IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

INFINERA CORPORATION,
Petitioner,

v.

ALEXANDER SOTO AND WALTER SOTO,
Patent Owners.

U.S. Patent 9,887,795 B2
Issue Date: Feb. 6, 2018

Title: SYSTEM AND METHOD FOR PERFORMING HIGH-SPEED COMMUNICATIONS OVER FIBER OPTICAL NETWORKS

Inter Partes Review No.: IPR2023-00834

PETITIONER'S PRELIMINARY REPLY TO PATENT OWNERS' PRELIMINARY RESPONSE

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PETITIONER'S EXHIBIT LIST

Exhibit #	***Description***
1001	U.S. Patent 9,887,795 ("'795 Patent")
1002	Prosecution History of the '795 Patent
1003	Declaration of Dr. Paul Min
1004	[RESERVED]
1005	U.S. Patent Application Publication No. 2004/0208601 A1 to Tan et al. ("Tan")
1006	U.S. Patent Application Publication No. 2002/0167693 A1 to Vrazel et al. ("Vrazel")
1007	U.S. Patent Application Publication No. US 2003/0020986 A1 to Pang et al. ("Pang")
1008	[RESERVED]
1009	U.S. Provisional Application 60/480,488 ("'488 Provisional")
1010	Casimer DeCusatis, *Optical Data Communication: Fundamentals and Future Directions*, Optical Engineering 37(12), December 1, 1998
1011	Reynaud Lavoie, *The Evolution of the Pluggable Module*, Broadcast Engineering Magazine (2012)
1012	SFF Committee, INF-8053 Specification for Gigabit Interface Converter (GBIC), Rev. 5.5 (2000)
1013	SFF Committee, INF-8074i Specification for SFP (Small Form Factor Pluggable) Transceiver, Rev. 1.0 (2001)
1014	Jan Conradi, *Bandwidth-Efficient Modulation Formats for Digital Fiber Transmission Systems*, Optical Fiber Telecommunications IV.B Chapter 16, edited by Ivan Kaminow (Elsevier 2002)
1015	P Vijay Kumar et al., *Error-Control Coding Techniques and Applications*, Optical Fiber Telecommunications IV.B Chapter 17, edited by Ivan Kaminow (Elsevier 2002)
1016	[RESERVED]
1017	Moe Z. Win, et al., *Equalization Techniques for Mitigating Transmission Impairments*, Optical Fiber Telecommunications IV.B Chapter 18, edited by Ivan Kaminow (Elsevier 2002)
1018	U.S. Patent 2,552,629
1019	U.S. Patent 6,552,605

Exhibit #	***Description***
1020	U.S. Patent 5,561,687
1021	U.S. Patent 7,580,380
1022	U.S. Patent 4,908,827
1023	U.S. Patent 4,656,633
1024	NextGen's Infringement Contentions Against Petitioner for the '795 Patent in *NextGen Innovations, LLC v. Infinera Corporation*, No. 2:22-cv-00306-JRG-RSP (E.D. Tex.)
1025	Docket Control Order, *NextGen Innovations, LLC v. Fujitsu Network Communications, Inc. et al.*, No. 2:22-cv-00307-JRG-RSP (E.D. Tex.) (consolidated cases)
1026	U.S. District Courts – Federal Court Management Statistics – Comparison Within Circuit – During the 12-Month Period Ending September 30, 2022, available at https://www.uscourts.gov/sites/default/files/data_tables/fcms_na_distprofile0930.2022.pdf
1027	U.S. Patent 7,206,366 ("Fujimori")
1028	U.S. Patent 7,020,729 B2
1029	SFF Committee, INF-8474i Specification for Xenpak 10 Gigabit Ethernet Transceiver, Rev. 3.0 (2002)
1030	U.S. Patent 7,146,103 B2 ("Yee")
1031	Jack H. Winters & Richard D. Gitlin, *Electrical Signal Processing Techniques in Long-Haul Fiber-Optic Systems*, IEEE Trans. Comm. Vol. 38, No. 9, Sep. 1990
1032	Jack H. Winters et al., "Reducing the Effects of Transmission Impairments in Digital Fiber Optic Systems," IEEE Comm. Magazine, June 1993
1033	U.S. Patent No. 5,880,869
1034	U.S. Patent No. 6,580,535

I. INTRODUCTION

Pursuant to the Board's Order (Paper 8), Infinera Corporation ("Petitioner") submits this Preliminary Reply to Patent Owners' Preliminary Response (Paper 6, "POPR"). For at least the following reasons, Patent Owners' arguments fail, and Petitioner respectfully requests that the Board institute trial on the merits in this proceeding.

