

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CISCO SYSTEMS, INC.,
Petitioner

v.

ORCKIT CORPORATION,
Patent Owner.

Case IPR2023-00554
Patent No. 10,652,111

PATENT OWNER'S PRELIMINARY RESPONSE

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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) (“March 23 Judicial Caseload Statistics”)
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2010	July 28, 2008 Claim Amendments (U.S. Appl. No. 11/123,801) (“’801 Application Pending Claims”)
2011	<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
2012	<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
2013	“About Orckit-Corrigent: Executive Summary,” 2011.
2014	<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)

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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 D - ’111 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 E - Combination 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 (SME Contentions)
2021	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”) respectfully submits this Preliminary Response to Cisco Systems, Inc.’s (“Petitioner”) February 21, 2023 Petition (Paper 1) requesting review of claims 1-9, 12-24, and 27-31 (the “Challenged Claims”) of U.S. Patent No. 10,652,111 (the “111 Patent”).

The Board should deny institution. As an initial matter, independent claim 1—the sole independent claim in this proceeding—recites “sending, by the controller to the network node over the packet network, an instruction and a packet-applicable criterion.” The Petition fails to provide any evidence that its primary references— U.S. Patent No. 9,264,400 (“Lin”) or U.S. Patent Publication No. 2013/0291088 (“Shieh”)—disclose a controller that communicates with a network node over a packet network, as required by independent claim. The Petition likewise fails to demonstrate that its primary and secondary references— Lin, Shieh, and U.S. Patent Publication No. 2013/0322242 (“Swenson”)—disclose or suggest sending an instruction and a packet-applicable criterion to the network node as recited by claim 1. Thus, the Petition has failed to show a reasonable likelihood of success on the sole independent claim if instituted.

Further, the Board should exercise its discretion to deny institution under 35 U.S.C. § 314(a). 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 would likely issue sometime around September 2024, by which point the jury will have long since rendered its verdict on the invalidity issues raised here and the litigation could already be on appeal. Accordingly, *Fintiv*'s efficiency considerations overwhelmingly favor denying institution here.

For these reasons, Patent Owner respectfully requests that institution be denied.

II. BACKGROUND

A. Procedural History

This proceeding is one of four IPRs filed by Petitioner against PO. The other IPRs are IPR2023-00401 (U.S. Pat. No. 7,545,740), IPR2023-00402 (U.S. Pat. No. 8,830,821), and IPR2023-00714 (U.S. Pat. No. 6,680,904). Each of the '740, '821, '111 and '904 Patents is currently asserted by PO 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 '111 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.

Through its history, 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. 2013, [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 ’111 Patent.

C. The ’111 Patent

The ’111 Patent is titled “Method and System for Deep Packet Inspection in Software Defined Networks.” Ex. 1001, abstract. DPI is a technique for examining network communications that can be used to extract data patterns from a data communication channel. Ex. 1001, 1:21-25. The extracted data patterns are useful for a variety of purposes, including network security and data analytics. *Id.*

A software defined network (SDN) is a networking architecture that

provides for centralized management of the nodes in a network, as opposed to the distributed architecture utilized by conventional networks. Ex. 1001, 1:30-38. For example, a SDN may utilize a controller to manage network nodes such as vSwitches. *Id.* SDN-based architectures typically decouple the data forwarding (*e.g.* data plane) from control decisions (*e.g.* control plane), such as routing, resources, and other management functionalities. Ex. 1001, 1:39-49. The decoupling may allow the data plane and the control plane to operate on different hardware, in different runtime environments, and/or operate using different models. *Id.*

The inventors of the '111 Patent recognized that the OpenFlow protocol used by prior art did not support DPI of packets through the various networking layers. Ex. 1001, 1:50-67. This limited the ability of the OpenFlow protocol to support a number of networking features associated with DPI, including detecting security threats. *Id.*

The '111 Patent proposes methods for DPI in a software defined network. Ex. 1001, 2:27-3:3. In one exemplary embodiment, a network system 100 as shown in Fig. 1 includes a controller 111 “configured to perform deep packet inspection on designated packets from designated flows or TCP sessions... the central controller 111 is further configured to instruct each of the network nodes

