

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CISCO SYSTEMS, INC.,
Petitioner

v.

ORCKIT CORPORATION,
Patent Owner.

Case IPR2023-00402
Patent No. 8,830,821

PATENT OWNER'S PRELIMINARY RESPONSE

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2002	<i>Orckit Corporation v. Cisco Systems, Inc.</i> , Case No. 2:22-cv-00276, Dkt. No. 28 (E.D. Tex., Nov. 4, 2022), Notice of Compliance (“11-4-2022 Notice of Compliance”)
2003	<i>Orckit Corporation v. Cisco Systems, Inc.</i> , Case No. 2:22-cv-00276, Dkt. No. 47 (E.D. Tex., Jan. 19, 2023), Notice of Compliance (“1-19-2023 Notice of Compliance”)
2004	<i>Orckit Corporation v. Cisco Systems, Inc.</i> , Case No. 2:22-cv-00276, Dkt. No. 55 (E.D. Tex., Mar. 23, 2023), Defendant’s Motion To Stay
2005	<i>Orckit Corporation v. Cisco Systems, Inc.</i> , Case No. 2:22-cv-00276, Dkt. No. 56 (E.D. Tex., Mar. 29, 2023), Order Denying Motion to Stay
2006	United States District Courts National Judicial Caseload Profile For the 12 Months Ending March 31, 2023 (available at https://www.uscourts.gov/sites/default/files/data_tables/fcms_na_distprof_ile0331.2023.pdf) (“Judicial Caseload Statistics”)
2007	<i>Orckit Corporation v. Cisco Systems, Inc.</i> , Case No. 2:22-cv-00276, Dkt. No. 50 (E.D. Tex., Feb. 3, 2023), Notice of Compliance (“2-3-2023 Notice of Compliance”)
2008	U.S. Pat. No. 6,963,578 (“Akahane”)
2009	December 11, 2008 Final Rejection (U.S. Appl. No. 11/123,801) (“’801 Application Final Rejection”)
2010	July 28, 2008 Claim Amendments (U.S. Appl. No. 11/123,801) (“’801 Application Pending Claims”)
2011	“MPLS: What Is Multiprotocol Label Switching”, <i>downloaded from</i> https://www.paloaltonetworks.com/cyberpedia/mpls-what-is-multiprotocol-label-switching , <i>last accessed</i> May 22, 2023.
2012	<i>Orckit Corporation v. Cisco Systems, Inc.</i> , Case No. 2:22-cv-00276, Dkt. No. 59 (E.D. Tex., Mar. 30, 2023), Order Granting Motion To Amend Invalidity Contentions
2013	<i>Orckit Corporation v. Cisco Systems, Inc.</i> , Case No. 2:22-cv-00276, Dkt. No. 61 (E.D. Tex., April 13, 2023), Order Granting Motion To Amend Invalidity Contentions
2014	“About Orckit-Corrigent: Executive Summary,” 2011.

2015	<i>Orckit Corporation v. Cisco Systems, Inc.</i> , Case No. 2:22-cv-00276, (E.D. Tex., April 13, 2023), Defendant’s First Amended Invalidity Contentions (Cover Pleading)
2016	<i>Orckit Corporation v. Cisco Systems, Inc.</i> , Case No. 2:22-cv-00276, (E.D. Tex., April 13, 2023), Defendant’s First Amended Invalidity Contentions (Exhibit A - ’904 Patent Charts)
2017	<i>Orckit Corporation v. Cisco Systems, Inc.</i> , Case No. 2:22-cv-00276, (E.D. Tex., April 13, 2023), Defendant’s First Amended Invalidity Contentions (Exhibit B - ’821 Patent Charts)
2018	<i>Orckit Corporation v. Cisco Systems, Inc.</i> , Case No. 2:22-cv-00276, (E.D. Tex., April 13, 2023), Defendant’s First Amended Invalidity Contentions (Exhibit C - ’740 Patent Charts)
2019	<i>Orckit Corporation v. Cisco Systems, Inc.</i> , Case No. 2:22-cv-00276, (E.D. Tex., April 13, 2023), Defendant’s First Amended Invalidity Contentions (Exhibit D - ’111 Patent Charts)
2020	<i>Orckit Corporation v. Cisco Systems, Inc.</i> , Case No. 2:22-cv-00276, (E.D. Tex., April 13, 2023), Defendant’s First Amended Invalidity Contentions (Exhibit E - Combination Charts)
2021	<i>Orckit Corporation v. Cisco Systems, Inc.</i> , Case No. 2:22-cv-00276, (E.D. Tex., April 13, 2023), Defendant’s First Amended Invalidity Contentions (SME Contentions)
2022	United States District Courts National Judicial Caseload Profile For the 12 Months Ending December 31, 2022 (available at https://www.uscourts.gov/sites/default/files/data_tables/fcms_na_distprofile1231.2022.pdf) (“December 22 Judicial Caseload Statistics”)

I. INTRODUCTION

Orckit Corporation (“Orckit” or “Patent Owner”) submits this Preliminary Response to Cisco Systems, Inc.’s (“Petitioner”) Petition challenging Claims 1-20 of U.S. Patent No. 8,830,821 (“’821 Patent”).

The Board should deny institution for several reasons. First, as discussed below, none of the asserted prior art teaches or suggests every limitation of any independent claim. In particular, Doshi does not teach or suggest “selecting an entity pair from said plurality of transport entities based at least in part upon said overall cost” as required by independent claims 1 and 17 and neither Doshi nor Xu teach or suggest “digital logic configured to select said working entity and said protection entity from said plurality of transport entity descriptors” or “logic configured to determine a probability of concurrent failure of said working entity and said protection entity” as required by independent claim 14. These limitations are completely missing from the Petition’s proposed combinations.

Further, the Board should exercise its discretion to deny institution under 35 U.S.C. §§ 314(a) and 325(d). Under § 314(a), this proceeding is well behind the related district court litigation, where trial is expected to begin in early 2024 and discovery and claim construction are already well underway. A final written decision in this proceeding will be due in September 2024, by which point the jury will have long since rendered its verdict on invalidity issues raised here and the

litigation will already be on appeal. Accordingly, *Fintiv*'s efficiency considerations overwhelmingly favor denying institution here.

For the reasons stated above, the Board should deny institution of this IPR.

II. BACKGROUND

A. Procedural History

This proceeding is one of four IPRs filed by Petitioner against Patent Owner. The other IPRs are IPR2023-00401 (U.S. Pat. No. 7,545,740), IPR2023-00554 (U.S. Pat. No. 10,652,111) and IPR2023-00714 (U.S. Pat. No. 6,680,904). Each of the '740, '821, '111 and '904 Patents is currently asserted by Patent Owner against Petitioner in *Orckit Corporation v. Cisco Systems, Inc.*, Case No. 2:22-cv-00276 (E.D. Tex. July 22, 2022).

The parties in the district court litigation are currently briefing claim construction, with the Markman hearing scheduled for September 7, 2023. Ex. 2001 [First Amended Docket Control Order], 3-4. Discovery is well underway. Infringement contentions and accompanying disclosures under the local patent rules were served on November 3, 2022 and Supplemental Infringement Contentions were served on January 19, 2023. Exs. 2002, 2003 [11-4-2022 and 1-19-2023 Notices of Compliance]. Invalidity contentions and accompanying disclosures under the local patent rules were served on February 3, 2023 and have been supplemented several times, including most recently on April 13, 2023. Exs. 2001 [First Amended Docket

Control Order], 4-5; 2011 [March 30, 2023 Order]; 2012 [April 13, 2023 Order]. The district court trial is scheduled to begin March 4, 2024. Ex. 2001 [First Amended Docket Control Order], 1.

Petitioner filed a motion to stay the district court litigation pending completion of these IPRs on March 23, 2023. Ex. 2004, 1. The district court denied that motion *sua sponte* on March 29, 2023. Ex. 2005, 3. Accordingly, the district court litigation continues to progress in parallel with this proceeding.

B. The History Behind Orckit Corporation's Patents

Orckit Corporation is the current assignee of the '821 Patent, which originated from the significant research and development conducted by Orckit Communications Ltd. (also known as Corrigent-Systems Ltd., referred to herein as "Orckit-Corrigent").

Orckit was founded in 1990 by Izhak Tamir and Eric Paneth. In September 1996, Orckit announced an Initial Public Offering (IPO) of 3.3 million ordinary shares at a public offering price of \$16.00; but its initial public offering on the Nasdaq over-the-counter exchange was postponed due to oversubscription because of excess public demand for its shares. See <https://en.wikipedia.org/wiki/Orckit-Corrigent>).

Over the years, Orckit-Corrigent and its subsidiaries developed and sold products in a variety of telecommunications areas, including DSL, Packet Transport

Networks (PTN), Carrier Ethernet technologies, PWE (Pseudo-Wire Emulation) technology, and Resilient Packet Ring (RPR) technology, which was developed and introduced to the market as the IEEE 802.17 Standard, part of the company's packet transport technology. In 2007, Orckit-Corrigent launched its CM4000 PTN line of products, which were purchased and deployed by telecom providers worldwide, including leading Indian carrier Bharat Sanchar Nigam Ltd. (BSNL); T-Systems (Deutsche Telekom) in Germany; Tele2, a leading Pan-European Scandinavian Service Provider; redIT (formerly MetroNet) in Mexico, and others. At one time, Orckit-Corrigent had offices in Israel, US, India, Japan, Korea, Germany, Russia, Brazil, Mexico, Thailand, and the Philippines.