II. ARGUMENT

A. PATENT OWNERS HAVE FAILED TO SHOW THAT NOKIA, FUJITSU, AND AT&T ARE REAL PARTIES IN INTEREST

Patent Owners argue that the Board should deny institution because Petitioner has failed to name Nokia, Fujitsu, and AT&T as real parties in interest ("RPIs"). POPR 52–54. Patent Owners' argument is incorrect and should be rejected for two reasons. ***First***, as a threshold matter, the Board need not address whether Nokia, Fujitsu, and AT&T are unnamed RPIs because none of these entities is subject to the IPR time bar or estoppel under 35 U.S.C. § 315, and thus the Board should not address the RPI issue because that determination is not necessary to resolve the proceeding. *Unified Patents, LLC v. MemoryWeb, LLC*, IPR2021-01413, Paper 76 at 5 (PTAB May 22, 2023) ("The Board should not have determined whether Apple and Samsung are RPIs in this proceeding given that determination was not necessary to resolve the proceeding."); *SharkNinja Operating LLC v. iRobot Corp.*, IPR2020-00734, Paper 11 at 5 (PTAB Oct. 6, 2020) (precedential) (declining to address RPI

issue where no time bar or estoppel provisions under 35 U.S.C. § 315 are implicated). Although Patent Owners attempt to conjure an estoppel issue based on allegations relating to invalidity contentions served in the district court (POPR 52), as discussed below, Patent Owners' RPI arguments are not directed to estoppel under 35 U.S.C. § 315 as required by the Director, and thus, there is no reason for the Board to provide an advisory opinion for an issue that is not ripe. *Unified Patents*, Paper 76 at 5 (noting petitioner's position that "the panel erred by issuing a non-binding advisory opinion on RPI") (internal quotations omitted).

Here, because neither Petitioner nor any of the alleged RPIs would be time barred or otherwise estopped from bringing this Petition, the Board need not decide whether all RPIs are named. Accordingly, this ends Patent Owners' RPI challenge and their argument should be rejected.

Second, Patent Owners have not shown any party is a real party in interest. Determining whether a non-party is a RPI requires more than "determining whether a party benefits generally from the filing of [a] Petition and also has a relationship with the Petitioner." *Unified Patents, Inc. v. RealTime Adaptive Streaming, LLC*, IPR2018-00883, Paper 36, 15 (PTAB Nov. 27, 2018). Rather, the "heart of the inquiry" is whether Petitioner acted at the "behest" of another, including "whether a party exercises or could exercise control over a petitioner's participation in a proceeding, or whether a party is funding the proceeding or

directing the proceeding." *Uniloc 2017 LLC v. Facebook Inc.*, 989 F.3d 1018, 1028 (Fed. Cir. 2021).

Here, Patent Owners have failed to provide any evidence that Infinera filed this proceeding at the behest of Nokia, Fujitsu, and AT&T, or that any of these entities exercises or could exercise control over Infinera's participation in this proceeding. Patent Owners also provide no evidence that Nokia, Fujitsu, or AT&T directs or funds this proceeding—because there is none. Patent Owners' assertion that they "believe Petitioner has coordinated with its co-defendants directly regarding IPR strategy, including the arguments raised in the Petition" (POPR 52), without more, is insufficient because it is speculative and unsupported by any evidence. *Wi-Fi One, LLC v. Broadcom Corp.*, 887 F.3d 1329, 1340 (Fed. Cir. 2018) (finding "no evidentiary support" that a party was acting "at the behest" of another). Indeed, beyond mere speculation, Patent Owners have proffered no evidence that shows or even suggests that Nokia, Fujitsu, and AT&T should be named RPIs. *See Worlds Inc. v. Bungie, Inc.*, 903 F.3d 1237, 1244 (Fed. Cir. 2018).

As Infinera explained to Patent Owners' counsel via email on July 11, 2023, "Infinera has not coordinated and/or worked on any IPRs with any of the other defendants." EX-2006 at 1. The fact that Nokia, Fujitsu, and AT&T may be co-defendants with Infinera in consolidated district court actions involving the '795 Patent, without more, is insufficient to establish that Nokia, Fujitsu, and AT&T are

RPIs in this proceeding. *See Bowtech, Inc., v. MCP IP, LLC*, IPR2019-00379, Paper 14 at 25 (PTAB July 3, 2019) (finding an entity must be more than merely one who will benefit from a favorable result to be named as an RPI); *see also Uniloc 2017*, 989 F.3d at 1028 ("[I]t is not enough that a non-party has . . . an interest in invalidity of the challenged patent by virtue of its status as a defendant in a litigation.").

Accordingly, the Board should reject Patent Owners' RPI argument and grant institution.