112 which of the packets and/or sessions should be directed to the controller 111 for packet inspections”:

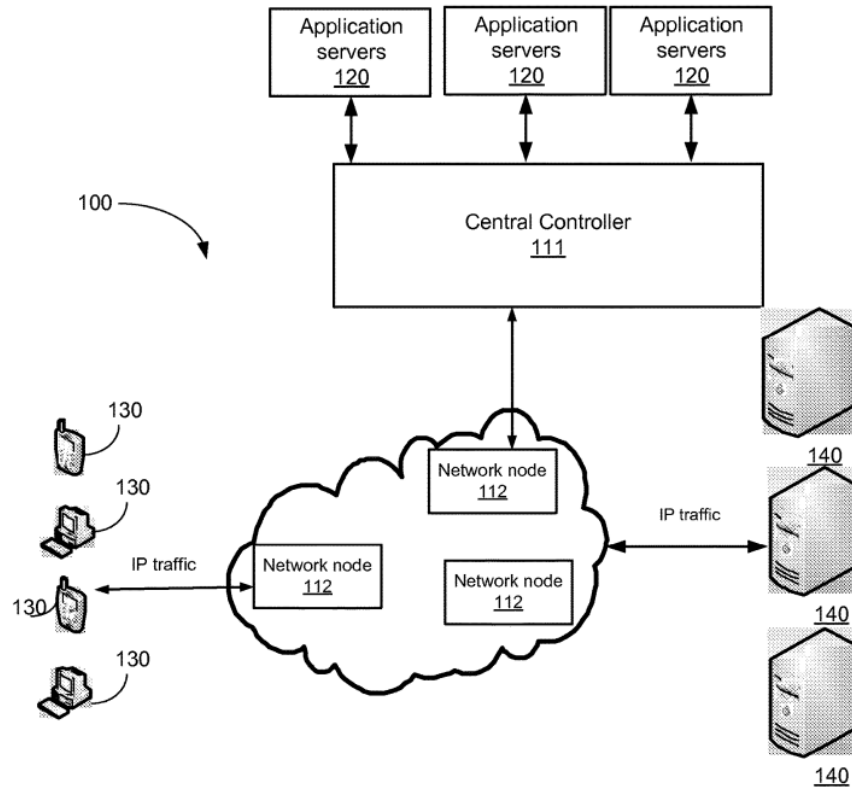


FIG. 1

Ex. 1001, 4:5-11, Fig. 1. Controller 111 may provide instructions to the network nodes that configure the network nodes to analyze the headers of incoming packets for DPI. Ex. 1001, 4:23-37. For example, the network node may be instructed to either redirect the packet to controller 111 or send the packet to the destination server 140. *Id.* Alternatively, the controller 111 may instruct the network nodes to mirror a number of bytes within the packet to be sent to controller 111 to perform

DPI. *Id.* The TCP packet's header may include fields such as TCP FLAG SYN, TCP FLAG ACK, TCP FLAG FIN, TCP FLAG RST, which are analyzed by the network node to execute the instructions sent by the controller, which may vary depending on the contents of the TCP packet's header field. Ex. 1001, 4:23-46.

The '111 Patent has two independent claims (1 and 32) and 52 dependent claims, of which only independent claim 1 and a subset of its dependent claims are at issue in this proceeding. Consistent with the description in the '111 Patent, the claims recite a method for transporting packets based on an instruction and a packet-applicable criterion sent from a controller to a network node (claim 1) for performing DPI (claim 9).

D. Prosecution History

The '111 Patent claims priority to provisional application no. 61/982,358, filed on April 22, 2017. Ex. 1001 ['111 Patent], 1:8-10. The '111 Patent was filed on April 21, 2015 as Appl. No. 15/126,288 (the "'288 Application"). *Id.*

On September 12, 2018, the Examiner issued a non-final rejection rejecting the then-pending claims under 35 U.S.C. § 103 over U.S. Pub. No. 2010/0208590 (Dolganow) and U.S. Pub. No. 2014/0052836 (Nguyen), which was made final on April 15, 2019 following an Applicant response on December 9, 2018. Ex. 1002, 170-195, 230-238, 240-263.