Over the years, Orckit-Corrigent invested over \$200M in research and development and developed an extensive patent portfolio practiced by its products, notably, the CM-4000 product family, which was a series of packet transport network switches (consisting of, among other products, the CM-4140, CM-4206 and CM-4314T/4314 models), and the CM-401x portfolio of switches that included the CM-4011, CM-4012 and CM-4013 products. Ex. 2014, [Orckit-Corrigent Executive Summary].

Orckit-Corrigent's products offered networking infrastructure for the delivery of residential, business, and mobile backhauling services in packet-based networks. By the early 2000s, Orckit-Corrigent was a pioneer in telecommunications, with

revenues some years exceeded \$500M from sales to various tier 1 global telecommunications providers.

Despite its early success, following the “dot-com bust,” Orckit-Corrigent found itself amassing ever increasing debt. In 2012, Orckit-Corrigent was ultimately forced to enter into debt restructuring/bankruptcy proceedings in Israel. In 2016, Orckit IP purchased all of Orckit-Corrigent’s patents, including the ’821 Patent, through those proceedings. Orckit Corporation subsequently acquired a smaller set of Orckit-Corrigent’s patents, including the ’821 Patent.

C. ’821 Patent

The ’821 Patent is directed to coordinating the selection of MPLS network transport entities between a first endpoint and a second endpoint. Ex. 1001 [’821 Patent], Abstract. “MPLS,” or “Multiprotocol Label Switching,” is a networking technology that routes network traffic using the shortest path based on “labels” rather than network addresses. Ex. 2011 [What is Multiprotocol Label Switching], 1. That is, each data packet is assigned a label that controls the path the packet follows. *Id.* This path is referred to in the ’821 Patent as a “label switch path (LSP).” Ex. 1001 [’821 Patent], 1:40.

MPLS requires support of “transport entity or trail recovery.” Ex. 1001 [’821 Patent], 38-40. The transport entity is the path (LSP, pseudowire (PW) or sub network connection (SNC)) that is used to transport a particular packet. *Id.*, 40-43.

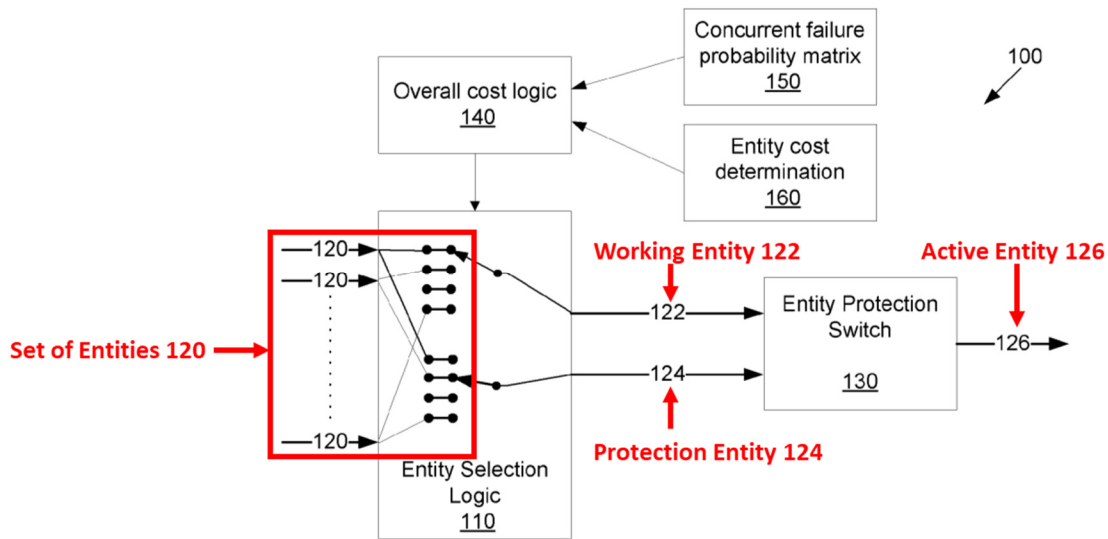
In the event that a span or node (i.e., a physical connection in the LSP such as a wire or switch) fails, the path must recover within 50 ms. Ex. 1001 ['821 Patent], 1:40-45.

In order to ensure that the path recovers within 50 ms, MPLS defines a second transport entity known as the “protection entity.” *Id.*, 1:46-51. The original transport entity is known as the “working entity.” *Id.* “When a failure is detected at the working entity, the endpoints switch traffic [from the working entity] to the protection entity.” *Id.*

Existing methods for protecting against failures (“linear protection mechanisms”) did not “protect against one or several failures affecting both the working entity and the protection entity.” *Id.*, 1:61-66. The '821 Patent addresses this problem by determining an overall cost for each potential pair of entities, selecting one pair based at least in part on the entity pair cost, and then reselecting the entity pair if certain events occur. Ex. 1001 ['821 Patent], 2:11-18.

Annotated Fig. 1 (below) demonstrates the relationship between entities. As shown, there are a number of transport entities 120 considered for selection as the working entity 122 and protection entity 124 based in part on the “overall cost logic 140” for each entity 120. Each of these entities 120 is a distinct network route. Ex. 1001 ['821 Patent], 3:36-40. Entity selection logic 110 first determines a pair of entities based on factors such as overall entity cost for the pair. Ex. 1001 ['821

Patent], 4:11-29, Fig. 2. “One entity of the entity pair may be selected as a working entity Similarly, a protection entity may be selected from the entity pair.” Ex. 1001 [’821 Patent], 4:49-57, Fig. 3. Once the working entity 122 and protection entity 124 are determined, entity protection switch 130 determines which entity to use as the active entity 126. *Id.*, 3:54-65, 4:57-59.



An embodiment of the entity selection method is disclosed at Fig. 2. The specification explains as follows:

A plurality of transport entities between a first endpoint and a second endpoint are provided, as shown by block 210. Each possible entity pairing is examined for cost in turn, starting with a first entity pair, as shown by block 215. An overall cost for each pair of the plurality of transport entities is determined, as shown by block 220. The overall cost may be determined based on the probability of simultaneous failure of the working and

protection entities (SFP), as described below, the entity cost, or a combination of SFP and entity cost. The entity cost may be defined as the sum of the link metrics, for example IGP or TE metrics, along the entity.

Ex. 1001 [’821 Patent], 4:11-21. Thus, the working and protection entities in this embodiment are chosen based on the “overall cost” of the pair, which may take into account both the probability of simultaneous failure (that is, the probability both working entity and protection entities happen to be in a failed state at the same time) and the “entity cost”. The “entity cost” is “the sum of the link metrics, for example IGP or TE metrics, along the entity.” *Id.* “Link metrics” are related to the stability and/or bandwidth and/or responsiveness of systems and/or other characteristics of the path or link as a function of time or condition. The ’821 Patent describes several additional embodiments with different methods of minimizing overall cost. *See, e.g., id.*, 5:33-6:43, Figs. 4A-4C.

The ’821 Patent has three independent claims and 17 dependent claims. Consistent with the discussion above, the claims recite methods and systems for determining the overall cost for each entity pair, selecting an entity pair, and then reselecting the entity pair when an entity pair reselection occurs.

D. Prosecution History

The ’821 Patent claims priority to provisional application no. 61/499,943, filed on June 22, 2011. Ex. 1001 [’821 Patent], 1:8-12. The ’821 Patent was filed on

December 5, 2011 as Appl. No. 13/311,128 (the “128 Application”). *Id.*, (22), (65).

On December 26, 2013, the Examiner issued a non-final rejection rejecting claims 1-4, 8-9, and 17-19 under 35 U.S.C. § 103 over U.S. Pat. No. 7,961,602 (“Tochio”), U.S. Pub. No. 2010/0309778 (“Young”), and U.S. Pub. No. 2010/0157794 (“Nakash”), rejecting claims 5-7, 10-12, and 20 over Tochio, Young, Nakash, and U.S. Pub. No. 2007/0064702 (“Bates”), and objecting to dependent claim 13 as allowable if rewritten in independent form. Ex. 1002 [File History], 71-92.

On March 25, 2014, Applicant responded, amending independent claims 1 and 17 to add the underlined portion of the following limitation “if an entity pair reselection event occurs, reselecting said entity pair from the group consisting of said entity pair and a replacement entity pair comprising at least one entity distinct from the entities of said entity pair.” Ex. 1002 [File History], 55, 59. Applicant similarly amended independent claim 14 to add the limitation “logic configured to reselect said working entity and said protection entity from said plurality of transport entity descriptors upon a reselection event.” *Id.*, 58.

Applicant argued in part that, unlike MPLS entities in claim 1, which are immediately available for the claimed selection and/or reselection, “Nakash merely discloses determining costs of links that have not been established, and are therefore clearly not available for either selection or reselection.” *Id.*, 62. Applicant similarly

pointed out that “Nakash does not disclose selecting an entity pair from each entity pair [sic-“a plurality of entities”], but only for finding one active path having a shortest path” (*id.*) because “no entity pair is disclosed.” *Id.*, 63. In other words, “Nakash clearly does not disclose selecting an entity pair from said plurality of transport entities based at least in part upon said overall cost, but merely selecting one active path from among several active paths.” *Id.*

On April 9, 2014, the Examiner issued a notice of allowability allowing claims 1-20. Ex. 1002 [File History], 34. In doing so, the Examiner stated Applicant’s arguments “have been fully considered and are persuasive.” *Id.*, 37. The ’821 Patent issued on September 9, 2014. Ex. 1001 [’821 Patent], (45).

