized policy server architecture." POR 33-34. Obviousness does not require the bodily incorporation of one system into another, however, and instead

considers a combination of *teachings*. *In re Keller*, 642 F.2d 413, 425 (CCPA 1981); *In re Nievelt*, 482 F.2d 965, 968 (CCPA 1973). Furthermore, complexity is routine in the field, and a common feature of references that teach improvement. Complexity, *e.g.*, has not restrained adoption of improvements in computers or computer networking.⁴

IV. K.MIZRA IS WRONG ABOUT *MURPHY*'S DISCLOSURE OF THE CLAIMED “*IDENTIFYING INFORMATION*”

K.Mizra incorrectly contends that the prior art does not teach or suggest “*identifying information associated with an application flow based on one or more unencapsulated packet headers of the application flow or based on an ingress data stream that includes the application flow.*” POR 35-41 (discussing element [1b]). K.Mizra again ignores key disclosures of the art set forth in the Petition, and makes arguments that are not based on the claim requirements, or indeed, even the requirements of its own proposed construction.

⁴ Even where a prior art reference goes so far as to disparage an option—no such disparagement is present here— “an obvious combination may be one that is ‘described as somewhat inferior to some other [solution].’” *In re Mouttet*, 686 F.3d 1322, 1334 (Fed. Cir. 2012) (citing *In re Gurley*, 27 F.3d 551, 552-53 (Fed. Cir. 1994)). Mere speculation about potential complexities does not teach away or otherwise diminish the strong evidence of obviousness set forth in the Petition.

A. *Murphy* Discloses “*Identifying Information...*” as Claimed.

Murphy discloses the “*identifying information...application flow*” element [1b] as claimed. Pet. 42-48. As explained in the Petition, *Murphy* disclosed using a “common set of attributes” useful in identifying end-to-end packet flows. *Id.*, see also Pet. 27-28; EX-1005 4:34-38, 6:62-7:8.

Indeed, *Murphy*’s attributes clearly included the same *information associated with an application flow* as that described and claimed by the ’320 Patent. The ’320 Patent states, “[a]pplication flow data includes data associated with Layer-4 or above as defined by the OSI protocol stack.” EX-1001 3:26-28. Information above Layer-4 is not necessary. K.Mizra’s expert agrees. EX-1031 32:11-18. *Murphy*’s disclosure parallels that of the ’320 Patent. As extensively set forth in the Petition, the ’320 Patent and *Murphy* both identify and use source and destination ports, protocol, and source and destination addresses, to map flows to pseudowires. See, e.g., Pet. 2, 4, 10-11, 27-29, 42-46.⁵ Such information constitutes the well-known “5-Tuple” that was used to identify flows in the prior

⁵ The POR even references the ’320 Patent’s embodiments that use this Layer 3 and 4 information (POR 14) and acknowledges Petitioner’s reliance upon *Murphy*’s use of Layers 3 and 4 information (source and destination addresses, protocol, and ports) to map its flows to pseudowires (POR 15, 37, 41).

art, as admitted by the '320 Patent. Pet. 11 (citing EX-1001 1:60-64); *accord* Pet. 15-18 (State of the Art collecting references). Thus, *Murphy*'s use of Layer 4 data (ports and protocols) to identify flows is, per the '320 Patent, squarely *identification of information associated with an application flow* as claimed.

