UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ZOHO CORPORATION and ZOHO CORPORATION PVT., LTD.,
Petitioners,

v.

MEETRIX IP, LLC,
Patent Owner.

Case IPR2023-00378
Patent 9,094,525 B2

PATENT OWNER'S NOTICE OF APPEAL

To the Director of the United States Patent and Trademark Office,

Pursuant to 35 U.S.C. §§ 141 and 142 and 37 C.F.R. § 90.2-90.3, notice is hereby given that Patent Owner Meetrix IP, LLC ("Patent Owner") appeals to the United States Court of Appeals for the Federal Circuit from the Final Written Decision of the Patent Trial and Appeal Board ("Board"), entered on July 16, 2024 (Paper 27) in IPR2023-00378 regarding U.S. Patent No. 9,094,525 B2 ("the '525 Patent"), and from all underlying findings, orders, decisions, rulings, and opinions decided adversely to Patent Owner in the above-captioned proceeding.

In accordance with 37 C.F.R. § 90.2(a)(3)(ii), Patent Owner states that the appeal will address all aspects of the Board's decision decided adversely to Patent Owner, including, without limitation, whether the Board erred in concluding that Petitioners have proven by a preponderance of the evidence that claims 1-8 of the '525 Patent are unpatentable; the Board's consideration of the expert testimony, prior art, and other evidence in the record; and the Board's factual findings, conclusions of law, or other determinations supporting or relating to the above issues. Patent Owner further reserves the right to challenge any finding or determination relating to the issues and matters listed above and to challenge any other issues or matters decided against Patent Owner in any order, decision, ruling, or opinion by the Board in the above-captioned proceeding.

Pursuant to 35 U.S.C. § 142 and 37 C.F.R. § 90.2(a), this Notice is being filed with the Director of the United States Patent and Trademark Office, and a

copy of this Notice is being concurrently filed with the Patent Trial and Appeal Board. In addition, a copy of this Notice is being filed with the Clerk of the United States Court of Appeals for the Federal Circuit, along with the applicable filing fee, via CM/ECF and pay.gov.

Date: September 17, 2024

Respectfully Submitted,

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CERTIFICATE OF FILING AND SERVICE

I hereby certify that, in addition to being filed electronically through the Patent Trial and Appeal Board's P-TACTS System, the original version of the foregoing PATENT OWNER'S NOTICE OF APPEAL was filed by Express Mail on September 17, 2024, with the Director of the United States Patent and Trademark Office, at the following address:

Director of the United States Patent and Trademark Office
c/o Office of the General Counsel
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

The undersigned also hereby certifies that a true and correct copy of the foregoing PATENT OWNER'S NOTICE OF APPEAL and the filing fee is being filed with the Clerk's Office for the United States Court of Appeals for the Federal Circuit on September 17, 2024 via the Court's CM/ECF filing system.

The undersigned also hereby certifies that pursuant to 37 C.F.R. § 42.6(e), a copy of the foregoing PATENT OWNER'S NOTICE OF APPEAL was served on counsel of record for Petitioners on September 17, 2024 at the email addresses listed below:

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ATTACHMENT A

Trials@uspto.gov
571-272-7822

Paper 27
Date: July 16, 2024

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ZOHO CORPORATION and ZOHO CORPORATION PVT., LTD.,
Petitioner,

v.

MEETRIX IP, LLC,
Patent Owner.

IPR2023-00378
Patent 9,094,525 B2

Before BRIAN J. McNAMARA, CHARLES J. BOUDREAU, and KARA L. SZPONDOWSKI, *Administrative Patent Judges*.

SZPONDOWSKI, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining All Challenged Claims Unpatentable
35 U.S.C. § 318(a)

I. INTRODUCTION

We instituted an *inter partes* review of claims 1–8 of U.S. Patent No. 9,094,525 B2 (Ex. 1001, "the '525 patent"), in response to a Petition (Paper 1, "Pet.") filed by Zoho Corporation and Zoho Corporation Pvt., Ltd. (collectively, "Petitioner"). Paper 6 ("Dec."). During the trial, Meetrix IP, LLC ("Patent Owner") filed a Response to the Petition (Paper 10, "PO Resp."), Petitioner filed a Reply (Paper 14, "Reply"), and Patent Owner filed a Sur-reply (Paper 16, "Sur-reply").

An oral hearing was held on April 25, 2024, and a copy of the transcript was entered into the record. Paper 26 ("Tr.").

We have jurisdiction under 35 U.S.C. § 6 (2018). This Decision is a Final Written Decision under 35 U.S.C. § 318(a) as to the patentability of the claims on which we instituted trial. Based on the complete record, Petitioner has shown, by a preponderance of the evidence, that claims 1–8 of the '525 patent are unpatentable.

II. BACKGROUND

A. Real Parties in Interest

The parties identify themselves as the real parties in interest. Pet. 2; Paper 3, 2 (Mandatory Notices of Patent Owner).

B. Related Matters

Petitioner and Patent Owner identify *Meetrix IP, LLC v. Zoho Corp.*, 6:21-cv-01288 (W.D. Tex.) and *Meetrix IP, LLC v. Verizon Commc'ns, Inc.*, 6:21-cv-01289 (W.D. Tex.) as related cases. Pet. 3; Paper 3, 2.

Petitioner concurrently filed IPR2022-00379, challenging claims 9–20 of the '525 patent. Patent Owner also identifies the following *inter partes* reviews as involving related patents challenged by Petitioner: IPR2023-

00371, IPR2023-00377, IPR2023-00379, IPR2023-00380, and IPR2023-00382. Paper 3, 2.

C. The '525 Patent (Ex. 1001)

The '525 patent is titled "Audio-Video Multi-Participant Conference Systems Using PSTN [(public switched telephone network)] and Internet Networks" and is generally directed to a "multi-participant system includ[ing] a PSTN client, at least one remote client and a first participant client." Ex. 1001, codes (54), (57). That is, the inventions claimed relate to "audio and video telecommunications for collaboration over hybrid networks." *Id.* at 1:19–20. The PTSN client is configured to communicate audio data, and the remote clients are connected to the Internet and are configured to receive audio-visual data. *Id.* at 3:25–28.

Figure 3, which illustrates one embodiment that allows audio, video, and data collaboration information to be securely transferred between a plurality of local and remote clients with a virtual private network, is reproduced below. Ex. 1001, 4:56–59.