In response to the rejections, Applicant on May 7, 2019 amended the claims to explicitly recite that the controller “is external to the network node,” thus clarifying that the instruction and packet-applicable criterion are sent by the controller to the network node over the packet network. Ex. 1002, 148-168.

On July 8, 2019, the Examiner issued a new rejection substituting Nguyen with U.S. Pub. No. 2016/0219080 (Huang). The Examiner subsequently withdrew the rejection and allowed the claims following Applicant’s October 2, 2019 response to the Examiner’s July 8, 2019 Office Action. Ex. 1002, 15-16, 55-64. The Examiner’s January 7, 2020 Notice of Allowance credited the arguments made by Applicant’s October 2, 2019 response, including that the prior art failed to disclose “sending, by the controller to the network node over the packet network, an instruction and a packet-applicable criterion” because the prior art “only described receiving packets as part of the regular traffic to be analyzed, and are silent regarding any receiving from a controller in general, and receiving of ‘the instruction and the criterion’ in particular.” Ex. 1002, 15-16, 62-64.

The ’288 Application issued as the ’111 Patent on May 12, 2020. Ex. 1001.

E. Petitioner’s Cited References

The Petition asserts the following two grounds:

Ground	Claims	Basis
#1	1-9, 12-24, and 27-31	35 U.S.C. § 103 (AIA) over Lin and Swenson
#2	1, 5-9, 12-24, and 27-30	35 U.S.C. § 103 (AIA) over Shieh and Swenson

Paper 1, i-iii. Petitioner alternatively relies on Lin or Shieh as the primary reference, but Swenson as the secondary reference in both cases.

1. Lin (Ex. 1005)

U.S. Patent No. 9,264,400 to Lin et al. (“Lin”) is titled “Software Defined Networking Pipe for Network Traffic Inspection” and describes a software defined networking (SDN) computer network including an SDN controller and an SDN switch. Ex. 1005, abstract. The SDN controller inserts flow rules in a flow table of the SDN switch to create an SDN pipe between a sender component and a security component. *Id.*

Specifically, Lin utilizes an SDN Controller 610 (which may be an OpenFlow Controller) that controls the behavior of the SDN computer network 600 as shown in Fig. 6:

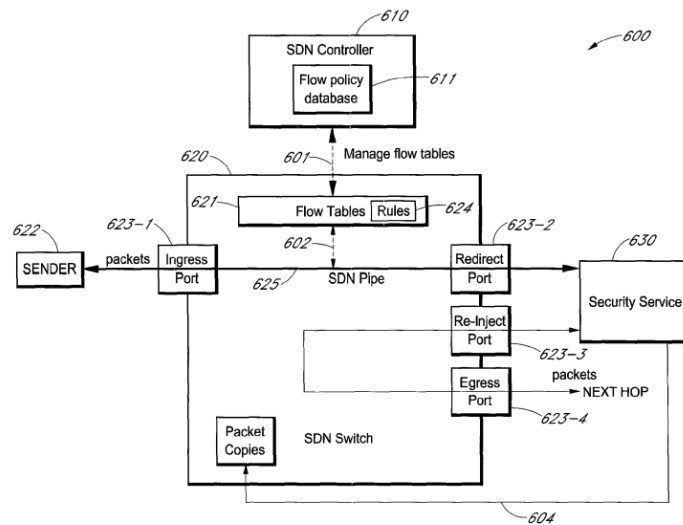


FIG. 6

Ex. 1005, 3:40-52, Fig. 6. The SDN controller may include a flow policy database 611. *Id.* The flow policy database comprises flow policies that are enforced by the controller 610 on network traffic transmitted over the SDN computer network 600 and may specify security policies that govern transmission of packets on the network. *Id.* Flow policies in database 611 are implemented in terms of flow rules 624 that are stored in flow tables 621 of the SDN switch 620. Ex. 1005, 4:19-31. “The SDN controller 610 may insert flow rules in the flow tables 621.” Ex. 1005, 6:1-3.