E. Petitioner’s Cited References

The Petition asserts three grounds, as shown below:

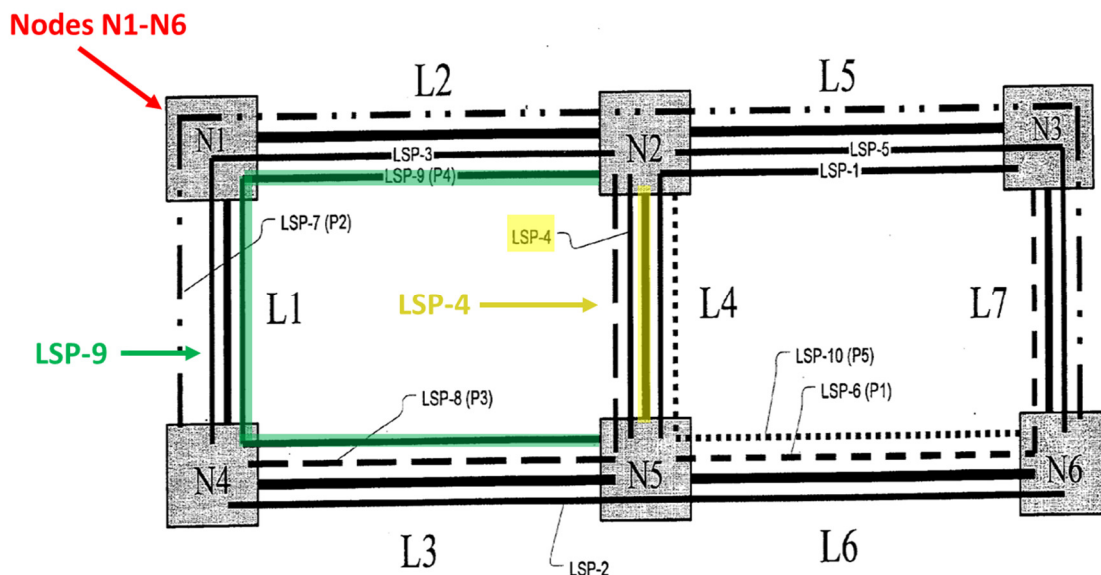
Grounds	Claims	Basis
#1	1-7, 9-11, 13, and 17-20	35 U.S.C. § 103 (Pre-AIA) over Doshi and Guichard
#2	8 and 12	35 U.S.C. § 103 (Pre-AIA) over Doshi, Guichard, and Huang
#3	14-16	35 U.S.C. § 103 (Pre-AIA) over Doshi, Guichard, and Xu

Pet., 14. In each ground, Doshi is the primary reference.

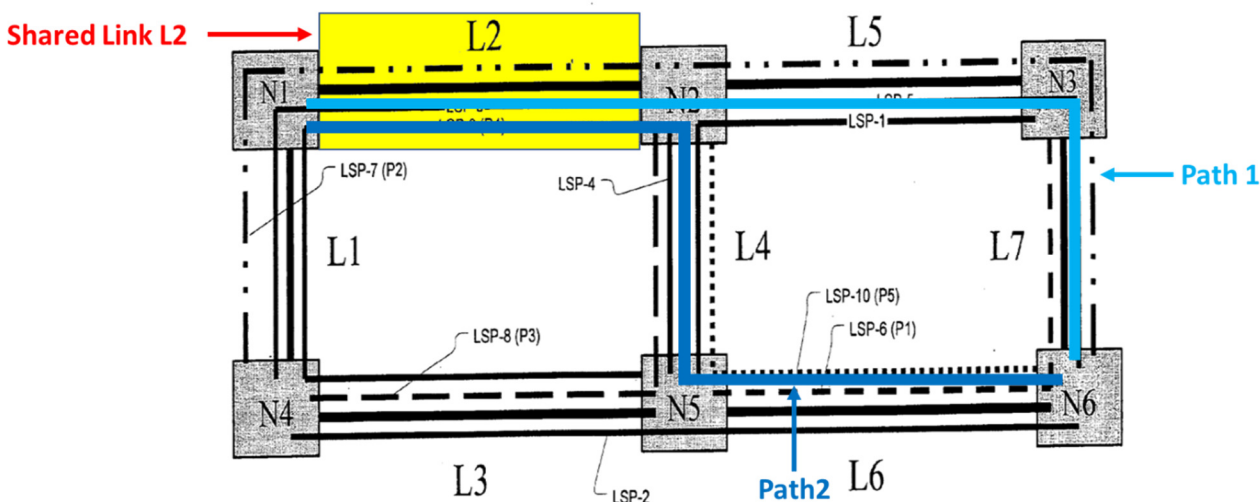
1. Doshi (Ex. 1005)

Doshi (Pat. Publ. No. US2004/0205239) is directed to a “method for determining primary and restoration paths for a new service in a mesh network.” Ex. 1005 [Doshi], Abstract. This method involves “(1) for each of a plurality of candidate primary/restoration path pairs for the new service, generating a path cost for each candidate pair, where the path cost for each restoration path is a function of the sum of the cost of links within the restoration path, and (2) selecting the primary and restoration paths for the new service from the plurality of candidate path pairs based on the path cost.” *Id.* These paths are determined between network nodes.

Doshi Figure 1 (below) illustrates the concept of primary (or working) LSPs and protection (or restoration) LSPs between different nodes N1 through N6. Fig. 1 illustrates five primary LSPs LSP-1 through LSP-5 and five “protection paths” LSP-6 through LSP-10. Ex. 1005 [Doshi], ¶¶[0052]-[0054]. Each primary LSP corresponds to one protection LSP that creates a path between the same nodes. Primary LSP-1 corresponds to protection LSP-6, and so on. For example, in the figure below, primary LSP-4 is highlighted yellow and runs directly between nodes N2 and N5. LSP-4’s corresponding protection node LSP-9 is highlighted green and also runs between nodes N2 and N5 but uses a different path (i.e., N2-N1-N4-N5).

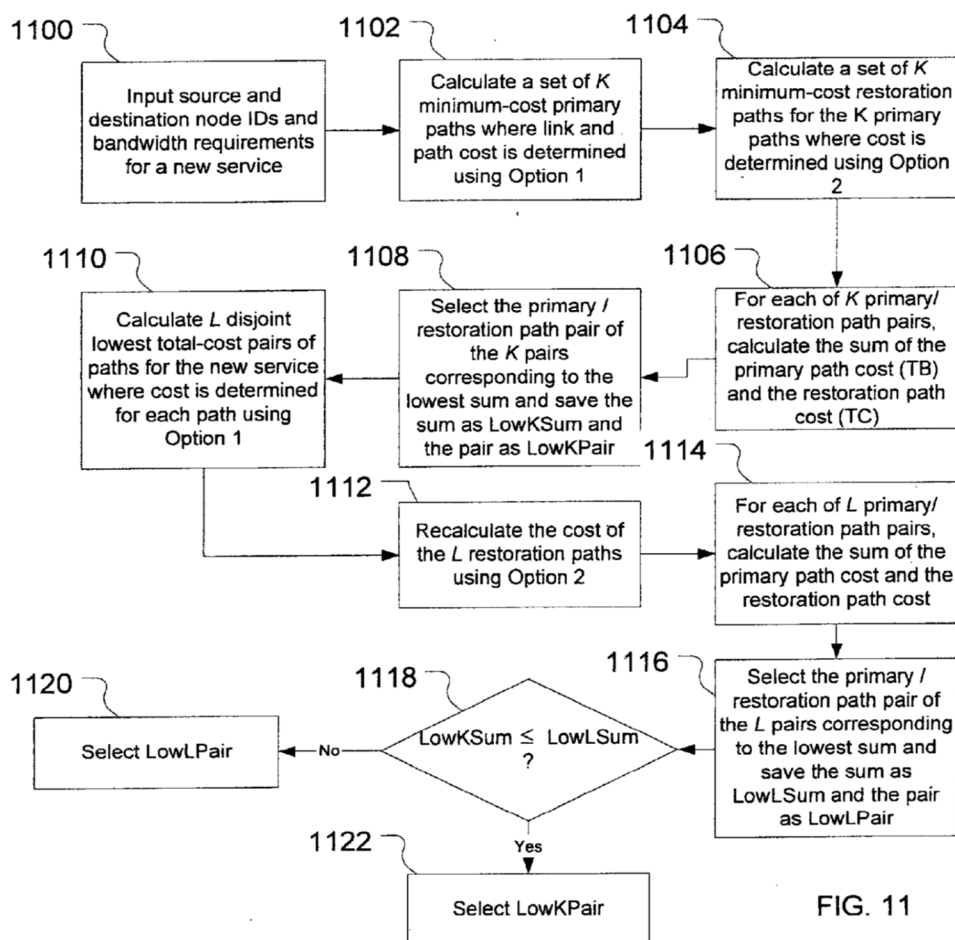


In Doshi, two different paths can be “routed disjointly” or can “share common links” (e.g., L1-L7 in Fig. 1) along their respective routes. *Id.*, ¶[0040]. Using the example of Doshi Fig. 1, above, paths LSP-4 and LSP-9 are “routed disjointly” because they do not share any of links L1-L7. On the other hand, in the annotated example of Doshi Fig. 1 below, there are two paths between nodes N1 and N6. Path 1 traverses links L2, L5 and L7. Path 2 traverses links L2, L4 and L6. Thus, these two paths are “shared” paths because they both share link L2.