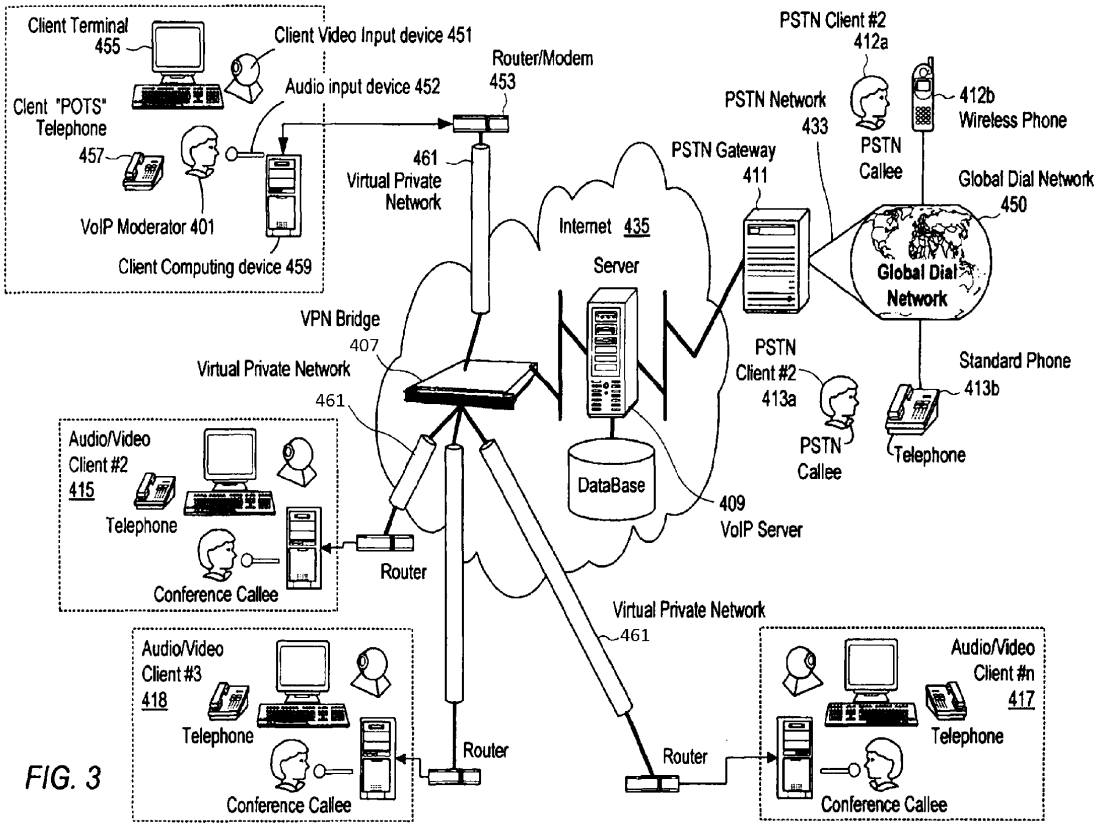

FIG. 3

Figure 3, above, depicts voice over IP moderator 401, Internet audio video clients 415, 417, and 418 and PSTN clients 412 and 413. Ex. 1001, 5:4–23. PSTN clients 412 and 413 are connected to a wireless cell phone and standard telephone handset, respectively, which are connected to global dial network 450 based on PSTN 433. *Id.* at 5:18–23. Internet clients 401, 415, 417, and 418 "are connected through routers or modems 453 preferably in a virtual private network configuration 461." *Id.* at 5:24–26. "A virtual private network bridge 461 is used to connect local and remote clients together within a secure private network." *Id.* at 5:27–28. "A local connection from the VPN bridge 407 to the voice over IP server 409 is used

to transfer conference audio from any participant on the IP network to any participant in the PSTN." *Id.* at 5:28–31. "Thus, the voice over IP server 409 is responsible for transcoding audio information from the virtual private network 461 to and from the PSTN gateway 411, thus bridging the PSTN and VPN together." *Id.* at 5:31–35. VPN bridge 407 is at the center of a "star" network topology, and connections to the VPN bridge serve as a VPN tunnel. *Id.* at 5:46–49.

The embodiment depicted in Figure 3 "provides the ability for a moderator (single member of the conference) to dial out from a desktop computer or terminal (using a novel hybrid network structure) connecting an external telephone user's audio into the audio/video conference." Ex. 1001, 4:60–64. "The embodiment integrates full duplex audio, video, and data connections between clients conferencing on the Internet and clients conferencing on standard telephone systems." *Id.* at 4:64–67. "The Internet/PSTN hybrid network is the medium used for transport." *Id.* at 4:67–5:1. The '525 patent also describes encoding and decoding using audio and video codecs of the International Telecommunication Union (ITU) H.323 standard, which "focuses on the transmission of audio and video information through the Internet or switched private networks," and data collaboration capability as described in the ITU T.120 multimedia conferencing standard. *Id.* at 1:54–58, 2:57–63, 3:12–14.

D. Illustrative Claim

Among the challenged claims, claim 1 is independent. Independent claim 1 is reproduced below, with Petitioner's identifiers in brackets.

1. [1.P] A system for supporting a multi-participant conference call comprising:

> [1.1] a first mixer that mixes a Public Switched Telephone Network (PSTN) client audio data stream with a moderator audio-video data stream into a first mixed data stream;
>
> [1.2.1] a first transport output that transmits the first mixed data stream to at least one remote client that receives the first mixed data stream, [1.2.2] the at least one remote client communicatively coupled to the Internet, which generates a remote client audio-video data stream;
>
> [1.3] a second mixer that mixes the moderator audio-video data stream with the remote client audio-video data stream into a second mixed data stream; and
>
> [1.4] a second transport output that transmits a mixed audio data stream, corresponding to the second mixed data stream, to the PSTN client.

Ex. 1001, 10:2–17.

E. Prior Art and Asserted Challenges to Patentability

Petitioner asserts that claims 1–8 are unpatentable on the following challenges (Pet. 4):

Claims Challenged	35 U.S.C. §[1]	Basis/References
1–4	103(a)	Drell,[2] Knappe,[3] Voois[4]

[1] Because the '525 patent issued from a patent application that was filed before March 16, 2013, patentability is governed by the version of 35 U.S.C. § 103 preceding the Leahy-Smith America Invents Act ("AIA"), Pub L. No. 112–29, 125 Stat. 284 (2011).
[2] Drell, U.S. Patent No. 7,089,285 B1 (issued Aug. 8, 2006) (Ex. 1008).
[3] Knappe, U.S. Patent No. 7,180,997 B2 (issued Feb. 20, 2007) (Ex. 1006).
[4] Voois et al., U.S. Patent No. 6,215,515 B1 (issued Apr. 10, 2001) (Ex. 1036, "Voois").

Claims Challenged	35 U.S.C. §[1]	Basis/References
5–8	103(a)	Drell, Knappe, Voois, Elliott,[5] VPN Textbook[6]
1–4	103(a)	Drell, Knappe
5–8	103(a)	Drell, Knappe, Elliott, VPN Textbook

In support of its proposed challenges, Petitioner relies on a Declaration of Henry H. Houh, Ph.D. *See* Ex. 1003. In opposition, Patent Owner relies on the Declaration of Thomas Dye. *See* Ex. 2001.