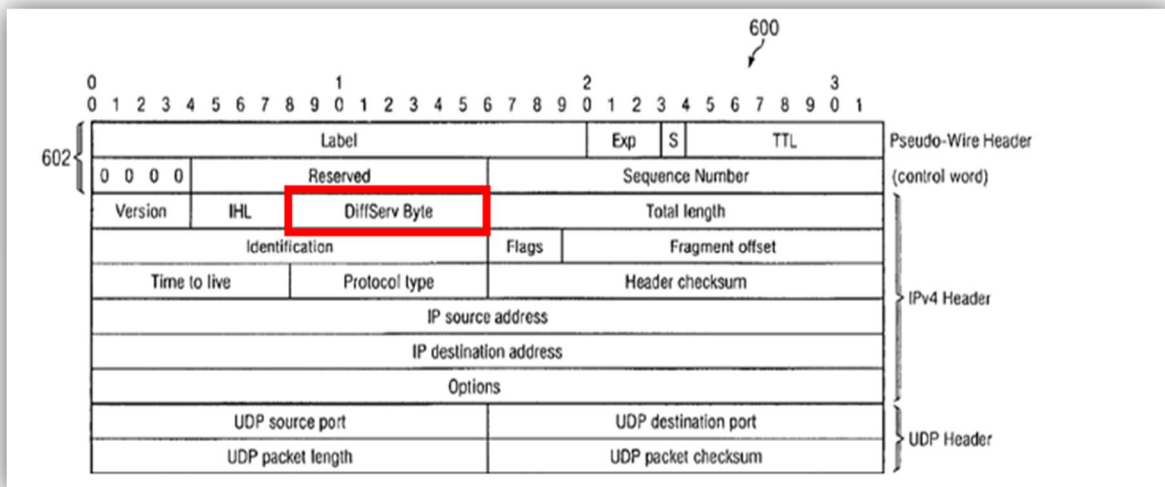
Tellingly, K.Mizra does not directly contend that *Murphy*'s use of at least 5-Tuple information to identify application flows fails to meet this claim element, and does not contest that preferred embodiments of the '320 Patent use at least the 5-tuple to do just that, despite the prominence of 5-tuple components throughout the Petition. Even K.Mizra's expert, Dr. Akl, did not provide any opinions in this proceeding about "5-Tuples" at all, much less argue that *Murphy* does not use them as *information associated with application flows* to identify the flows. EX-1031 8:4-12, 9:14-17, 9:23-10:1.

K.Mizra repeatedly faults *Murphy*'s use of information below Layer 4 (*see, e.g.,* POR 39, 40-41), but these arguments do not hold up. First, K.Mizra does not respond to the contention in the Petition that *Murphy*'s use of Layer 4 data (ports, protocols) satisfies the claim language, as already explained. Second, the '320 Patent repeatedly uses combinations of headers involving no more than Layer 4 data, just like *Murphy*. POR 14 (describing combinations of Layer 2 and Layer 4, and other combinations of Layer 3 and Layer 4). Yet K.Mizra fails to establish why *Murphy*'s set of "common attributes," including ports and protocols, of its

end-to-end flows fails to identify information associated with an application flow as claimed.

B. K.Mizra’s Subsidiary Arguments Fail

K.Mizra tries to bolster its argument by observing that *Murphy* has a discussion of using “DiffServ”⁶ information (POR 37) and then arguing that *Murphy* is thus directed to a prior art technique distinct from the claims. POR 37-38. But the mere use of “DiffServ” does not distinguish *Murphy*. Indeed, even the preferred embodiments of the ’320 Patent use “DiffServ” information, similar to *Murphy*:



EX-1001 FIG. 6 (partially reproduced and annotated), FIG. 5 (same).

⁶ The specification explains that DiffServ classifies “user applications” into “a small number of uniformly defined traffic classes” (EX-1001 2:6-11) and is part of a prior art internet standard (*id.* at 6:26-30).

The '320 Patent also describes storing DiffServ information in a field (the “EXP” field shown in FIG. 6) of the MPLS header used in the purported invention. *Id.* 6:26-33. Thus, hardly distinguishing *Murphy*, the '320 Patent's preferred embodiments likewise use the same type of information in the same way. The argument fails.

Next, *K.Mizra* sends a passing shot at *Murphy* for purportedly not identifying information associated with application flows because *Murphy*'s interior nodes use MPLS labels, as opposed to making routing decisions based on packet content. POR 39-40. But the disclosures support Petitioner, not K.Mizra. Indeed, just like the '320 Patent, *Murphy* teaches using LSPs/MPLS pseudowires at the edge routers to free internal MPLS routers from having to inspect and route packets while providing application-flow specific QoS. *See, e.g.* Pet. 29 (*Cf.* EX-1005 4:50-58 with EX-1001 1:64-2:3).