In order to identify a primary/restoration path pair, Doshi must evaluate a number of potential paths. In the example above, Path 1 and Path 2 are two paths between nodes N1 and N6, but there are other potential paths, including L1-L3-L6 or L1-L3-L4-L5-L7. In more complex networks, there could be numerous different paths to choose from. Thus, there must be a selection to determine which two paths to use as the primary and protection path pair.

Doshi teaches a selection process based on path cost. Ex. 1005 [Doshi], Abstract. Doshi Fig. 11 (below) illustrates this process. Fig. 11 calculates “a minimum-cost primary/restoration path pair for a new service in consideration of link utilization, utilization threshold, and sharing degree.” Ex. 1005 [Doshi], ¶[0142].



First, in step 1100 the bandwidth required and source and destination IDs for the new service are input. *Id.* Step 1102 determines a group of “minimum cost primary paths” using “Option=1 (i.e., no sharing considered).” *Id.*, ¶[0143]. Step 1104 determines a group of “minimum-cost restoration paths ... using Option=2 (e.g., where sharing is considered and the appropriate primary path is passed to the PathCost routine.)” *Id.* Thus, at Step 1104, a group of primary paths have already been selected and Doshi will consider shared paths for the restoration path associated with each primary path. In Step 1106, the path costs for each primary and restoration

path pair are summed together and the lowest pair is saved. *Id.*

Steps 1110 through 1114 calculate path cost via a second method. *Id.*, ¶[0142]. In Step 1110, cost is determined for “L disjoint lowest total-cost pairs of paths” with no sharing considered. *Id.*, ¶[0144]. In step 1112, each restoration path identified in step 1110 has its cost recalculated using Option 2 (sharing considered). The sum of the lowest pair of primary path (from the group of L primary paths) and restoration paths (from the group of L restoration paths) is stored. *Id.* In step 1118, whichever cost is lowest between the two methods is selected as the minimum-cost pair. *Id.*, ¶[0145].

In certain embodiments, Doshi describes selecting primary LSPs and protection LSPs that are “strictly disjoint” from each other. Ex. 1005 [Doshi], ¶[0055]. “[S]trictly disjoint means that the two paths in each primary/protection path pair share no common links or nodes other than their common ingress and egress nodes.” *Id.* However, “this need not be the case in all implementations of” Doshi and in some embodiments, “no strictly disjoint path exists between two nodes” or there may be other factors or constraints that lead to selection of a protection path “that is not strictly disjoint from the primary path (e.g., the protection path may share some common links with the primary path)”.

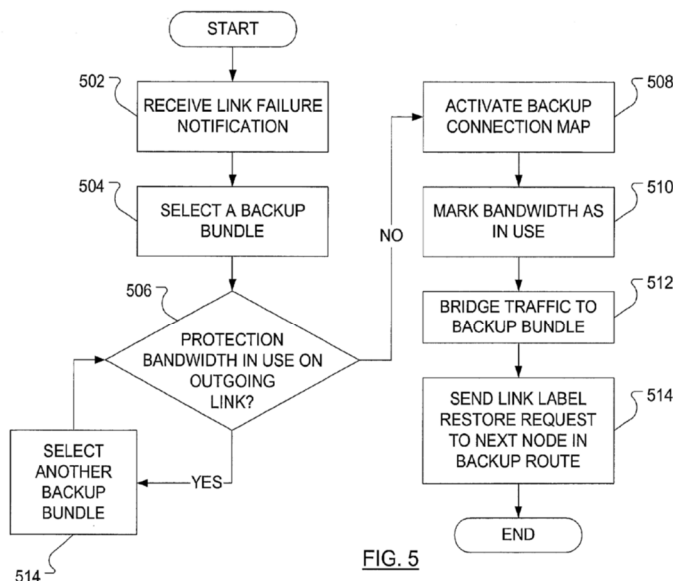
2. Guichard (Ex. 1006)

Guichard (“Definitive MPLS Network Designs”) appears to be a brief excerpt

from a book titled “Definitive MPLS Network Designs.” Ex. 1006 [Guichard], 1. The section in the provided excerpt is titled “Reoptimizing a Traffic Engineering LSP.” *Id.*, 3. It discusses the need to identify more optimal LSPs in a network as they become available, the desirability of establishing the new LSP before an old LSP is torn down, and the need to avoid double booking LSPs. *Id.*, 3-5.

3. Huang (Ex. 1007)

Huang (U.S. Pat. Pub. 2003/0117950) is directed to identifying backup paths for network routing in case of “the event of a failure in the fiber.” Ex. 1007 [Huang], Abstract. Huang Fig. 5 (below) “illustrates steps performed by a head end node in a link redial method” in one embodiment of Huang. *Id.*, ¶[0024].



At step 502, the node receives a link failure notification. *Id.*, ¶[0048]. At step 504, the node selects a “backup bundle” (that is, a group of backup LSPs). *Id.*,

¶[0048]. At step 506, the node determines “whether the protection bandwidth [i.e., the amount of bandwidth needed for a proposed level of protection] is in use on the first outgoing link.” *Id.* If the bandwidth is already in use, then another “backup bundle” is selected. If the bandwidth is not in use, the node “activates the backup connection map (step 508)” and “mark[s] the protection bandwidth on the first outgoing link as being used (step 510).” *Id.* In step 512, “the interrupted traffic [is] bridged to the backup bundle.” *Id.* Finally, at step 514, the node “sends a Link Label Restore Request message to the first node 102C on the backup route.” *Id.* This message ultimately allows the node to “begin[] sending traffic over the backup route.” *Id.*, ¶[0052].

4. Xu (Ex. 1025)

Xu (U.S. Pat. Pub. 2011/0141877) is directed to a network load balancing method that “uses fixed paths and a fixed path-splitting strategy to enable ingress routers to efficiently reroute traffic after a failure.” Ex. 1025 [Abstract]. “An off-line management system computes a set of fixed paths and a set of splitting ratios for routing demand from ingress routers to egress routers, with sufficient capacity to meet demands under each failure scenario.” *Id.*, “That data is then used by the ingress router to reroute demand after observing a failure.” *Id.*

In particular, Xu teaches load balancing according to the following method:

At an ingress router u_d , traffic is routed by automatically balancing

traffic load over a predefined set of paths P_d from the ingress router u_d to the egress router v_d according to a set of splitting ratios α_p . Each splitting ratio defines a fraction of the demands d to be transmitted over a path p of the set of paths P_d in a case of a detectable failure state o corresponding to a subset of a set of modeled failure states s .

Ex. 1025 [Xu], ¶¶[0006]. Thus, the routers of Xu transmit traffic over multiple paths p simultaneously according to “splitting ratios” that define the fraction of traffic sent over multiple paths p . If one or more paths p fail, the fraction of traffic sent over other paths p is altered in accordance with the relevant splitting ratio.

Xu explains the advantages of its routing scheme as follows:

Multipath routing between each pair of ingress and egress routers is utilized. Such end-to-end routing has several benefits. First, these routes do not need to change when a failure is detected, which saves time, reduces overhead, and improves path stability. Second, end-to-end load balancing spreads the traffic in the network more effectively than local rerouting. Third, it enables faster recovery and lower protocol overhead than conventional link-state routing protocols, like Open Shortest Path First (OSPF), which not only rely on flooding link-state advertisements and re-computing shortest paths but also suffer from transient forwarding loops. A fourth benefit is the solution's simplicity;

most of the functionality is incorporated in the Network-Management Software (NMS) rather than the network elements. The NMS is responsible for selecting the end-to-end paths and calculating the path-splitting parameters for each router. The solution has a minimalist control plane, used only for failure detection, which leads naturally to a simpler network where smart, expensive routers are replaced with cheaper routers and/or switches with a limited feature set.

Id., ¶¶0030]. Thus, Xu teaches its multipath routing solution has a number of benefits over local routing techniques that need to change paths when a path fails.

Xu teaches the detection of “failure states.” *Id.*, ¶¶0005]. “The set of modeled failure states are states that cause at least one path p of the predefined set of paths p_d to fail.” *Id.*, ¶¶0006]. “Each modeled failure state has at least a predetermined probability of occurrence.” *Id.* This “predetermined probability of occurrence may be sufficient to meet a predetermined network availability objective when the network is restored against the set of modeled failure states.” *Id.*, ¶¶0007]. However, not all possible failure states are included in the set of modeled failure states, and only the most probable are included. *Id.*, ¶¶0049] (“Of course, any subset has a non-zero probability of simultaneous failure, but because of the monstrous size of ‘all’ subsets, for practicality the set is usually restricted to the most probable.”).

III. CLAIM CONSTRUCTION

For purposes of this preliminary response, Patent Owner does not propose any terms for express construction. The Petition proposes a construction of the term “entity” that “includes an MPLS LSP or a PW.” Pet., 13. Patent Owner does not dispute this construction for purposes of this preliminary response. Patent Owner reserves its right to dispute this construction and to construe additional terms in this or other proceedings involving the ’821 Patent.

IV. PERSON OF ORDINARY SKILL IN THE ART

Petitioner defines a POSITA as follows:

A Person of Ordinary Skill in The Art (“POSITA”) on June 22, 2011, would have had a working knowledge of network communications and multiprotocol label switching (“MPLS”) techniques available at the time. A POSITA would have had a bachelor’s degree in computer science, computer engineering, electrical engineering, or equivalent training, and approximately two years of experience working in the field of network communications and been knowledgeable regarding MPLS techniques. Lack of professional experience can be remedied by additional education, and vice versa.

Pet., 12.