III. ANALYSIS

A. Legal Standards

A claim is unpatentable under 35 U.S.C. § 103(a) if "the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) objective evidence of nonobviousness, i.e., secondary considerations. *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

A patent claim "is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." *KSR*, 550

[5] Elliott et al., U.S. Patent No. 6,690,654 B2 (issued Feb. 10, 2004) (Ex. 1007, "Elliott").
[6] Excerpts from Jim Guichard & Ivan Pepelnjak, *MPLS and VPN Architectures* (2001) (Ex. 1010, "VPN Textbook").

U.S. at 418. An obviousness determination requires finding "both 'that a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so.'" *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1367–68 (Fed. Cir. 2016) (citation omitted); *see KSR*, 550 U.S. at 418. Further, an assertion of obviousness "cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *KSR*, 550 U.S. at 418; *In re NuVasive, Inc.*, 842 F.3d 1376, 1383 (Fed. Cir. 2016) (a finding of a motivation to combine "must be supported by a 'reasoned explanation'" (citation omitted)).

B. Level of Ordinary Skill in the Art

Petitioner asserts a person of ordinary skill in the art:

> would have had a bachelor's degree in computer science, computer engineering, or an equivalent, and three or more years of professional experience relating to conferencing systems in packet-based networks, or without said professional experience, further education relating to conferencing systems in packet-based networks.

Pet. 8 (citing Ex. 1003 ¶¶ 25–27).

Patent Owner disagrees with Petitioner's proposal "because it is too specialized and would instead be properly characterized as a person of extraordinary skill in the art." PO Resp. 11–12 (citing Ex. 2001 ¶¶ 3–4). According to Patent Owner, a person of ordinary skill in the art "would have a bachelor's degree in electrical engineering, computer science, or equivalent with two years or more of experience in computing systems development." *Id.* at 12 (citing Ex. 2001 ¶ 3).

Petitioner disputes Patent Owner's proposal, arguing that a person of ordinary skill in the art's "credentials should at least include experience in the field of the invention as recited by the patent." Reply 2. Petitioner also argues that none of Patent Owner's arguments turn on the proposed level of skill in the art, so under either definition, the result is the same. *Id.* at 3.

We agree with Petitioner. Although Patent Owner proposes an alternative level of ordinary skill in the art, Patent Owner does not explain how it impacts Petitioner's contentions or Patent Owner's arguments in opposition. Indeed, at the hearing, Patent Owner's counsel stated "I can't point to a material difference that would change the outcome of this." Tr. 49:10–15. Therefore, it appears that neither party contends that the differences in their proposals affects the outcome of this proceeding.

Nothing in the full record persuades us that our preliminary finding in the Institution Decision, adopting Petitioner's proposal, was incorrect. *See* Paper 6, 8. Therefore, we maintain our adoption of Petitioner's proposed level of ordinary skill in the art, as consistent with the '525 patent's specification and the level of ordinary skill in the art reflected by the prior art of record. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001). However, our findings would not change even under Patent Owner's proposed level of skill in the art.

C. Claim Construction

Petitioner contends that a "mixed data stream" is a "data stream including at least audio data and video data," which Petitioner asserts is supported by the claim language and Specification of the '525 patent. Pet. 8–10.

Patent Owner does not explicitly respond to Petitioner's construction of "mixed data stream," but instead argues that the claim terms should be construed consistent with how they were construed in a claim construction order in *Meetrix IP, LLC v. Citrix Systems, Inc. et al.*, Case No. 1:16-cv-1033-LY, Dkt. No. 69 (W.D. Tex.).[7] PO Resp. 12 (citing Ex. 2002 (claim construction order)). Patent Owner provides the district court's construction for thirteen terms, including "first mixed data stream" and "second mixed data stream" (recited in claim 1). *Id.* The district court construed "first mixed data stream" as a "data stream that contains a mix of both the PSTN client audio data and moderator audio-video data but not remote client audio-video data," and the "second mixed data stream" as a "data stream that contains a mix of both the remote client audio-video data and moderator audio-video data but not PSTN client audio data." *Id.*; Ex. 2002, 28–31.

Petitioner responds that not all of the thirteen terms appear in claims 1–8 of the '525 patent, and that none of Patent Owner's arguments rely on any of the district court's claim constructions or suggest that Petitioner's arguments are inconsistent with any of the district court's claim constructions. Reply 2–3; *see* Tr. 26, 17–19 (Petitioner's counsel stating "We don't think that any of the constructions impact the analysis.").

We agree with Petitioner that no claim construction is necessary for purposes of this Decision. That is, Patent Owner does not argue, and we do

[7] Petitioner was not a party to this district court litigation. *See* Tr. 8:21–23 (Petitioner's counsel stating "[w]e were not involved, Zoho was not involved in that claim construction process that resulted in the construction from the Western District of Texas.").

not discern, that any claim terms are in controversy on the current record.[8] *See Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) ("The Board is required to construe 'only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.'" (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))). Moreover, Petitioner's proposed construction of "mixed data stream" is not inconsistent with the district court's construction of "first mixed data stream" and "second mixed data stream," in that both constructions include at least audio data and video data, and Patent Owner does not argue otherwise.

D. Ground 1: Alleged Obviousness Over Drell, Knappe, and Voois

Petitioner contends claims 1–4 would have been obvious over the combination of Drell, Knappe, and Voois. Pet. 17–53. After reviewing the entire record developed at trial, we determine that Petitioner has shown, by a

[8] Although Patent Owner mentions the district court's claim construction for "Virtual Private Network (VPN)" and "VPN tunnel" in connection with its arguments for dependent claim 5 (PO Resp. 21–22), Petitioner argues, and we agree, that Patent Owner's arguments do not suggest that Petitioner's arguments are inconsistent with any of these constructions. Reply 2–3; *see* Tr. 8:1–9:1 (Petitioner's counsel stating that "We don't actually have a problem with [the district court's] construction [of VPN]. I think it may be overly broad, but it doesn't impact our analysis in either way."); Tr. 9:2–14 (Petitioner's counsel stating that "[T]here's no difference between how Dr. Houh applied tunneling and how the [district court] construed it, so we're fine with either construction . . . In fact, I see them as the same construction."); Tr. 47:11–13 (Patent Owner's counsel stating "I agree with [Petitioner's counsel] that it may not matter whether his construction, his expert's construction from the textbook is used or ours is for virtual private network.").

preponderance of the evidence, that claims 1–4 would have been obvious over the combination of Drell, Knappe, and Voois.

1. Drell (Ex. 1008)

Drell is titled "Videoconferencing Apparatus Having Integrated Multi-Point Conference Capabilities" and is generally directed to a "multi-point (MP) conference application that enables the apparatus to combine and distribute audio and video signals received from a plurality of remote conference endpoints." Ex. 1008, codes (54), (57).