2. Shieh (Ex. 1006)

U.S. Pat. Pub. No. 2013/0291088 to Shieh et al. (“Shieh”) is titled “Cooperative Network Security Inspection” and describes a network system including a security device and a network access device. Ex. 1006, abstract. The

network access device receives a packet from a source node of the network and determines whether the packet should be routed to a destination node or forwarded to a security device. Ex. 1006, 37. The network access device makes this determination based on whether a bypass flag in a session table stored on the network access device is set to a predetermined value or not. *Id.* If the bypass flag is the predetermined value, the packet is forwarded to the security device. *Id.* Otherwise, the packet is routed to the destination node. *Id.* The bypass flag may be received from the security device, such as to indicate that the security device no longer wishes to receive further packets for security inspection. Ex. 1007, 30.

3. Swenson (Ex. 1007)

U.S. Pat. Pub. No. 2013/0322242 to Swenson et al. (“Swenson”) is titled “Real-Time Network Monitoring and Subscriber Identification with an On-Demand Appliance” and describes a system and method for selectively monitoring traffic in a service provider network. Ex. 1007, abstract. A user device 110 accesses a network via a steering device 130. Ex. 1007, 26. A network controller 140 interfaces with steering device 130 to coordinate the monitoring and categorization of network traffic. *Id.* The network controller provides selective real-time network monitoring and subscriber identification and monitors large flows in the network, collects flow statistics, and selects flows to be optimized. Ex. 1007, 39-40. The network controller may monitor and optimize flow based on historical traffic data for the average of the

bandwidth per user at a particular cell tower to estimate the amount of bandwidth or degree of congestion for the new flow based on the historical record. Ex. 1007, 29.

III. CLAIM CONSTRUCTION

For purposes of this preliminary response, Patent Owner does not propose any terms for express construction. Petitioner proposes a construction of the term “controller” as “an entity configured to perform deep packet inspection on packets” and a construction of the term “instruction” as “a command to determine if a packet requires inspection or not.” Paper 1, 5-8. At this stage of the proceeding, Patent Owner takes no positions regarding these constructions and the Board therefore need not construe these terms. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (noting that the Board need only construe terms “that are in controversy, and only to the extent necessary to resolve the controversy”). Patent Owner reserves its right to dispute these constructions and to construe additional terms in this or other proceedings involving the ’111 Patent.

IV. PERSON OF ORDINARY SKILL IN THE ART

Petitioner states that “a POSA would have had a bachelor’s degree in computer science, computer engineering, or an equivalent, and two years of professional experience, and a POSA would have had a working knowledge of hardware and software for packet-switched networking. Lack of work experience can be remedied by additional education and vice versa.” Paper 1, 5.

For purposes of this Preliminary Response only, Patent Owner does not dispute Petitioner’s definition, except noting that other majors, such as electrical engineering and other similar majors could be equivalent to computer science or computer engineering.

V. THE PETITION FAILS TO SHOW ANY PRIOR ART COMBINATION DISCLOSES OR SUGGESTS “SENDING, BY THE CONTROLLER TO THE NETWORK NODE OVER THE PACKET NETWORK, AN INSTRUCTION AND A PACKET-APPLICABLE CRITERION” AS RECITED BY SOLE INDEPENDENT CLAIM 1

The first element of independent claim 1—the sole independent claim at issue in this proceeding—explicitly recites “sending, by the controller to the network node over the packet network, an instruction and a packet-applicable criterion.” Thus, claim 1 explicitly recites that (1) the controller “send[s]” to the network node “*over the packet network*”; and (2) the controller “send[s]...an instruction *and* a packet-applicable criterion.” The Petition relies alternatively on either Lin or Shieh for this element. But as explained below, Petitioner has not met its burden of showing that Lin or Shieh sends an instruction *and* a packet-applicable criterion from a controller to a network node *over the packet network*.