For purposes of this preliminary response, Patent Owner does not dispute Petitioner’s definition of POSITA, except that a POSITA with two years of experience working in the field of network communications would not necessarily

have been “knowledgeable regarding MPLS techniques.” MPLS techniques are a specialized area of network communications and many engineers in the field of network communications do not deal with MPLS techniques as part of their day-to-day responsibilities.

V. NO COMBINATION OF THE CITED REFERENCES TEACHES OR SUGGESTS EVERY LIMITATION OF ANY CHALLENGED CLAIM

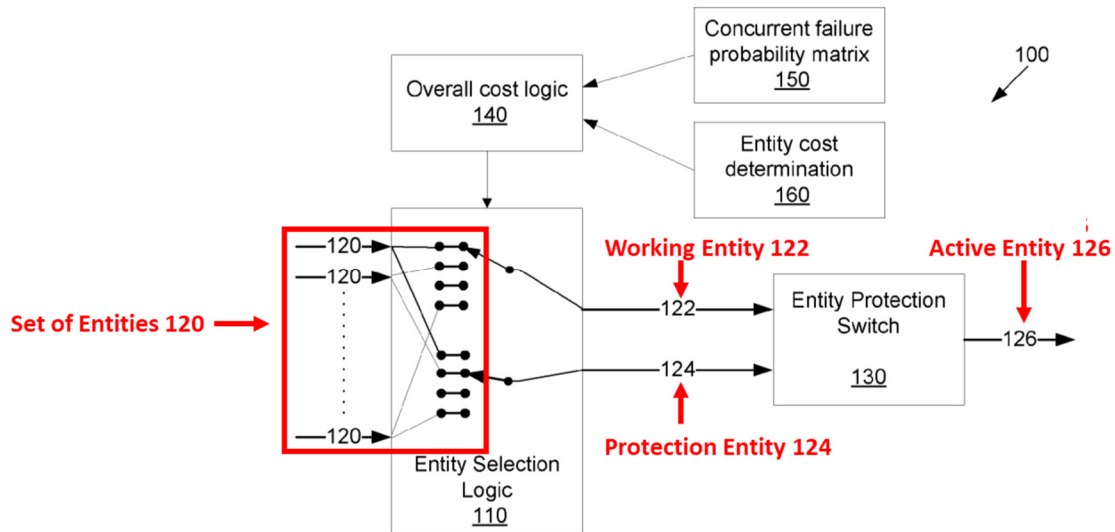
No combination of the asserted references teaches or suggests each limitation of independent claims 1, 14, and 17. Accordingly, the Petition does not establish a reasonable likelihood of success that any claims would be held unpatentable in a final written decision.

A. The Asserted References Do Not Teach Or Suggest “Selecting An Entity Pair From Said Plurality Of Transport Entities Based At Least In Part Upon Said Overall Cost”

Independent claims 1 and 17 require “selecting an entity pair from said plurality of transport entities based at least in part upon said overall cost.” Ex. 1001 [’821 Patent], claims 1 and 17. The Petition argues Doshi in view of Guichard teaches or suggests these limitations. Pet., 35-40, 65. The Petition fails to demonstrate that Doshi or Guichard, whether considered alone or in combination, teaches or suggests this limitation.

This limitation requires an entity pair is selected from a “plurality of transport entities.” That is, two entities are simultaneously selected from a single group of transport entities that are already provided. This is illustrated in the annotated

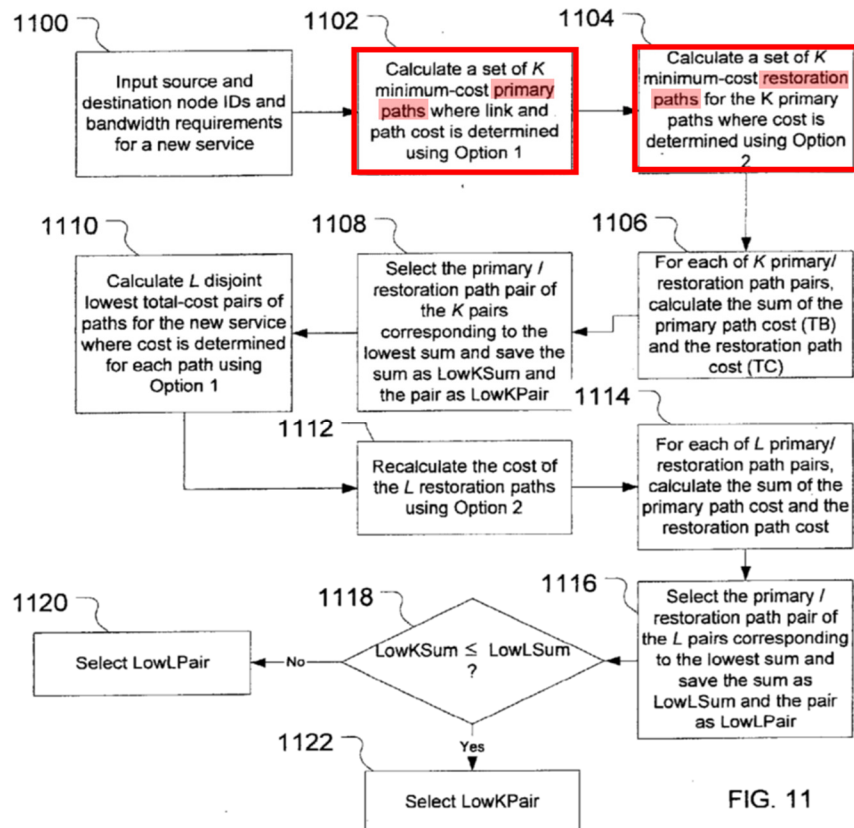
version of '821 Patent Fig. 1 below, where the “working entity 122” and “protection entity 124” are simultaneously selected from a single set of entities 120:



See also id., 3:33-36 (“An entity protection switch 130 switches between a working entity 122 and a protection entity 124 from a set of entities 120 or entity descriptors represented within an entity selection logic block 110.”), Figs. 2-3 (showing pair selection based on determining the minimum cost for each pair). The determination of which entity is the “working” or “protection” entity is made after pair selection. *See, e.g., id.*, Fig. 3, 4:54-59 (“One entity of the entity pair may be selected as a working entity, as shown by block 320. Similarly, a protection entity may be selected from the entity pair, as shown by block 330. An active entity may be selected from the working entity and the protection entity, as shown by block 340.”).

The Petition relies on Doshi for its selection process, arguing “Doshi discloses

selecting an LSP pair from the plurality of MPLS LSP... .” Pet., 36. The Petition relies on Doshi Fig. 11 and the supporting text in the specification for its argument. *Id.*, 35-36. Doshi Fig. 11 does not “select[] an entity pair from said plurality of transport entities” as required by the claims. Instead, Doshi Fig. 11 first selects a group of K primary paths and subsequently calculates a restoration path for each primary path identified earlier. This is highlighted in annotated Doshi Fig. 11, below, where in step 1102 the K primary paths are determined and in step 1104, the K restoration paths are determined:



See also Ex. 1005 [Doshi], ¶[0143]. In other words, Doshi does not simultaneously

select a pair of entities from a single group of transport entities that are already provided. Instead, it first creates a group of potential primary paths and then, once those paths are created, for each primary path, it calculates a restoration path in reference to that particular primary path. *Id.* Thus, the pair is not selected from “a plurality of transport entities” because only the primary path is selected from a first plurality of transport entities and the restoration path is not selected from the same plurality of transport entities.

Doshi Fig. 11 discloses a second selection process at 1116 where a primary/restoration path pair is selected from a group of L primary/restoration path pairs. Ex. 1005 [Doshi], ¶[0144], Fig. 11. Similar to the first selection process discussed above, the “L disjoint lowest total-cost pairs of paths” at 1110 are not identified in the same way as the ’821 Patent. In contrast, the “L disjoint lowest total-cost pairs of paths” at 1110 or the recalculated pairs at 1112 are identified sequentially, i.e., a group of L primary paths are first identified, and for each such primary path, a restoration path is computed in reference to that particular primary path. *See, e.g.*, Ex. 1005 [Doshi], ¶¶ [0130]-[0131], [0149], Fig. 12. For the same reason that the first selection process does not disclose the limitation of “selecting an entity pair from said plurality of transport entities,” the second selection process at Fig. 11 of Doshi does not disclose this limitation either.

In addition, the primary/restoration path pair is not selected from a plurality

of transport entities as required by the claims, it is selected from a plurality of primary/restoration path pairs. *Id.* That is, a group of L potential primary/restoration path pairs is identified at 1110 and 1112 and then at 1114 and 1116, the primary/restoration path pair is selected from the group of L potential primary/restoration path pairs. *Id.*

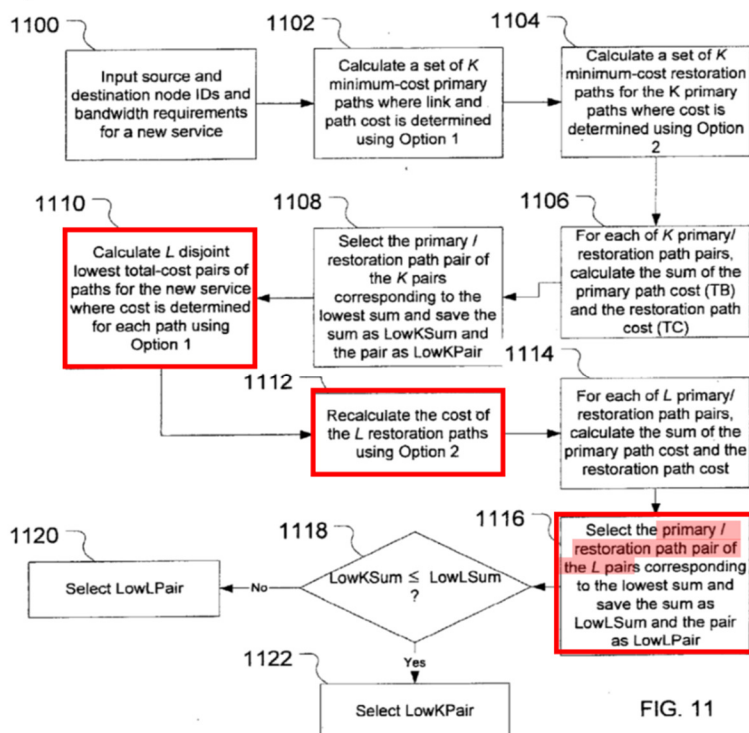


FIG. 11

This is different than claims 1 and 17, which require selecting one (“an”) entity pair from a plurality of entities, not selecting an entity pair from a plurality of entity pairs. That is, the claims require selecting two entities out of a group of transport entities, not selecting two entities out of a group of transport entity pairs as taught in Doshi Fig. 11 step 1116. Accordingly, Doshi does not teach or suggest this

limitation.