**C. K.Mizra's Proposed Construction Is Unnecessary,
Unworkable, and Unsupported**

To prop up its argument, K.Mizra proposes a construction in which the “*information associated with an application flow*” part of element [1b] “refers to application-specific information such as the sending device application or the type of sending device application based on information including at least data in Layer

4 and above headers of the packet.”⁷ POR at 7, 11, 14. The Board should reject this construction as unnecessary, unworkable, and unsupported.

First, the construction is unnecessary. As discussed further below, K.Mizra and its expert admit that its construction is actually not required but, rather, merely contains examples that are purportedly consistent with the claims. But, the issue is whether *Murphy*’s disclosure is within the scope of the claim, not cherry-picked examples captured in optional verbiage. As demonstrated above, *Murphy* discloses both the claim element, and indeed does so in the context of preferred embodiments of the ’320 Patent. Thus, *Murphy* discloses this claim limitation under any reasonable construction. The Board need not work through K.Mizra’s severely flawed proposal.

Second, the construction is unworkable. The proposed construction just adds ambiguity to the claim. For example, by its terms (“such as”), the construction does not require the vast majority of its verbiage. Dr. Akl conceded the point at deposition. EX-1031, 23:20-24:3. Indeed, the extra verbiage, at best, refers to selected embodiments in a confusing manner to springboard into legally

⁷ Elsewhere, K.Mizra argues that *Murphy* does not identify an application flow. POR 36-40. However, as discussed above, *Murphy* discloses identifying application flows in the same manner as the ’320 Patent.

erroneous comparisons to cherry-picked portions of the specification. This is improper, yet pervades K.Mizra's argument. For example, the POR attempts to distinguish the claims by arguing that "*Murphy* does not disclose identifying ... information specifying the sending device application or type of sending device application." POR 38. But neither the claims, nor even K.Mizra's proposed construction, require specifying the sending device application or type thereof. The whole premise of the construction appears to be to elicit confusing and improper comparisons.

Furthermore, the proposed construction just rewrites the claim with different words that add confusion and ambiguity. What does it mean to "identify application-specific information", and how does that capture the original claim language's "*identifying information associated with an application flow*"? Are both required? Likewise, what does the proposed construction mean when it says the identification must be "based on information including at least data in Layer 4 and above headers of the packet." Is that phrase part of the non-limiting "such as" clause? Does "Layer 4 **and** above" require information in Layer 5 or above? None of these requirements are present in the original claim language or specification, and the proposed construction should be rejected out of hand as fatally unclear.

Finally, K.Mizra fails to justify the construction with the intrinsic record.

The claim language itself does not refer to “application specific information” nor require that the sending device application, or type thereof, be identified. It does not require identification based on any particular layer (layer 4, 5, or otherwise). As to what must be identified, the as-issued claim language instead requires “*identifying information **associated** with an application flow.*” The proposal merely rewrites the claim under the guise of claim construction. This is impermissible. Further, K.Mizra’s construction requires the use of packet header data, but K.Mizra does not reconcile that requirement with the alternatives in the claims, given that only one alternative refers to packet headers: (1) “*based on one or more unencapsulated **packet headers** of the application flow or*” (2), “*based on an ingress data stream that includes the application flow.*” Claim 1, [1b]. Again, the construction would rewrite the claim to include a new “based on” requirement incongruous with the original claim. All of this is improper. Had the applicant wanted these limitations, it could have presented them as claims for examination during prosecution, but it chose not to. Likewise, K.Mizra chose not to seek amendment in this proceeding.

Nor does K.Mizra come forward with any compelling support in the specification or the prosecution history. K.Mizra does not argue lexicography or that the specification has statements that manifestly limit the invention to the features in its proposed construction. Indeed, the phrase “sending device

application” does not appear in the specification outside the abstract. As to the “Layer 4 and above” part of the proposed construction, K.Mizra cannot seriously argue that the specification mandates that information *above* Layer 4 is necessary, nor that information *below* layer 4 is disqualifying. Again, the specification concedes that the combination of layer 3 and layer 4 information forms a “5-Tuple” that was known in the art to identify application flows. Pet. 11 (EX-1001 1:60-64); 15-18 (discussing evidence of this knowledge in the State of the Art). At deposition, K.Mizra’s expert conceded that the proposed construction does **not** actually require information in layers five or above. EX-1031 32:11-19.