B. PATENT OWNERS' 325(d) ARGUMENTS REGARDING EX-2004 ARE MISLEADING

In support of their 325(d) argument that the prosecution history involves repeated examination of one electrical reference combined with a form factor reference, Patent Owners rely on EX-2004—the file history for the parent application (12/512,968) to the '795 Patent. POPR 24. Patent Owners argue that "[d]uring examination of" the parent application "the inventors pursued claims similar to the presently challenged patent" (POPR 24) (citing EX-2004). Patent Owners further state that "[t]he Examiner ultimately was persuaded to withdraw his objections and allowed some pending claims." POPR 25. However, Patent Owners' arguments regarding EX-2004 are misleading because they omit that the Examiner maintained rejections of claims most similar to those at issue here, and on appeal

that the Board affirmed the Examiner's rejections of those claims during examination of the parent application. EX-2004 14, 25–29, 106–109, 112–113.

Specifically, Patent Owners omit that the Examiner actually maintained art rejections over application claims 18 and 19 (EX-2004 106–109, 112–113), which include limitations more similar to the challenged claims in this IPR. *Compare* EX-2004 92-93 (parent application claims 18, 19) *with*, EX-1001 (claims 1, 3). The Examiner maintained the rejection of application claim 18 over Brede, and the rejection of claim 19 over Brede in combination with Aronson. EX-2004 106–109, 112–113. The Board also ultimately affirmed the Examiner's rejections of those claims on appeal. EX-2004 25–29.

Also in support of their 325(d) argument that the prosecution history involves repeated examination of one electrical reference combined with a form factor reference, including their discussion of EX-2004, Patent Owners mischaracterize Petitioner's analysis of Pang in view of Vrazel. POPR 24, 30–31. Contrary to what Patent Owners argue (POPR 35, 46), Petitioner does not merely swap the designation of primary and secondary references. Rather, as discussed in the Petition (Pet. 9–19, 20–56, 61–63), the combination of Pang in view of Vrazel is a different combination than those previously considered by the Office, particularly because it is based on different disclosures of different references and a different motivation to

combine. As such, Pang in view of Vrazel is neither the same nor substantially the same as art or arguments presented during prosecution or asserted in any prior IPRs.

Patent Owners' generic characterization of the references as simply either an "electrical reference" or a "form factor reference" ignores the differences in Pang's and Vrazel's specific teachings, including the differences in the motivation to combine and why a POSITA would have had reason based on the references' distinct disclosures to make the modification. As discussed in the Petition and supporting declaration (Pet. 13–19; EX-1003 ¶¶ 56–65), a POSITA would have had unique reasons for modifying Pang in view Vrazel based on specific teachings unique to those two references. For example, Pang specifically discloses pluggable fiber optic transceiver modules with transmit and receive PCBs arranged "within the [same] fiber optic module to reduce the footprint of the fiber optic module." EX-1007 [0006], [0065]. Pang also specifically discloses the desirability "to minimize the size of system printed circuit boards (PCBs)" and "reduce the footprint of the fiber optic module which will attach to such system PCBs." EX-1007 [0006]. Vrazel also discloses modulation components and techniques that "add little or no complexity" to the optical components of the transmitter and receiver and increasing data rates using the same optics as those used in conventional optical links. EX-1006 [0011]. Based on Pang's and Vrazel's unique disclosures, the Petition explains why a POSITA would have had unique, combination-specific reasons for combining the

references' teachings and a reasonable expectation of success in doing so. Pet. 13–20. These specific arguments regarding the teachings of the prior art and the motivation to combine were not previously before the examiner.

Patent Owners' mischaracterization of the references is an oversimplification and over-generalization of the references' teachings. Patent Owners do not meaningfully address the differences in the references' specific disclosures or discuss the unique differences in the motivations to combine. Patent Owners' argument ignores the fact that, although there may be some similarities because the references are all in the same general field, Pang and Vrazel are nonetheless different and their combined teachings are not the same or substantially the same as the teachings of those references previously considered.

Patent Owners do not provide any expert testimony to support their characterizations of the prior art or to otherwise rebut Dr. Min's uncontroverted expert opinion and testimony. Patent Owners also do not provide any comparative analysis of the references' disclosures beyond mere attorney argument as to what counsel contends the references allegedly disclose.

III. CONCLUSION

For the foregoing reasons, Petitioner respectfully requests that the Board institute *inter partes* review and cancel all challenged claims as unpatentable.

Dated: October 20, 2023

Respectfully submitted,

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CERTIFICATION OF SERVICE

Pursuant to 37 C.F.R. §§42.6(e), the undersigned certifies that on the 20th of October, 2023, a complete and entire copy of this PETITIONER'S PRELIMINARY REPLY TO PATENT OWNERS' PRELIMINARY RESPONSE and all associated supporting exhibits were served on Patent Owners via email (as agreed by counsel for Patent Owners) as follows:

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