B. The Asserted References Do Not Teach Or Suggest “Digital Logic Configured To Select Said Working Entity And Said Protection Entity From Said Plurality of Transport Entity Descriptors.”

Independent claim 14 requires “a data structure comprising a plurality of transport entity descriptors” along with “digital logic configured to select said working entity and said protection entity from said plurality of transport entity descriptors.” Ex. 1001 [’821 Patent], claim 14. The Petition relies on Doshi in combination with Guichard as discussed for claim 1 for the limitation “select said working entity and said protection entity.” Pet., 78-79.

Petitioner’s arguments fail for the same reason discussed above for claims 1 and 17. In particular, the claimed “working entity” and “protection entity” (corresponding to the claimed “entity pair” in claim 1) is not selected from “a data structure comprising a plurality of transport entity descriptors” (corresponding to the claimed “plurality of transport entities” in claim 1) because only the primary path is selected from a first plurality of transport entities. Doshi’s restoration path is calculated for each primary path afterwards and therefore not selected from the same plurality of transport entities. Accordingly, Doshi does not teach this limitation for the same reason discussed above. *See* §V.A, above.

C. The Asserted References Do Not Teach Or Suggest “Logic Configured To Determine A Probability Of Concurrent Failure Of Said Working Entity And Said Protection Entity”

Independent claim 14 requires “logic configured to determine a probability of concurrent failure of said working entity and said protection entity.” Ex. 1001 [’821 Patent], claim 14. The Petition argues that Doshi and Xu teach or suggest this limitation. Pet., 80-82. The Petition fails to demonstrate that Doshi or Xu, whether considered alone or in combination, teaches or suggests this limitation.

This limitation requires that “a probability of concurrent failure” of both the working entity and protection entity are determined. That is, a specific probability that both paths are in a failed state at the same time *See, e.g.*, Ex. 1001 [’821 Patent], claim 14, 5:66-6:4 (“the term ‘simultaneous failure’ encompasses concurrent failures of the working and protection entities, such that the failure of the working entity and the failure of the protection entity overlap in time, but the failures do not necessarily begin at the exact same time.”). This is because the ’821 Patent recognizes that environments with high likelihood of concurrent failure would benefit from protections against concurrent failures that were otherwise missing in the prior art. *Id.*, 1:61-66 (“in network environments where span or node failure likelihood is relatively high, existing MPSL-TP linear protection mechanisms may not meet operator availability requirements since they may not protect against one or several failures affecting both the working entity and the protection entity.”).

1. Doshi

The Petition argues that “[s]ince Doshi explains that the ‘probability of occurrence’ of two such failures is ‘very insignificant,’ a POSITA would have understood that determining that two paths are disjoint with no nodes or links in common is also a determination that the paths have a ‘very insignificant’ probability of failing concurrently.” Pet., 81 (*citing* Doshi ¶[0040]). Paragraph 40 of Doshi states:

Normally the extra capacity is sized for recovering from only a single failure at a given time in the network. This is due to the fact that the probability of occurrence of more than one failure during the time interval required to repair a failure is very insignificant, and therefore most of the time it is sufficient to cover just a single network failure.

Ex. 1005 [Doshi], ¶[0040].

There are several problems with Petitioner’s argument. First, “very insignificant” is not a probability as required by the claim, it is an assumption by Doshi’s author that the probability will be low enough to ignore.

Second, the claim requires “digital logic ... comprising: logic configured to determine a probability of concurrent failure”. Ex. 1001 [’821 Patent], claim 14. Doshi does not disclose any “logic configured to determine a probability of concurrent failure” as required by the claim. That is, the claims require logic that

determines the probability of concurrent failure as part of selecting the claimed working entity and protection entity. While Doshi ¶[0040] assumes that the probability of concurrent failure is insignificant, nothing in Doshi discloses any logic (e.g., circuitry or software) that *determines* (e.g., calculates) the probability of concurrent failure.

Accordingly, Doshi does not teach or suggest this limitation.

2. Xu

The Petition also argues that Xu teaches or suggests this limitation. Pet., 81-82. Specifically, the Petition argues that “[t]o inform path selection, Xu models failure states that would cause at least one path to fail” and therefore “[a] POSITA would have understood that at least some of the modeled failure states would be states in which the failure affects two paths simultaneously—corresponding to a state of concurrent failure.” Pet., 81. The Petition also argues that “Xu explains that each failure state has a ‘predetermined probability of occurrence.’” Pet., 82 (quoting Ex. 1025 [Xu], ¶[0006]).

The Petition’s argument is incorrect. Xu is not “determin[ing] a probability of concurrent failure of said working entity and said protection entity” as required by the claim. Instead, Xu is stating that failure states should have “*at least* a predetermined probability of occurrence.” Ex. 1025 [Xu], ¶[0006] (emphasis added). *See id.*, ¶[0049] (“because of the monstrous size of ‘all’ subsets, for practicality the

set is usually restricted to the most probable.”). That is, the “predetermined probability of occurrence” in Xu is a predetermined threshold probability, not the actual probability of individual failure states. In other words, Xu teaches to use a “set of failure scenarios S” comprised of the links and nodes that are most likely to fail (*id.*, ¶[0049]), not to independently determine the probability that a specific working entity and specific protection entity will concurrently fail as required by claim 14. Xu does not explain how or whether its system determines probabilities for individual failure states.

Further, nothing in the Petition indicates that Xu’s “failure states” relate to a working entity and protection entity as required by claim 14. Indeed, Xu does not teach the concept of a “protection entity.” Instead, Xu is directed to a different architecture for “balancing traffic load over a predefined set of paths P_d ” (e.g., multipath routing). Ex. 1025 [Xu], ¶¶[0006], [0030]. Each available path p in the set of paths P_d may simultaneously carry a fraction of the traffic between two routers according to a “splitting ratio.” *Id.*, ¶[0006]. If one or more paths fail, Xu uses a different splitting ratio to determine how much traffic to transmit over each remaining path p . *Id.* Because each path p is constantly transmitting if available, there are no separate concepts of a “working entity” and “protection entity” in Xu—that is, each available path in Xu is “working” in the sense that it is constantly transmitting a certain amount of traffic. *See id.*, ¶¶[0030], [0035]. Further, even if

each available path in Xu were considered a “working entity,” there would be no separate “protection entity” because each available entity is actively transmitting traffic.

The difference between claim 14 and Xu can be analogized by thinking of water drains. A typical bathroom sink has a main drain at the bottom and an overflow drain near the top in case the bottom drain is stopped. This is similar to claim 14, where there is a working entity (the main drain) and a protection entity (the overflow drain) for use only if the working entity fails. Xu does not work like this. Instead, Xu is similar to storm drains, where a street has multiple storm drains and each storm drain is designed to carry a portion of the runoff water during a rainstorm. If one storm drain is blocked (or fails), the other drains are designed with excess capacity so they simply redistribute the extra water and each carry slightly more water. In this architecture, there is no concept of at least a “protection entity” or of “a probability of concurrent failure” for a “protection entity.” Thus, Xu is not determining “a probability of concurrent failure of said working entity and said protection entity” as required by claim 14.

Because the asserted prior art does not teach or suggest every element of any independent claim, the Board should decline to institute this IPR.

VI. THE BOARD SHOULD EXERCISE DISCRETION UNDER SECTION 314 AND DENY INSTITUTION FOR ALL GROUNDS

There is no requirement that the Board institute IPR. *See, e.g., Harmonic Inc.*

v. Avid Tech., 815 F.3d 1356, 1367 (Fed. Cir. 2016). “[T]he PTO is permitted, but never compelled, to institute an IPR proceeding.” *Id.* Rather, the decision to institute is delegated to the Board and is purely discretionary.

35 U.S.C. § 314(a) gives the Board discretion to deny institution because of efficiency considerations stemming from parallel proceedings on the same patent. *See NHK Spring Co. v. Intri-Plex, Inc.*, IPR2018-00752, Paper 8 (PTAB Sept. 12, 2018) (precedential, designated May 7, 2019) (“*NHK Spring*”). The PTAB has set forth six factors for determining whether discretionary denial due to efficiency considerations relating to parallel proceedings is appropriate (the “*Fintiv* factors”):

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(s) 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.

Apple Inc. v. Fintiv, Inc., IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (precedential) (“*Fintiv I*”), 6; *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 15 (PTAB May 13, 2020) (order denying institution) (informative, designated July 13, 2020) (“*Fintiv II*”), 7-8.