A. Petitioner Offers Nothing More Than Conclusory Allegations That Lin’s Controller Sends an Instruction to a Network Node Over the Packet Network

Claim 1 explicitly states that the instruction and packet-applicable criterion are sent “by the controller to the network node *over the packet network*.” This

explicit language requires that the controller and the network node be discrete elements on a packet network such that the controller sends the instruction and criterion to the network node over the packet network. Indeed, Figure 1 unambiguously shows central controller 111 communicates with network nodes 112 via the packet network 100 (the network nodes 112 are separated by a cloud shape from central controller 111).

The Petition however fails to explain how Lin's SDN controller 610 and SDN switch 620 are discrete elements on a packet network such that controller 610 sends the instruction and criterion to switch 620 *over the packet network* as claimed. On this point, the Petition merely states that Lin's controller controls the SDN switches in the packet network and sends instructions and criterion to them. Paper 1, 25-27. The Petition, however, provides no explanation for why Lin's controller and SDN switches communicate via the packet network and instead merely parrots the claim language to describe the instruction and criterion as "sent by the controller to the network node over the packet network." Paper 1, 25. The Petition provides no explanation for why Lin's arrow 601 showing the SDN controller inserting flow rules into a flow table is a connection over a packet network, as opposed to any other type of network. Indeed, Lin strictly describes arrow 601 as "[t]he SDN controller 610 may insert flow rules in the flow tables 621 (see arrow 601) to create an SDN pipe" and does not state that this insertion is done over the packet network,

nor does Lin describe the flow rules themselves as packets that are passed from the SDN controller to the SDN switch. Ex. 1005, 6:1-13 (describing flow rules as directing packets, not themselves packets). At best, Petitioner has alleged that Lin's SDN controller and SDN switch "are logically separate components" but fail to show that the Lin's SDN controller and switch are both on a packet network such that the controller sends the instruction and criterion to the switch *over the packet network*. Paper 1, 17.

Petitioner's citation to paragraphs 88-94 of the Bhattacharjee Declaration is similarly unavailing. Paper 1, 25-28. Like the Petition, the Bhattacharjee Declaration asserts that the "[the flow rules] are sent [by the SDN controller] to the SDN switches in order to provide instruction to the SDN switches." Ex. 1004, ¶ 90. But this testimony does not explain how the flow rules are sent *over the packet network*. The Bhattacharjee Declaration then asserts that "Lin also teaches that the flow rules containing the packet-applicable criterion are sent by the SDN controller to the flow table in the SDN switch (which corresponds to the claim network node)," but again missing from this testimony is any explanation for how the flow rules are sent *over the packet network*. Ex. 1004, ¶ 93. Although the Bhattacharjee Declaration does state that "Lin identifies an instruction sent by the controller to the network node over the packet network" (Ex. 1004, ¶ 90) and "Lin also discloses a separate packet-applicable criterion sent by the controller to the network node over

the packet network” (Ex. 1004, ¶ 91), an “expert declaration [that merely offers] conclusory assertions without underlying factual support and repeat[], verbatim, Petitioner’s conclusory arguments [are entitled to] little weight.” *Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 12 (PTAB Feb. 10, 2023) (citing *In re Ethicon, Inc.*, 844 F.3d 1344, 1348, 1352 (Fed. Cir. 2017)). “The declaration does not provide any technical detail, explanation, or statements supporting why the expert determines that the feature in question was required or would have been obvious based on the prior art disclosure.” *Id.* Here, there is simply no evidence, besides Petitioner’s conclusory arguments and Petitioner’s expert’s conclusory testimony, that Lin discloses the controller sends the instruction and criterion over a packet network.

Without the necessary evidence, Petitioner has not met its burden of showing Lin teaches or suggests this element.

B. Petitioner Has Not Shown That Shieh Sends a Packet-Applicable Criterion

The Petition also fails to explain how Shieh discloses sending a packet-applicable criterion as recited by claim 1. The Petition alleges that Shieh “discloses a separate packet-applicable criterion to determine which packets should be forwarded to the security device pursuant to the filtering rules” in the form of “criterion specific to a particular packet being checked, such as the identification of

‘TCP FIN or TCP RST packets.’ These correspond to the claimed packet-applicable criterion.” Paper 1, 62-63. There are two issues with Petitioner’s theory.