The proposed construction cherry-picks features of preferred embodiments, while ignoring the full teachings of the specification and its various examples of *information associated with an application flow*. Included among these examples is Layer-4 header data, which is expressly described as “application flow data” and used in multiple embodiments. Pet. 43-44 (citing EX-1001 5:21-31; EX-1005 4:34-38, 6:56-7:8).

In sum, K.Mizra purports to support its construction with a modification to the ’320 Patent’s teaching of “Layer 4 or above” to “Layer-4 and above,” without identifying why the claim should be limited to particular layers or preferred embodiments in the first place. K.Mizra’s construction introduces uncertainty and confusion as to what the construction means, without any manifest statements

limiting the scope of the invention to the features K.Mizra seeks to import from the specification.

The Board should reject K.Mizra's proposal.

V. K.MIZRA IS WRONG ABOUT THE PRIOR ARTS' DISCLOSURE OF THE CLAIMED "*STORED DATA*"

K.Mizra next argues that the prior art does not disclose the "stored data" of elements [1ci] and [1cii] as claimed, but the argument falls apart from the beginning. POR 45-47. As explained in the Petition, *Murphy* discloses [1ci] (Pet. 48-55) and *Murphy* in view of *Taguchi's* distributed mapping teaching discloses [1cii] (Pet. 56-61).

Focusing first on [1ci], K.Mizra's argument is divorced from the claim language. Nowhere do the claims recite that the stored data must include information at a particular layer (3, 4 or otherwise) to identify application flows. K.Mizra conflates the identification that occurred in element [1b], with the stored data of [1ci]. Rather, the stored data in the claims maps application flows to pseudowires. As explained in the Petition, this is exactly what the data structures of *Murphy's* FIG. 4 (and related disclosures) do, including identifying and storing the application flows and their bandwidth needs as reservation data, storing the pseudowires and their bandwidth capabilities as path data, and storing a mapping between the two as mapping data. Pet. 51-55.

K.Mizra faults *Murphy* showing IP addresses as opposed to Layer 4

information in FIG. 4. POR 44-45. But this misses the point. *First*, as already discussed, there is nothing in the claims that refers to or requires a particular layer of information for the “stored data.” *Second*, it does not matter that all of the attributes *Murphy* describes as being used to identify an application flow are not literally shown in FIG. 4. As the Petition makes clear, *Murphy* disclosed that the reservation data of FIG. 4 included, *inter alia*, protocol and ports. *E.g.*, Pet. 44-45 (citing EX-1005 6:58-7:8, FIG. 4). Thus, *Murphy* expressly described storing Layer 4 and other identifying attributes in the tables of FIG. 4. *Id.* That the flows are identified by labels (*e.g.* “Flow 1”) and other information in FIG. 4 does not negate the more detailed descriptions in *Murphy*’s text. *Murphy*’s disclosed solution is highly similar to the preferred embodiments of the ’320 Patent. Like *Murphy*, the specification provides application flow tables (with related data, including Layer 4 flow information), pseudowire tables, with mapping data between the two. *Compare* EX-1001 7:13-8:4, FIG. 8 *with* EX-1005 1:48-56, FIG. 4.