Figure 1, reproduced below, depicts an exemplary operating environment of the multi-point conferencing application:

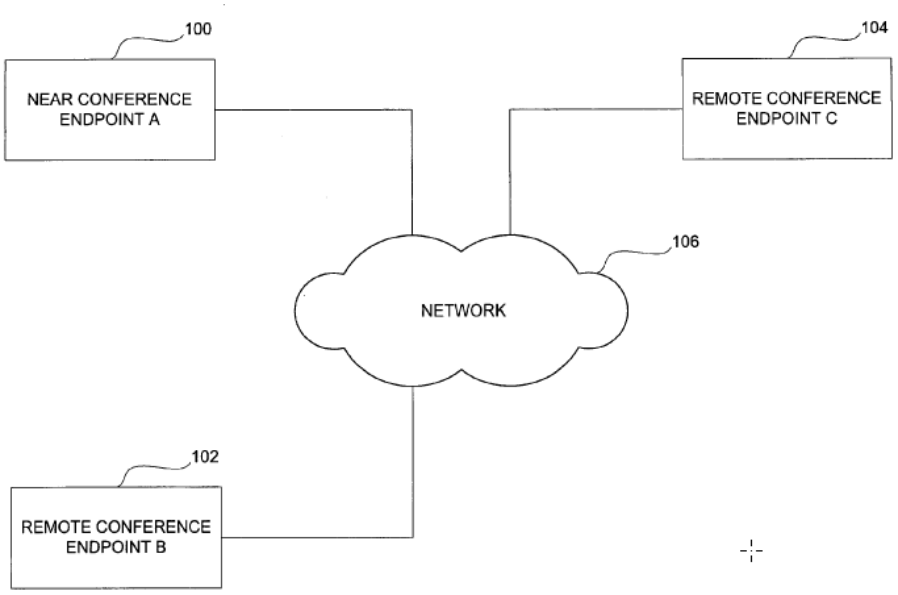

FIG. 1

Figure 1 depicts remote conference endpoint 100 and remote conference endpoint 104 connected via network 106 to near conference endpoint 102, which includes Drell's "multi-point (MP) conferencing application" and "call manager application." Ex. 1008, 3:4–8, 4:11–13. "Remote conference endpoints 102 and 104 may comprise, for example, conventional

videoconferencing devices equipped to transmit and receive both video (image) data and audio (speech) data." *Id.* at 3:8–12.

"Typically, network 106 will comprise the public switched telephone network (PSTN) or comparable circuit switched network to which each of the conference endpoints is connected by one or more [Integrated Services Digital Network (ISDN)] lines." Ex. 1008, 3:24–26. "Alternatively, network 106 may comprise a packet switched network, such as the Internet." *Id.* at 3:33–34. Although Figure 1 illustrates a "single network 106[,] . . . the invention contemplates the use of two or more networks (for example, the PSTN and the Internet) to connect conference endpoints utilizing different communication protocols." *Id.* at 3:34–38.

"Call manager application 232 controls the establishment and termination of connections between near conferencing endpoint 100 and remote conference endpoints 102 and 104." Ex. 1008, 4:15–18. "MP conferencing application 234 is configured to instantiate a processing train for each remote conference endpoint 102 and 104 to which near conference endpoint 100 is connected." *Id.* at 4:21–24. "The processing trains process audio and video data streams received from remote conferencing endpoints 102 and 104." *Id.* at 4:25–26. "The processed audio and video data streams are combined with each other and with locally generated audio and video streams, and the combined audio and video streams are thereafter distributed to remote conferencing endpoints 102 and 104." *Id.* at 4:27–31.

Figure 3, which depicts components of MP conferencing application 234, is reproduced below:

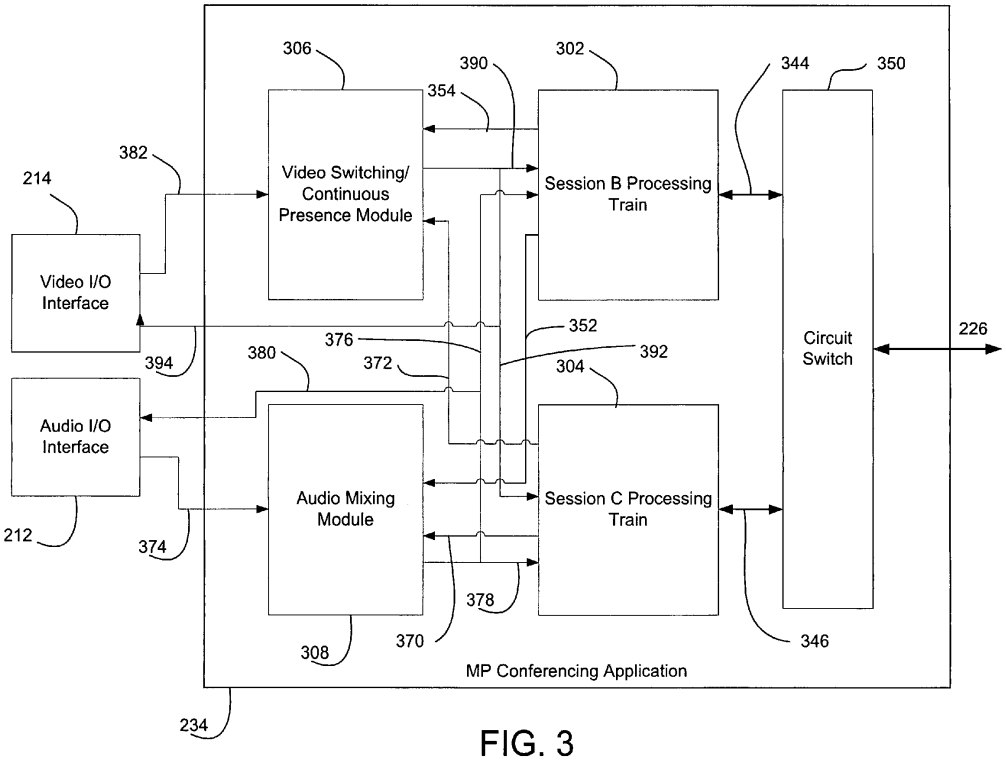

FIG. 3

Figure 3 depicts MP conferencing application, including circuit switch 350, a plurality of processing trains 302 and 304, a video switching/continuous presence module 306, and an audio mixing module 308. Ex. 1008, 4:32–38. Audio mixing module 308 "is configured to combine audio data received from remote conference endpoints 102 and 104 with locally generated audio data" and "generates an output audio data stream (or plurality of output audio data streams)." *Id.* at 5:8–18. Video switching/continuous presence module 306 "combines video data received from remote conference endpoints 102 and 104 with locally generated video data" and generates an output video stream (or a plurality of output video streams). *Id.* at 5:26–46. The output audio and video data streams are "encoded and combined to form a mixed encoded audio/video data stream." *Id.* at 5:50–52. Processing train 302 includes communication process 404 that "multiplexes the encoded

audio and video data streams into a single audio/video data stream 344." *Id.* at 5:65–66, 6:46–48; *see id.* at Fig. 4.