The Director has issued additional guidance on the application of *Fintiv*. See Katherine K. Vidal, *Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation* (June 21, 2022)¹ (“*Fintiv Memo*”). See also *OpenSky Indus., LLC v. VLSI Tech. LLC*, IPR2021-01064, Paper 102, 49–50 (PTAB Oct. 4, 2022) (precedential) (“*OpenSky*”) and *CommScope Techs. LLC v. Dali Wireless, Inc.*, IPR2022- 01242, Paper 23 (PTAB Feb. 27, 2023) (precedential) (“*CommScope*”). Under the interim *Fintiv* Memo, if the Board “determines that the information presented at the institution stage presents a compelling unpatentability challenge, that determination alone demonstrates that the PTAB should not discretionarily deny institution under *Fintiv*.” Interim *Fintiv* Memo, 4–5. However, *OpenSky* and *CommScope* make clear that the compelling merits standard is a significantly higher standard than the institution standard,

¹ Available at https://www.uspto.gov/sites/default/files/documents/interim_proc_discretionary_denials_aia_parallel_district_court_litigation_memo_20220621_.pdf

requiring that it be “highly likely that the petitioner would prevail with respect to at least one challenged claim.” *OpenSky*, 49; *CommScope*, 3–4. Further, “compelling merits” should be considered only after a determination that the first five *Fintiv* factors favor discretionary denial. *CommScope*, 4–5. Further still, the currently pending Advance Notice of Proposed Rulemaking (ANPRM) should eliminate the “compelling merits” aspect of the interim *Fintiv* memo.

Here, all six *Fintiv* factors weigh in favor of discretionary denial, and there are no “compelling merits” or a *Sotera*-type stipulation. Accordingly, the Board should exercise its discretion and deny institution.

A. Factor 1

The first *Fintiv* factor—regarding whether a motion to stay has been granted or denied without prejudice pending an institution decision—weighs in favor of denial. The Petition argues that this factor is neutral because “[n]o motion to stay has been filed.” Pet., 85. This statement is no longer true. Shortly after filing IPRs against each of Patent Owner’s patents, Petitioner *did* file a motion to stay. That motion to stay was promptly denied. Accordingly, because Petitioner’s motion to stay was rejected by the court, this factor strongly favors discretionary denial.

In particular, on March 23, 2023, the Petitioner filed a motion to stay in the district court litigation pending *inter partes* review. Petitioner argued the court “should stay this case because [Petitioner] filed IPR petitions on every asserted claim

in this case.” Ex. 2004, 1. Six days later, on March 29, 2023, the district court *sua sponte* denied Petitioner’s motion to stay, noting that trial is set for March 4, 2024, which is six months before the earliest expected final written decision. Ex. 2005, 3. That reasoning would be equally applicable even if IPR were instituted and Petitioner were to renew its rejected motion to stay. There is no reason to suspect the court would change its mind if review were instituted. The first *Fintiv* factor weighs in favor of denying institution.

B. Factor 2

The second *Fintiv* factor—the proximity of the court’s trial date to the Board’s projected statutory deadline for a Final Written Decision—weighs in favor of denial. Trial is scheduled to begin March 4, 2024. Ex. 2001, [First Amended Docket Control Order], 1. Based on the Notice of Filing Date Accorded in this proceeding (March 13, 2023), a Final Written Decision is expected no later than September 14, 2024. Paper 5 at 1. Thus, a Final Written Decision is not expected until roughly six months after the jury verdict.

Petitioner argues that the Board uses median time-to-trial statistics in the relevant venue to determine a projected trial date for *Fintiv* purposes. Pet., 85-86. Petitioner alleges that the median time-to-trial in the Eastern District of Texas is 24.5 months. *Id.* However, for that allegation, Petitioner cites Ex. 1013, which contains summary caseload information for the period ending June 30, 2022. At best,

Petitioner's allegation is outdated. At worst, it presents a carefully selected outlier data point taken out of context. The most recent statistics (for the period ending March 31, 2023) indicate a time-to-trial in the Eastern District of Texas of 19.0 months—nearly six months less than the date advanced by Petitioner. Ex. 2006 [March 23 Judicial Caseload Statistics], 35; *see also* Ex. 2022 [December 22 Judicial Caseload Statistics], 35 (same).

Not only is Petitioner's single data point outdated, but it is also an extreme outlier for the Eastern District of Texas. The 24.5 month median-time-to-trial cited by Petitioner is the single longest time to trial listed for any reported period and over four months longer than the next-closest median value for any year other than 2022. Ex. 1013 [June 2022 Judicial Caseload Statistics], 35, Ex. 2006 [March 23 Judicial Caseload Statistics], 35, Ex. 2022 [December 22 Judicial Caseload Statistics], 35. Further, the 19 month median time-to-trial given in the most recent statistics is in line with historical time-to-trial statistics for the Eastern District of Texas. *See* Ex. 2006, 35 (indicating median time-to-trial ending on March 31 of 20.2 months for 2018, 18.3 months for 2019, 17.7 months for 2020 and 19.5 months for 2021); Ex. 1013 (indicating median time-to-trial for year ending on June 30 of 22.0 months for 2017, 19.2 months for 2018, 17.5 months for 2019, 17.7 months for 2020 and 20.4 months for 2021); Ex. 2022 (indicating median time-to-trial for year ending on December 31 of 20.4 months for 2017, 19.0 months for 2018, 17.8 months for 2019,

17.5 months for 2020 and 23.0 months for 2021). Thus, Petitioner's data point is not only outdated, but also an extreme outlier.

Nor is it surprising that statistics for the year ending June 30, 2022 would be an outlier. The unusually high median time-to-trial for this period likely reflects the fact that Covid-19 caused delays and closures to the court systems during 2020 and 2021; the spike in time-to trial in 2021 and early 2022 (and subsequent return to historical norms) reflects the reality that the Eastern District of Texas was catching up with a backlog of cases caused by those delays.

Using the current median time-to-trial for the Eastern District of Texas (19.0 months), and based on the district court filing date of July 22, 2022, the projected trial date in the district court litigation would fall somewhere around February 2024. This is roughly 7 months before an expected final written decision in this IPR and roughly a month before the currently scheduled trial date. Accordingly, using either the actual scheduled trial date in this matter or the median time-to-trial statistics for the Eastern District of Texas, trial is expected to conclude at least six or seven months before a final written decision is due in this matter.

Under *Fintiv* factor 2, this weighs heavily in favor of discretionary denial. *See Fintiv I*, 9 (“If the court’s trial date is earlier than the projected statutory deadline, the Board generally has weighed this factor in favor of exercising authority to deny institution under *NHK*.”). Further, granting institution here would frustrate one of

the primary objectives of the AIA, which is “to provide an effective and efficient alternative” to parallel litigation. *NHK Spring*, 19-20 (quoting *General Plastic Indus. Co., Ltd. v. Canon Kabushiki Kaisha*, IPR2016-01357, Paper 19, 15-19 (PTAB Sept. 6, 2017) (precedential, designated Oct. 18, 2017)). If instituted, any potential FWD will issue well after trial concludes. Thus, instituting IPR here cannot be viewed as an “alternative” to litigation. Rather, it would simply be more litigation. Accordingly, factor 2 weighs in favor of denying institution.

C. Factor 3

The third *Fintiv* factor—which relates to “the amount and type of work already completed in the parallel litigation by the court and the parties at the time of the institution decision”—also favors denial. *Fintiv I*, 9-12. An institution decision in this IPR is not expected until September 2023. 35 U.S.C. § 314(b). Significant work in the parallel litigations has already taken place and will continue to take place until that time. Indeed, the parties are already actively pursuing discovery, and the parties have collectively produced over 2.4 million pages in discovery to date. The parties have already served interrogatories and received responses. Infringement contentions and accompanying disclosures under the local patent rules were served on November 3, 2022 and Supplemental Infringement Contentions were served on January 19, 2023. Exs. 2002, 2003 [11-4-2022 and 1-19-2023 Notices of Compliance]. Invalidity contentions and accompanying disclosures under the local

patent rules were served on February 2, 2023, and have been supplemented several times, including most recently on April 12. Ex. 2007 [2-3-2023 Notice of Compliance]; 2012 [March 30, 2023 Order]; 2013 [April 13, 2023 Order]. These contentions currently consist of 43 charts totaling over 7,500 pages and involving approximately 69 pieces of alleged prior art, along with hundreds of additional background references. Ex. 2015 [First Amended Invalidity Contentions Cover Pleading], 8-14, 18-35; Exs. 2016-2021 [Invalidity Contention Claim Charts].

The *Markman* hearing in this matter is scheduled for September 7, 2023. Ex. 2001 [First Amended Docket Control Order], 3. The typical practice of the judge assigned to the district court litigation is to provide preliminary constructions at the time of the *Markman* hearing; thus, the claims of the '821 Patent will likely be construed by the district court by early September—around the time an institution decision is expected.

By the time of the institution decision in this IPR, discovery in the district court litigation will be nearly complete. The deadline to substantially complete document production and exchange privilege logs is July 27, 2023 and all fact

discovery closes on October 19, 2023.² Ex. 2001 [First Amended Docket Control Order], 3-4. Expert discovery will close on November 20, 2023 and summary judgment motions are due November 27, 2023. Ex. 2001 [First Amended Docket Control Order], 3-4.