First, as Petitioner’s concede, “Shieh does not state whether these criterion [sic] are sent from a controller to the network access devices.” Paper 1, 62. To overcome this deficiency, Petitioner alleges that “a POSA would have understood that the packet-applicable criterion would be send from a controller to one or more network access devices.” *Id.* In support, the Petition cites paragraph 224 of the Bhattacharjee Declaration, which simply repeats this assertion *verbatim*. But as previously stated, an “expert declaration [that merely offers] conclusory assertions without underlying factual support and repeat[], verbatim, Petitioner’s conclusory arguments [are entitled to] little weight.” *Xerox*, IPR2022-00624, Paper 12 (PTAB Feb. 10, 2023). Petitioner and its expert offer no explanation for how a POSA would modify Shieh to send a TCP FIN or TCP TST packet—which Shieh describes as being sent by the network source node and received by the network switch as part of the “packet stream” (Ex. 1006, 36)—from the controller to the network switch. There is no explanation for why a TCP FIN or TCP TST packet would originate from the controller as required by Petitioner’s modification rather than from a source node as disclosed by Shieh. Again, there is simply no evidence, besides Petitioner’s conclusory arguments and Petitioner’s expert’s conclusory testimony, that it would have been obvious to do so.

Second, the alleged packet-applicable criterion (TCP FIN or TCP RST) in Shieh fails to satisfy the remaining elements of claim 1, which requires “checking...if the packet satisfies the criterion” and then “sending...the packet to the second entity” or “sending...the packet to an entity that is included in the instruction and is other than the second entity” based on whether the packet satisfies the criterion. In other words, claim 1 states that the packet is sent to different destinations based on whether or not the criterion is satisfied. But in Shieh, packet destinations are determined by the bypass flag stored in the session table of the network switch, which the Petition has not alleged to be a packet-applicable criterion in element 1.1. Ex. 1007, 37; Paper 1, 62-63.

Shieh discloses that packet destinations are determined by the bypass flag—which is separate from the TCP FIN or TCP RST packet that the Petition alleges is the packet-applicable criterion. *Compare* Ex. 1006, [0037] (“[D]evice 272 may look up in its session table such as the one as shown in FIG. 5 to determine whether a bypass flag has been set to a predetermined value. If the bypass flag matches the predetermined value, the packet is forwarded to the security device 273 via path 282; otherwise, the packet is routed to destination node 274.”) *with* Ex. 1006, [0036] (“During the bypass phase, the I/O function may notify the security-processing function if there are special events in the packet stream. These events could be receipt of TCP FIN or TCP RST packets...”).

The Petition conflates the TCP FIN and TCP RST packets, which Shieh discloses are “special events in the packet stream” that produce notifications to the security-processing function (Ex. 1006, 29), with the bypass flag stored in the session table of the network switch that flags packets to be sent to the security device for inspection (Ex. 1006, 30, 37). Shieh explicitly teaches that (i) the bypass flag is stored in the session table of the network switch (Ex. 1007, 37 (“device 272 may look up in its session table such as the one as shown in FIG. 5 to determine whether a bypass flag has been set to a predetermined value. If the bypass flag matches the predetermined value, the packet is forwarded to security device 273 via path 282; otherwise, the packet is routed to destination node 274”)); and (ii) the TCP FIN and TCP RST are packets received by the network switch from the source node. Ex. 1006, 31, 36 (“[W]hen a security-processing function (e.g., processing node 211A) receives the packets, it does the security inspection and security policy enforcement...During the bypass phase, the I/O function may notify the security-processing function if there are special events in the packet stream. These events could be receipt of TCP FIN or TCP RST packets...”). Shieh thus makes clear that the bypass flag is different from the TCP FIN or TCP RST packets. Given that the Petition alleges that the claimed actions are taken based on the flags—rather than the TCP FIN or TCP RST packets, which the Petition alleges are the criterion—the Petition has failed to allege that packet destinations are determined in response to

the criterion being met, as required by the claims.

Thus, the Petition has not demonstrated that Shieh discloses sending a packet-applicable criterion.