2. Knappe (Ex. 1006)

Knappe is titled "Method and System for Improving the Intelligibility of a Moderator During a Multiparty Communication Session" and is generally directed to "an improved method and system for enhancing the intelligibility of a moderator during a multiparty communication session . . . [to] enhance[] the ability of the moderator to control the organization, flow and/or control of the conference." Ex. 1006, code (54), 1:59–67.

Figure 1, which depicts communication system 12, is reproduced below:

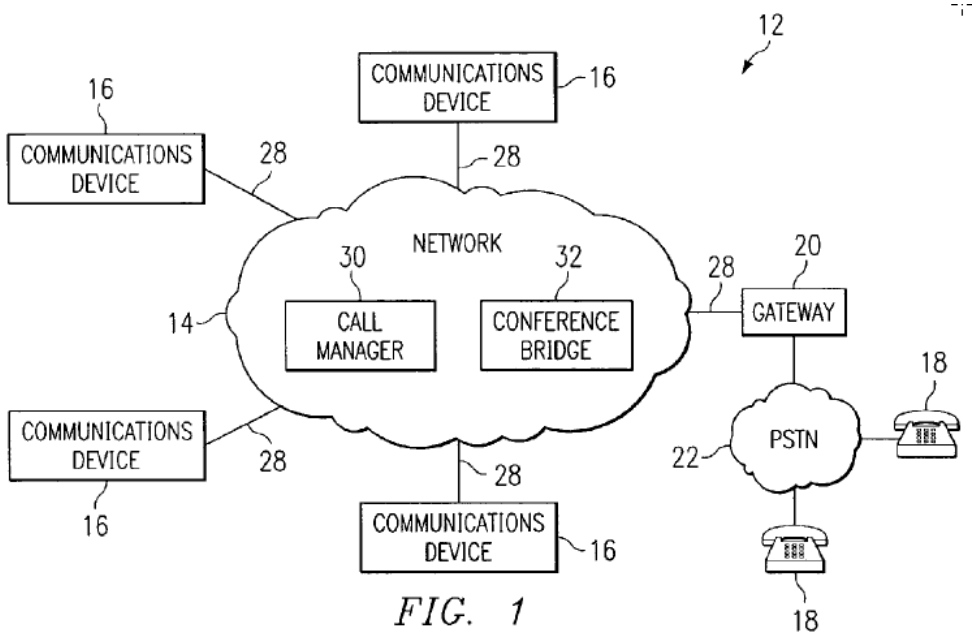

FIG. 1

Figure 1 is a block diagram of communication system 12, which "includes a network 14 connecting a plurality of communication devices 16 to each other and to standard analog telephones 18 through a gateway 20 and the public switched telephone network (PSTN) 22." Ex. 1006, 3:41–45.

The "network 14 is the Internet, a wide area network (WAN), a local area network (LAN) or other suitable packet-switched network." Ex. 1006, 3:50–53. "The communication devices 16 comprise IP or other digital telephones, personal and other suitable computers or computing devices, personal digital assistants (PDAs), cell or other mobile telephones or handset or any other device or set of devices such as the telephone 18 and gateway 20 combination capable of communicating real-time audio, video and/or other information over the network 14." *Id.* at 3:62–4:1. "The gateway 20 provides conversion between analog and/or digital formats." *Id.* at 4:18–19.

Network 14 includes call manager 30 and conference bridge 32. Ex. 1006, 4:29–30. "The call manager 30 controls the conference bridge 32 to set up, process and tear down conference calls and other multiparty communication sessions." *Id.* at 5:29–31. "During the multiparty communication sessions, participants are connected and stream media through the conference bridge 32." *Id.* at 5:31–33. Under control of call manager 30, "conference bridge 32 provides real-time multiparty audio connections between three or more participants." *Id.* at 5:42–44. "[T]he conference bridge 32 receives media from participating devices 16 and, using suitable signal processing techniques, mixes the media to produce conference signals." *Id.* at 4:63–66. "[M]ultiparty communications sessions includ[e] real-time audio streams and/or video streams." *Id.* at 5:46–47.

Conference bridge 32 includes a mixer 58. Ex. 1006, 5:49–52. "The mixer 58 includes a plurality of summers or other suitable signal processing resources each operable to sum, add or otherwise combine a plurality of input streams into conference output streams for participants to a conference

call." *Id.* at 6:33–37. Figure 3, reproduced below, illustrates mixer 58 in a monaural embodiment.

FIG. 3

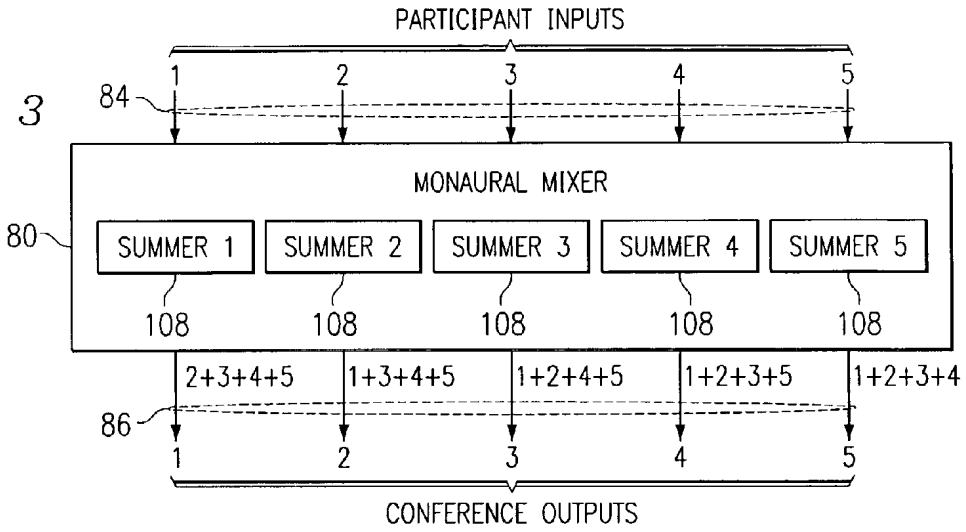

Figure 3 depicts monaural mixer 80 receiving participant input streams 84 and combining the streams in summers 82 to generate conference output streams 86 for each participant in the conference call. Ex. 1006, 6:59–65. "The summer 82 combines the audio input streams to generate a conference output stream for delivery to the participant." *Id.* at 6:65–67. Knappe states:

> During normal operation, each participant receives the audio input of each other participant. Thus, for example, the conference output stream of participant 1 includes the audio inputs of participants 2–5. Similarly, the conference output stream of participant 2 includes the audio inputs of participants 1 and 3–5. The conference output stream of participant 3 includes the audio inputs of participants 1–2 and 4–5. The conference output stream of participant 4 includes the audio inputs of participants 1–3 and 5. The conference output stream of participant 5 includes the audio inputs of participants 1–4.