K.Mizra next asserts what it calls a “teaching away” premised on the notion that (i) *Murphy*’s FIG. 4 data shows Layer 3 data, not Layer 4 data, and (ii) that the interior nodes of *Murphy*’s MPLS networks route using the MPLS label and not the content of the packets. POR 45. As to (i), that fails for the reasons just

discussed.⁸ As to (ii), the argument is a red herring. Again, as the Petition explains, this is the same behavior and benefit of preferred embodiments of the '320 Patent. *See* Pet. 29 (*Cf.* EX-1005 4:50-58 *with* EX-1001 1:64-2:3). Indeed, the POR elsewhere admits that *Murphy*'s "**edge router** selects or provisions LSPs" for flows "based on...the basis of common attributes such as source and destination addresses, protocol, portocol (sic) port numbers" and acknowledges that Petitioner's arguments are based on these attributes, including the Layer 4 ports and protocols. POR 15, 37. *Murphy*'s application awareness is implemented in the same component and in the same manner as the '320 Patent to likewise allow internal MPLS nodes to simply route using MPLS labels. Thus, K.Mizra's arguments do not distinguish *Murphy*, and to the extent it insists otherwise, K.Mizra faces the obstacle of excluding preferred embodiments.

Turning to element [1cii], the same discussion above applies to K.Mizra's criticism of *Murphy* with respect to [1cii]. Furthermore, K.Mizra's arguments specific to [1cii] fail from the outset by misapprehending the claim language. K.Mizra misquotes the claims to assert — without explanation or evidence from

⁸ The argument also makes little sense in that *Murphy* is the base reference and cannot teach away from itself. Regardless, the mere depiction of Layer 3 information falls far short of the disparagement required for a "teaching away."

the claim or the intrinsic record — that “In other words, the stored data **must include data that specifies a *sending device application* for mapping the *identified application flow*.**” POR 41-42 (italics in original). But the actual claim language confirms that the claims require that “wherein the stored data indicates, for a sending device application, a distributed mapping of the application flow via at least one of the plurality of pseudowires” [1cii].

Nowhere do the claims recite that the stored data must “specify a sending device application” as urged. K.Mizra omits the comma between “indicates” and “for” and ignores the resulting offset to the clause by the commas in the claim language: “wherein **the stored data indicates**, for a sending device application, **a distributed mapping....**” See POR 44. Under normal grammar and syntax, the stored data indicates the distributed mapping of the application flow, rather than indicating the sending device application. The stored data indication of that mapping need only be “for the sending device application.” For example, K.Mizra does not explain why it is not sufficient for the stored data to map the application flow *coming from* the sending device application to the claimed pseudowire, and thus be “for” that device in the sense of “on behalf of” or “for the benefit of.” Indeed, K.Mizra’s extreme interpretation of the claims would require data that identified specific applications (*e.g.* Zoom, Youtube (POR 46)) that would exclude preferred embodiments. That cannot be right. That is especially so given that

K.Mizra did not provide any support in the claims, or lexicography, manifest statements, or other supporting disclosure in the specification that would justify its conclusory position.

Nothing in these arguments distinguishes the combined disclosure of *Murphy* in view of *Taguchi*. Pet. 56-61. K.Mizra argues that the Petition does not use *Taguchi* for anything but the distributed mapping. POR 45-46. The Petition, however, explains *Taguchi*'s stored data and describes using those in the combination. Pet. 59-60 (discussing, *e.g.*, EX-1006 ¶52 and the “user information defines flow identification information” that is stored). K.Mizra's attempts to distinguish *Taguchi*'s teachings of stored data by asserting that the data purportedly fails to disclose being “for application specific mapping,” or fails to “identif[y] the actual application or type of application,” faulting *Taguchi* for not identifying “*e.g.* Zoom, YouTube, etc.”, or disclosing “higher layer packet header inspection.” POR 46-47. Again, these arguments are not commensurate with the claim language and do nothing to distinguish the claims.

VI. CONCLUSION

For at least the foregoing reasons, Petitioner requests that all challenged claims be found unpatentable.

Date: August 5, 2026

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CERTIFICATE OF COMPLIANCE WITH WORD COUNT

Pursuant to 37 C.F.R. §42.24, the undersigned certifies that this document complies with the type-volume limitations. This document contains 5,554 words as calculated by the “Word Count” feature of Microsoft Word 365, the word processing program used to create it.

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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. § 42.6(e)(2), the undersigned certifies that on August 5, 2026, a copy of the foregoing PETITIONER’S REPLY TO PATENT OWNER RESPONSE and all supporting exhibits were served by electronic means to counsel of record in the present IPR:

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