C. Petitioner Offers Nothing More Than Conclusory Allegations That Shieh’s Controller Sends an Instruction to a Network Node Over a Packet Network

As with Lin, the Petition similarly fails to explain how Shieh’s Controller 208 sends an instruction and a criterion to network access devices 204 *over the packet network* as in claim 1. At most, the Petition alleges that “Controller 208 controls network access devices 204A-204C (i.e., the claimed network nodes) in a packet network” (Paper 1, 62), “an instruction [is] sent by the controller to the network node” (Paper 1, 62), and “a POSA would have understood that the packet-applicable criterion would be sent from a controller to one or more network access devices” (Paper 1, 63). Based on these allegations, the Petition at most shows that Shieh’s network nodes are in a packet network and receive instructions from a Controller; but Shieh fails to show that the Controller itself is on the same packet network.

Thus, for the same reason, the Petition fails to show that Shieh’s Controller sends instruction to the nodes *over the packet network*, as required by the claims. The Petition suggests—without explicitly stating—that the instruction is sent over the packet network because “Shieh states that ‘a persistent connection’ exists over

the packet network to allow for communication between the controller and the network access devices 204A-204C.” Paper 1, 62 (*citing* Ex. 1006, [0025]). Shieh paragraph 25 however simply states that “each of network access devices 204A-204C maintains a persistent connection such as secure connections or tunnels 260 with a controller or management entity 208 for exchanging management messages and configurations.” Ex. 1006, [0025]. This sentence does not state that the “persistent connection” between the network access devices with the controller is over a packet network.

As with Lin, the Bhattacharjee Declaration fails to provide anything more than conclusory allegations with respect to Shieh. Paragraphs 221-225 of the Bhattacharjee Declaration merely repeat verbatim the Petition’s allegations that “Shieh identifies an instruction sent by the controller to the network node over the packet network” and “a POSA would have understood that the packet-applicable criterion would be sent from a controller to one or more network access devices” without providing any further explanation as to why the “persistent connection” disclosed in Shieh between the network access devices and the controller is a packet network. A conclusory allegation, supported only by expert testimony repeating that allegation verbatim, cannot support institution. *Xerox*, IPR2022-00624, Paper 12 (PTAB February 10, 2023).

Without the necessary evidence, Petitioner has not met its burden of

showing Shieh teaches or suggests this element.

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

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

“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, 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. Additionally, 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” that support institution. 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 “[a] motion to stay has not yet been filed in the parallel litigation, so the Board should not infer the outcome if such a motion is later filed.” Paper 1, 75. 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* by the District Court. Accordingly, because the District Court has already denied Petitioner’s motion to stay, this factor strongly favors discretionary denial.

Specifically, Petitioner filed a motion to stay the district court litigation pending *inter partes* review on March 23, 2023. Petitioner argued to the Court that it “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. Even if IPR was instituted the day after the submission of this Preliminary Response, which would be an unprecedented occurrence at the PTAB, trial would still occur over *three months* before the expected final written decision in this IPR. Therefore, the facts that caused the District Court to reject Petitioner’s motion to stay would still be true even if this IPR were instituted, and the District Court would almost certainly deny a renewed motion to stay. The first *Fintiv* factor thus 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 shortly before September 13, 2024. Thus, a Final Written Decision is not expected until roughly six months after the jury verdict.

The Petition suggests that “[t]he median time-to-trial in the Eastern District of Texas was 24.5 months as of June 30, 2022. Thus, the projected trial date in the litigation for *Fintiv* purposes is August 2024, approximately 24.5 months after July 2022. The Board’s Final Written Decision is also expected in August 2024, which is 18 months after Petitioner expects a notice of accorded filing for this Petition.” Paper 1, 75-76. For this allegation, Petitioner cites Ex. 1013, which contains summary caseload information for the period ending June 30, 2022. Petitioner’s allegation is, at best, outdated and, at worst, presenting 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. 2021 [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. 2021 [December 22 Judicial Caseload Statistics], 35. 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. 2021 (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).