Id. at 7:1–11. One of the participants may be the conference moderator. *Id.* at 7:12. "The audio input 84 of the conference moderator may be amplified

and/or the audio input 84 of the remaining participants attenuated to focus on or provide higher prominence to the audio input 84 of the conference moderator." *Id.* at 7:12–15.

3. Voois (Ex. 1036)

Voois is titled "Videocommunicating Device With an On-Screen Telephone Keypad User-Interface Method and Arrangement" and is generally directed to a "user interface for a programmable videocommunicator architecture for videoconferencing over a conventional communications channel." Ex. 1036, code (54), 1:33–37. Voois discloses a telephone for operating a videophone user interface which includes an interface with a communication network, such as a PSTN, the Internet, local area networks, and/or wide area networks. *Id.* at 3:62–4:4.

4. Analysis of Independent Claim 1

Petitioner contends that Drell, alone, or in combination with Knappe, and/or Voois teaches each limitation of independent claim 1. Pet. 25–48. In support, Petitioner identifies certain passages and figures in the references and explains their significance with respect to the corresponding claim limitation. *Id.* Petitioner also provides reasons, supported by the testimony of Dr. Houh, why it would have been obvious to one of ordinary skill in the art to combine Drell and Knappe, and Drell and Voois. *Id.* at 17–25. Petitioner's contentions for each limitation, and Patent Owner's arguments in opposition, are set forth below.

a) [1.P]: A system for supporting a multi-participant conference call comprising:

Petitioner relies on Drell to teach the preamble. Pet. 25–26. Petitioner contends that Drell discloses a "videoconferencing apparatus for

use with multi-point conferences." *Id.* at 25 (citing Ex. 1008, 1:16–18). Specifically, Petitioner contends that Drell discloses a "'multi-point conferencing application' embodied in a near conference endpoint 100 that is 'coupled to remote conference endpoints 102 and 104 via network 106.'" *Id.* (citing Ex. 1008, 3:4–8, Fig. 1). According to Petitioner, Drell's system "uses the Internet and PSTN to facilitate video/audio communications during a conference call between near and remote conference endpoints, including Internet and PSTN-based users." *Id.* at 26 (citing Ex. 1003 ¶¶ 176–177); *see also* Ex. 1008, 3:8–11. Petitioner also contends that Drell teaches a "call manager application" that "controls the establishment and termination of connections" among conference endpoints, and these connections initiate a "multi-point conference." *Id.* (citing Ex. 1008, 4:11–20, 3:26–30; Ex. 1003 ¶ 178).

Patent Owner does not respond to these arguments. *See generally* PO Resp. After considering the evidence and arguments of the complete record, we determine that Petitioner has shown, by a preponderance of the evidence, that Drell teaches the recited elements.[9]

b) [1.1] a first mixer that mixes a Public Switched Telephone Network (PSTN) client audio data stream with a moderator audio-video data stream into a first mixed data stream

Petitioner relies on Drell and Knappe to teach this limitation. Pet. 26–35. Petitioner contends that Drell discloses transmission of audio and video data over the PSTN and the Internet, and, therefore connects a remote PSTN conference endpoint (i.e., "*a PSTN client*") to a videoconferencing system

[9] Petitioner does not argue that the preamble limits claim 1. Although we find that the evidence supports that the prior art teaches the preamble, we make no determination whether the preamble of claim 1 is limiting.

via the PSTN. *Id.* at 26–27 (citing Ex. 1008, 3:20–37, 4:25–26, Fig. 1; Ex. 1003 ¶¶ 181, 182, 184).

Petitioner contends that Knappe supplements Drell. Pet. 27–30; *id.* at 17 (asserting that Drell and Knappe are analogous art). Specifically, Petitioner contends that Knappe discloses a PSTN-connected telephone (i.e., "*a PSTN client*") that communicates audio from the conference participants as a data stream through a gateway. *Id.* at 27–28 (citing Ex. 1006, 2:1–6, 3:65–4:1, 5:46–47; Ex. 1003 ¶¶ 183–184).

Petitioner contends that it would have been obvious to a person of ordinary skill in the art to use Knappe's gateway in Drell's system to convert standard audio data from PSTN conference endpoints into a streaming audio format suitable for transmission over the Internet, i.e., "near conference endpoint 100 receives an audio data stream from a PSTN conference endpoint through a PSTN gateway" (i.e., "*a Public Switched Telephone Network (PSTN) client audio data stream*"). *Id.* (citing Ex. 1003 ¶¶ 148–168, 183–185; Ex. 1006, 4:18–25); *see also id.* at 28–29 (citing Ex. 1008, Fig. 1 (annotated); Ex. 1003 ¶ 185); *id.* at 21–22 (citing Ex. 1003 ¶ 1006). According to Petitioner, this would "allow conference data to be transmitted between Drell's PSTN conference endpoints and near conference endpoint 100 over networks (PSTN and Internet) that utilize different protocols, thereby furthering Drell's objective." *Id.* at 22 (citing Ex. 1008, 3:20–37; Ex. 1003 ¶ 166). Petitioner further contends that the "result would have been predictable and there would have been a reasonable expectation of success in applying Knappe's gateway teachings to Drell, since both relate to similar conferencing systems and using gateways was conventional and

known to be applied in the conferencing context." *Id.* at 22 (citing Ex. 1003 ¶¶ 153, 160, 164, 167).

Petitioner further contends that Knappe teaches that at least one of the conference participants may be a moderator, and that it would have been obvious to a person of ordinary skill in the art "for Drell's remote conference endpoint 104 to be a 'moderator' to control the flow and organization of the conference." Pet. 29 (citing Ex. 1006, 8:52–56; Ex. 1003 ¶¶ 187–189); *see* Ex. 1003 ¶ 188 (Dr. Houh testifying that it would have been obvious "to designate one of Drell's conference endpoints as a moderator."). Petitioner also contends that it would have been obvious "for either the user of the remote conference endpoint 104 or near conference endpoint 100 of Drell to be a moderator because doing so would beneficially allow the user (acting as the moderator) to initiate, organize, control, and influence the conference." *Id.* at 18 (citing Ex. 1003 ¶¶ 151–152); Reply 7. Petitioner provides additional reasons for the combination, e.g., that "there are a finite number of participants in a conference, it would have been obvious to try designating one of Drell's endpoint users as a moderator" and that the combination is "merely the ordinary use of a common technique (designating a conference endpoint as a moderator per Knappe) in the similar system of Drell to yield predictable results of initiating, organizing, controlling, and influencing the conference." Pet. 18 (citing Ex. 1003 ¶¶ 151–152). Petitioner, therefore, contends that the combination of Drell and Knappe renders obvious a "*moderator audio-video data stream*." *Id.* (citing Ex. 1003 ¶ 194).

Petitioner contends that the combination of Drell and Knappe teaches a "*first mixer*" that mixes the "*PSTN client audio data stream*" with the "*moderator audio-video data stream*" into a "*first mixed data stream*."