Thus, Factor 3 favors discretionary denial because significant substantive work will have already been completed in the district court litigation by the time of the institution decision. *See Fintiv II* (“Based on the level of investment and effort already expended on claim construction and invalidity contentions in the District Court, this factor weighs somewhat in favor of discretionary denial in this case.”).

Petitioner argues this factor favors institution because of its alleged diligence in filing this IPR after Petitioner “learned which claims were being asserted.” Pet., 87. But the litigation was filed on July 22, 2022. Petitioner did not file this IPR until January 9, 2023. Pet., 89. Further, the Petition challenges each claim 1-20 of the ’821 Patent. Pet., 14. There was nothing preventing Petitioner from filing a Petition challenging all claims much earlier. Thus, Petitioner waited almost six months after the copending district court litigation was filed to file its Petition. Accordingly,

² This date is based on the expected Markman hearing date but will not change even if the Markman hearing is delayed. Ex. 2007 [Standing Order Governing Proceedings], 12 n. 8.

Factor 3 weighs in favor of discretionary denial.

D. Factor 4

The fourth *Fintiv* factor—which relates to overlap between issues raised in the petition and in the parallel proceeding—also weighs in favor of denying institution. Each claim at issue in the parallel litigation is also at issue in the Petition. Further, the Doshi, Guichard and Huang references that are central to the challenges raised in the Petition have been identified in Petitioner’s invalidity contentions. Ex. 2015 [Invalidity Contentions Cover Pleading], 9 (Doshi), 20 (Huang), 25 (Guichard (referred to as “MPLS Designs”)). The Xu reference is only used for a single limitation of claim 14 (“logic configured to determine a probability of concurrent failure of said working entity and said protection entity”) (Pet., 81-82) which, as discussed above in §V.C.2, Xu does not actually teach or suggest.

Thus, the issues in this IPR are essentially a subset of the issues presented in Petitioner’s contentions. *Fintiv I*, 12 (“if the petition includes the same or substantially the same claims, grounds, arguments, and evidence as presented in the parallel proceeding, this fact has favored denial.”).

On June 5, 2023, Petitioner stipulated that “[i]f the Board institutes trial, Petitioner will cease asserting in the co-pending litigation the combination of references on which trial is instituted for the claims on which trial is instituted, to the extent Petitioner even asserts the same combination in the litigation against it.”

Paper 6. The PTAB has classified such stipulations as “*Sand Revolution*”-style stipulations after the stipulation filed in *Sand Revolution II, LLC v. Continental Intermodal Group – Trucking LLC*, IPR2019-01393, Paper 24 (PTAB June 16, 2020), where Petitioner filed a stipulation that it “will not pursue the same grounds in district court litigation.” *Id.* at 11-12. The PTAB has routinely found similar stipulations weigh only “marginally in favor of not exercising discretion to deny institution.” *Id.*, 12; *LG Elecs., Inc. v. Ancora Techs., Inc.*, IPR2021-00581, Paper 16, 9-10 (PTAB June 10, 2021) (same); *Google LLC v. EcoFactor Inc.*, IPR2021-00454, Paper 9 (PTAB July 22, 2021) (same); *Samsung Electronics Co. Ltd. v. California Institute of Tech.*, IPR2023-00130, Paper 10, 19-20 (PTAB May 4, 2023) (same); *Roku, Inc. v. IOENGINE, LLC*, IPR2022-01554, Paper 11, 13-14 (PTAB May 5, 2023) (same).

In short, the Board routinely assigns almost no weight to *Sands Revolution* style stipulations such as the one Petitioner filed here. This is because *Sands Revolution* stipulations do little to eliminate overlap with the district court litigations. Here, Petitioner’s stipulation merely agrees not to assert the exact same combination of references in the district court as it asserts in the Petition if this IPR is instituted. Paper 6. But Petitioner could still use different combinations of the same references in the district court (e.g., Doshi, Huang and Xu), or substitute in cumulative secondary references that still use the same primary reference (Doshi) used in every

ground in the Petition. Indeed, Petitioner's invalidity contentions argue that numerous pieces of alleged prior art contain teachings that are duplicative of primary reference Doshi. Ex. 2015 [Invalidity Contentions Cover Pleading], 41 ("the Cisco IOS System (or the IETF MPLS-TP System or Doshi) discloses sending data traffic to both the working and protection path, *e.g.*, a 1+1 architecture, and selecting data traffic to send over either the working or protection path, *e.g.*, a 1:1 architecture."). *See generally id.*, 40-43. Thus, Petitioner's stipulation does almost nothing to eliminate the potential overlap with the district court litigation.

Further, Petitioner's stipulation is not even as strong as the marginally relevant stipulation from *Sands Revolution* because it would allow Petitioner in certain circumstances to assert the exact same combinations in district court as it does in the Petition. To the extent only certain combinations were instituted, Petitioner would be free to use the non-instituted combinations in district court, and to the extent only certain claims were instituted, Petitioner would be free to use instituted combinations against non-instituted claims. And Petitioner has not yet filed this stipulation in the district court litigation.

Further, the Board has routinely denied institution in situations like the present where the other factors clearly favored non-institution, even where Petitioners offered stronger stipulations. For example, in *LG Elecs., Inc. v. Ancora Techs., Inc.*, No. IPR2021-00581, Paper 16, 9-10 (PTAB June 10, 2021), the Board denied

institution despite Petitioner’s stipulation “it will not subsequently assert invalidity in the district court on the same grounds asserted in the IPR or on the basis of the Hellman reference, either alone or in combination with any other reference.” *Id.* Unlike Petitioner’s stipulation here, the Petitioner in *Ancora* agreed to a blanket stipulation not to assert the primary referenced Hellman under any circumstance. The Board there agreed with Patent Owner that, even with Petitioner’s stipulation, “there is significant overlap between the issues raised in the Petition and in the parallel district court proceeding.” *Id.* Similarly, in *Samsung Electronics Co., LTD. v. California Institute of Technology*, IPR2023-00130, Paper 10 (PTAB May 4, 2023), the Board denied institution notwithstanding a stipulation it characterized as “broader to some degree than the stipulation discussed in *Sand Revolution*” because “the trial in the Underlying Litigation would commence several months before the expected date of our final written decision” and the fact that there had been significant investment in the litigation. *Id.*, 16-20.

The facts here are similar to *Ancora* and *Samsung* except Petitioner has filed a weaker stipulation than in *Ancora*, *Samsung*, or *Sand Revolution*. Accordingly, any marginal weight Petitioner’s stipulation is entitled to does not outweigh the other factors.

E. Factor 5

The fifth *Fintiv* factor—whether the petitioners and the defendant in the

parallel proceedings are the same parties—weighs in favor of discretionary denial. There is no dispute that the parties here are the same as the parties in the litigations. *Fintiv II*, 15 (“Because the petitioner and the defendant in the parallel proceeding are the same party, this factor weighs in favor of discretionary denial.”). Thus, this factor weighs in favor of discretionary denial.

F. Factor 6

The sixth *Fintiv* factor—relating to other circumstances that impact the Board’s exercise of discretion, including the merits—weighs in favor of discretionary denial. As demonstrated in Section V above, the merits of Petitioner’s arguments are weak and Petitioner has failed to show a reasonable likelihood of success for any ground, much less a high likelihood of prevailing as required to show “compelling merits.” *See Fintiv I*, 15 (“if the merits of the grounds raised in the petition are a closer call, then that fact has favored denying institution when other factors favoring denial are present”); *Commscope Technologies LLC, v. Dali Wireless, Inc.*, IPR2022-01242, Paper 23, 5 (PTAB Feb. 27, 2023) (precedential) (“Merely pointing to [] analysis under the lower institution standard is insufficient to demonstrate that the Petition presents a compelling unpatentability challenge.”). In particular, Doshi does not teach or suggest “selecting an entity pair from said plurality of transport entities based at least in part upon said overall cost” as required by independent claims 1 and 17, Doshi does not teach or suggest “a data structure

comprising a plurality of transport entity descriptors” along with “digital logic configured to select said working entity and said protection entity from said plurality of transport entity descriptors” as required by independent claim 14, and neither Doshi nor Xu teach or suggest “logic configured to determine a probability of concurrent failure of said working entity and said protection entity” as required by independent claim 14.

Indeed, the Petition only provides unsupported attorney argument that “the merits of Petitioner’s arguments are strong... .” Pet., 88. To the extent this argument could be interpreted as a “compelling merits” argument, it is exactly the sort of argument *Commscope* held was insufficient. *Commscope*, IPR2022-01245, Paper 23, 5 (“Merely pointing to its analysis under the lower institution standard is insufficient to demonstrate that the Petition presents a compelling unpatentability challenge.”). Thus, this factor favors discretionary denial.

All six *Fintiv* factors weigh in favor of discretionary denial. Accordingly, the Board should use its discretion to deny institution of this IPR.

VII. CONCLUSION

For the foregoing reasons, the Board should not institute this IPR.

Date: June 14, 2023

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CERTIFICATE OF COMPLIANCE WITH TYPE-VOLUME LIMITS

This Patent Owner's Preliminary Response ("POPR") consists of 9,608 words, excluding table of contents, table of authorities, certificate of service, this certificate, or table of exhibits. The POPR complies with the type-volume limitation of 14,000 words as mandated in 37 C.F.R. § 42.24. In preparing this certificate, counsel has relied on the word count of the word-processing system used to prepare the paper (Microsoft Word).

Dated: June 14, 2023

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that the following documents were served
by electronic service, by agreement between the parties, on the date below:

**PATENT OWNER'S PRELIMINARY AMENDMENT
EXHIBITS 2001-2022**

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