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) probably 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, denying institution here will result in 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 IPR were instituted, any potential FWD would 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. Significant work in the parallel litigations has already taken place as of the submission date of this Preliminary Response. The parties are already actively pursuing discovery and 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 already been supplemented several times. Exs. 2007 [2-3-2023 Notice of Compliance]; 2011 [March 30, 2023 Order]; 2012 [April 13, 2023 Order]. These contentions consist of dozens of charted references totaling over 7,500 pages of claim charts, along with hundreds of additional background references. Ex. 2014 [First Amended Invalidity Contentions Cover Pleading], 8-14, 18-35; Exs. 2015-2020 [Invalidity Contention Claim Charts].

Additionally, the court and the parties will complete a significant amount of additional work by the time of the institution decision. 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 '111 Patent will likely be construed by the district court by early September—before 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. 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.”).

D. Factor 4

The fourth *Fintiv* factor—which relates to overlap between issues raised in the petition and in the parallel proceeding—largely weighs in favor of denying

institution and, at best, marginally supports institution. Each claim at issue in the parallel litigation is also at issue in the Petition. Further, all three prior art references (Lin, Shieh, and Swenson) are identified in Petitioner's invalidity contentions. Ex. 2014, 19 (Lin, Swenson), 9 (Shieh, Swenson). Thus, the issues in this IPR are 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.").

The Petition argues that "there will be no overlap of prior art issues because, if the Board institutes trial, Petitioner will cease asserting in the parallel 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 parallel litigation." Paper 1, 77. 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).

The Board routinely assigns almost no weight to *Sand Revolution*-style stipulations such as the one Petitioner filed here. As the Board previously found, *Sand Revolution*-style 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 1, 77. But Petitioner could still use different combinations of the same references in the district court (e.g., Lin and Shieh) or substitute in cumulative secondary references that still use the same primary reference (Lin or Shieh) used in every ground in the Petition. Indeed, Petitioner's invalidity contentions already combine other secondary references with a primary reference (Shieh) asserted here, as well as combine other primary references with the secondary reference (Swenson) asserted here. Ex. 2014, 43 (proposing combining Shieh with Kempf, Chua, or Lin and combining Swenson with Chandrasekaran, Copeland, or Uchida). Thus, Petitioner's stipulation does almost nothing to eliminate the potential overlap with the district court litigation. Moreover, Petitioner has not yet filed this stipulation in the district court litigation.

The Board has routinely denied institution in situations like here where the other factors clearly favored non-institution, even where Petitioners offered stronger stipulations than the one offered here. 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 *Ankora* and *Samsung* except Petitioner has filed a weaker stipulation than in *Ankora* or *Samsung*. 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, Petitioners have not met their burden of showing that the Challenged Claims are more likely than not obvious in view of the combinations of Lin, Shieh, and Swenson, 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 (precedential) (“Merely pointing to [] analysis under the lower institution standard is insufficient to demonstrate that the Petition presents a compelling unpatentability challenge.”).

Specifically, the Petition fails to present evidence that either Lin or Shieh discloses a controller communicating with a network node over a packet network as claimed, and fails to show that Lin or Shieh sends both an instruction and a packet-applicable criterion from the controller to the network node.

Petitioner's allegations that the Petition "provides a compelling unpatentability challenge" (Paper 1, 77) are the type of unsupported attorney argument rejected by *Commscope*. In particular, Petitioner's allegations merely "point[] to its analysis under the lower § 314 standard." *Commscope*, IPR2022-01242, Paper 23. *See* Paper 1, 77 (merely stating that "[a]s discussed in detail above [under the lower § 314 standard], the analysis in Grounds 1-2 provides a compelling unpatentability challenge to Claims 1-9, 12-24 and 27-31."). Thus, this factor favors discretionary denial.

Thus, all six *Fintiv* factors weigh in favor of discretionary denial. The Board should use its discretion to deny institution of this IPR.

VII. CONCLUSION

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

Date: June 26, 2023

Respectfully submitted,

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CERTIFICATE OF COMPLIANCE WITH TYPE-VOLUME LIMITS

This Patent Owner's Preliminary Response ("POPR") consists of 7,817 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 26, 2023

/Minghui Yang/
Minghui Yang
Counsel for Patent Owner

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 2001-2021**

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