Pet. 30 (citing Ex. 1003 ¶¶ 195–212). Petitioner contends that Drell's audio mixing module 308, video switching/continuous presence module 306, and communication process 404 instantiated for remote conference endpoint 102 teaches a "*first mixer*" to mix the audio and video data streams received from multiple remote conference endpoints into a single audio and video data stream, i.e., the "*first mixed data stream*." *Id.* at 30–32.

Petitioner contends that Knappe "supplements and explains how to mix audio data streams from multiple conference endpoints, including audio from PSTN conference endpoints." Pet. 32 (citing Ex. 1006, Figs. 1–3, 5:49–62, 6:59–7:15; Ex. 1003 ¶ 204). According to Petitioner, it would have been obvious to a person of ordinary skill in the art to use a plurality of summers (one for each participant), as Knappe teaches, in Drell's mixing module 308 and that implementing Knappe's mixers into Drell would produce beneficial results. *Id.* (citing Ex. 1003 ¶¶ 203–205); *id.* at 19 (citing Ex. 1003 ¶¶ 137, 154–159; Ex. 1008, 2:19–21, 6:66–7:4). Petitioner contends that using a separate summer for each participant would (1) "provide for separately mixing audio data from the PSTN conference endpoint with audio data from the moderator remote conference endpoint 104, while providing higher prominence to the moderator audio and increasing the moderator's intelligibility," and (2) "reduce undesirable audio effects since each participant's mixed audio excludes its own audio data." *Id.* at 32–33 (citing Ex. 1003 ¶¶ 148–168, 205). Petitioner contends that it would have been obvious to a person of ordinary skill in the art that Drell's video switching/continuous presence module 306 would include multiple separate video mixers. *Id.* at 33–35.

Petitioner further contends that "any modification needed to the teachings of Drell, including implementing software programming or hardware, to accommodate the teachings of Knappe, would have been within the level of ordinary skill in the art." Pet. 22 (citing Ex. 1003 ¶ 153). According to Petitioner, the proposed combination "permits, but does not require, physical incorporation of elements from Drell and Knappe." *Id.* (citing Ex. 1003 ¶ 168).

Patent Owner argues that Knappe "discloses a centralized system," whereas Drell "avoids the need for a Multipoint Control Unit (MCU)." PO Resp. 16. Patent Owner argues that "[d]ue to this fundamental difference, a [person of ordinary skill in the art] would not be motivated to combine Knappe with Drell." *Id.* at 16–17 (citing Ex. 2001 ¶¶ 21–22). In addition, Patent Owner argues that "[t]he moderator in Knappe can be any participant with highest priority whereas the moderator in Drell has control over the network application for mixing and encoding." *Id.* at 17. Patent Owner argues that Drell's remote conference endpoint 104 "cannot be termed as a moderator endpoint" because in Drell's system, the "MP conference application is embodied by the near conference endpoint 100 which mixes and encodes the audio and data." *Id.* at 17–18.

We are persuaded that the combination of Drell and Knappe teaches limitation [1.1]. As described above, Petitioner provides extensive reasoning, supported by testimony from Dr. Houh, explaining how the combination of Drell and Knappe teaches limitation [1.1], and provides reasoning for why a person of ordinary skill in the art would combine the references. Patent Owner's arguments largely do not address Petitioner's contentions and fail to address Petitioner's arguments in support of the

combination. In addition, Petitioner supports its arguments with citations to the references and credible declarant testimony from the vantage of a person of ordinary skill in the art, while Patent Owner's arguments as to the interpretation of the references and motivations (or lack thereof) of a person of ordinary skill in the art are insufficiently supported by testimony from the viewpoint of a person of ordinary skill in the art or citation to the references.[10] *See* PO Resp. 16–18. We find Petitioner's interpretation of the references and motivation to combine more persuasive than Patent Owner's insufficiently supported attorney argument on these issues.

Patent Owner also fails to explain how the alleged "fundamental" differences in Knappe and Drell have any bearing on how they are used in the proposed combination. *See* PO Resp. 16–18; Sur-reply 3–4. Rather, Patent Owner's argument merely points out alleged differences between the references, while essentially ignoring their commonalities. To the extent Patent Owner is arguing that it would not have been obvious to physically combine Drell and Knappe or bodily incorporate them into each other,[11] Petitioner states, with supporting testimony from Dr. Houh, that the

[10] Although Patent Owner cites to paragraphs 21 and 22 of Mr. Dye's Declaration (PO Resp. 17), this testimony does not support the arguments for which it is cited. In the Sur-reply, Patent Owner clarifies that the citation should have been to paragraph 20 of Mr. Dye's Declaration (Sur-reply n. 1), but, as discussed below, this testimony merely repeats arguments made in the Sur-reply. *See* Sur-reply 4–5.

[11] "The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference . . . . Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art." *MCM Portfolio LLC v. Hewlett-Packard Co.*, 812 F.3d 1284, 1294 (Fed. Cir. 2015) (quoting *In re Keller*, 642 F.2d 413, 425 (CCPA 1981)).

proposed combination "permits, *but does not require*, physical incorporation of elements from Drell and Knappe." Pet. 22 (citing Ex. 1003 ¶ 168) (emphasis added).

In the Sur-reply, Patent Owner further argues that "Drell and Knappe deal with traditional video conferencing and conferencing systems–dedicated circuit architecture using traditional hardware," whereas "the '525 patent is directed to 'computer system architecture and more particularly to audio and video telecommunications for collaboration over hybrid networks.'" Sur-reply 4 (citing Ex. 1001, 1:17–20). To the extent that Patent Owner is arguing that Drell and Knappe are not analogous art to the '525 patent, we do not find this persuasive. As Petitioner argues, both references pertain "to the field of multiparty conferencing, including mixing data from Internet and PSTN conference endpoints." Pet. 17 (citing Ex. 1008, code (54), 3:33–37; Ex. 1006, 3:41–51, 6:59–62; Ex. 1003 ¶¶ 148–149). Patent Owner also argues[12] that "[n]either Drell nor Knappe reflect or disclose an understanding of the requirements of the different mixers or would teach or suggest this to a person of skill in the art" (Sur-reply 4) but, aside from this conclusory statement, does not further address or explain why Petitioner's contentions as to Drell or Knappe are incorrect. Although Patent Owner cites to paragraph 20 of Mr. Dye's Declaration, this testimony merely repeats what is stated in the Sur-reply. In this instance, "the cited declaration testimony is conclusory and unsupported, adds little to the conclusory assertion for which it is offered to support, and is entitled to little weight." *Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9 at 15

[12] This is a new argument raised in the Sur-reply. However, even if we consider this argument, we do not find it persuasive for the reasons stated.

(PTAB August 24, 2022) (precedential); *see also* 37 C.F.R. § 42.65(a) ("Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight."); *Upjohn Co. v. Mova Pharm. Corp.*, 225 F.3d 1306, 1311 (Fed. Cir. 2000) ("Lack of factual support for expert opinion going to factual determinations, however, may render the testimony of little probative value in a validity determination.") (quoting *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 294 (Fed. Cir. 1985)).

Patent Owner's contentions that Drell's remote conference endpoint 104 cannot be the moderator ignores Petitioner's contentions that *any* of Drell's endpoints (i.e., near conference endpoint 100 or remote conference endpoint 104) can act as the moderator. *See* Pet. 29–30; Reply 7. Patent Owner also does not provide citation or support in Drell for the contention that "the moderator in Drell has control over the network application for mixing and encoding." PO Resp. 16. As set forth above, Petitioner does not contend that Drell alone teaches a "moderator," but relies on the combination of any of Drell's endpoints with Knappe's moderator. *See* Pet. 29. Moreover, we agree with Petitioner that "nothing in the '525 patent requires the claimed 'moderator' to control the mixing and encoding." Reply 6.

Accordingly, after considering the evidence and arguments of the complete record, we determine Petitioner has shown, by a preponderance of the evidence, that the combination of Drell and Knappe teaches limitation [1.1] and that a person of ordinary skill in the art would have had a reason to combine the references in the manner Petitioner proposes, with a reasonable expectation of success.

c) *[1.2.1] a first transport output that transmits the first mixed data stream to at least one remote client that receives the first mixed data stream,*

Petitioner relies on the combination of Drell and Knappe to teach this limitation. Pet. 29–34. Petitioner relies on its contentions for limitation [1.1], and further contends that Drell's "distributing the combined audio and video streams would include '*transmit[ting]*' the '*first mixed data stream*' to a remote conferencing endpoint, such as remote conferencing endpoint 102." *Id.* at 35–36 (alteration in original) (citing Ex. 1008, 4:29–31, 4:49–52, 6:33, 6:55–56, 7:30–31; Ex. 1003 ¶¶ 203–210, 215). Petitioner contends that Drell's remote conferencing endpoint 102 teaches "*at least one remote client that receives the first mixed data stream*." *Id.* at 36 (citing Ex. 1003 ¶ 215); *see* Ex. 1008, 3:8–12. Petitioner further contends that it would have been obvious to one of ordinary skill in the art that the output of network 106 leading toward remote conference endpoint 102 as shown in Drell's Figure 1 discloses a "*first transport output*." Pet. 37–38 (citing Ex. 1008, Fig. 1, 7:30–31; Ex. 1003 ¶ 217–220).

Patent Owner does not respond to these arguments. *See generally* PO Resp. After considering the evidence and arguments of the complete record, we determine that Petitioner has shown, by a preponderance of the evidence, that the combination of Drell and Knappe teaches limitation [1.2.1].

d) *[1.2.2] the at least one remote client communicatively coupled to the Internet, which generates a remote client audio-video data stream;*

Petitioner relies on Drell to teach this limitation. Pet. 39–40. Petitioner relies on its contentions for limitation [1.2.1], and additionally contends that Drell's network 106 may comprise the Internet. Pet. 39.

Specifically, Petitioner contends that a person of ordinary skill in the art would understand that Drell's remote conference endpoint 102 is "*communicatively coupled to the Internet*" because it receives communications from the near conference endpoint 100 over Internet network 106. *Id.* at 39 (citing Ex. 1008, Fig. 1, 3:4–19, Ex. 1003 ¶¶ 223–224). Petitioner further contends that a person of ordinary skill in the art would understand that Drell's remote conference endpoint 102 generates video and audio signals of a conference participant, that are received as a single stream by near conference endpoint 100 (i.e., "*generates a remote client audio-video data stream*"). *Id.* (citing Ex. 1008, 3:10–12, 3:39–45, 4:21–31, 6:7–10; Ex. 1003 ¶¶ 225–228).

Patent Owner does not respond to these arguments. *See generally* PO Resp. After considering the evidence and arguments of the complete record, we determine that Petitioner has shown, by a preponderance of the evidence, that Drell teaches limitation [1.2.2].

> *e) [1.3] a second mixer that mixes the moderator audio-video data stream with the remote client audio-video data stream into a second mixed data stream; and*

Petitioner relies on the combination of Drell, Knappe, and Voois to teach this limitation. Pet. 41–45. Petitioner relies on its contentions for limitations [1.1] and [1.2.2]. *Id.* Petitioner reiterates that "Drell and Knappe teach that the near conference endpoint 100 receives an audio-video data stream from the moderator remote conference endpoint 104," and "near conference endpoint 100 also receives a '*remote client audio-video data stream*' from the remote conference endpoint 102." *Id.* at 41 (citing Ex. 1003 ¶¶ 187–194, 223–227, 230). Petitioner contends that "Drell's mixing of the audio and video data streams received from remote conference

endpoints 102 and 104 into a single audio and video data stream renders obvious a '*second mixed data stream*.'" *Id.* (citing Ex. 1003 ¶¶ 232–233).

Petitioner contends that it would have been obvious to a person of ordinary skill in the art "for the communication process 404 instantiated for the PSTN conference endpoint ('*PSTN client*,' *see* [1.1]) to produce the '*second mixed data stream*,'" and, further, would have been obvious "that Drell's audio mixing module 308, video switching/continuous presence module 306, and communication process 404 instantiated for the PSTN conference endpoint collectively teach the claimed '*second mixer*.'" Pet. 42 (citing Ex. 1003 ¶ 234). Petitioner contends that it would have been obvious "to produce a '*second mixed data stream*' including both audio and video data for the '*PSTN client*' because it would have been obvious for the '*PSTN client*' to support both audio and video conferencing." *Id.* (citing Ex. 1003 ¶ 236). Petitioner contends that this is further supported by Knappe, as well as Voois, which describes "a PSTN conference endpoint that is a videophone that 'communicates video and audio data over a plain old telephone service (POTS) line.'" *Id.* at 43–44 (citing Ex. 1006, 3:66–4:1; Ex. 1036, code (57), 3:62–4:4; Ex. 1003 ¶¶ 237–241).

Petitioner contends that "Voois's PSTN videophone teachings are well suited for Drell's system (as modified by Knappe to include a gateway capable of communicating both audio and video) because it would allow for the user of the PSTN conference endpoint to participate in a conference with both audio and video," and, therefore, "allow more information to and by the user of the PSTN conference endpoint." Pet. 23–24 (citing Ex. 1003 ¶ 171). According to Petitioner, this "would beneficially allow for the user of the PSTN conference endpoint to exchange both audio and video data with the

other conference participants, thereby improving the experience of the user and enhancing the effectiveness of collaboration." *Id.* at 24.

Petitioner further contends that the combination (1) "combines prior art elements (videophone taught by Voois with the conferencing system of Drell as modified by Knappe) according to known methods (disclosed by Voois) to yield predictable results (allow for PSTN conference endpoint participants in Drell's system to share both audio and video data during a conference for collaboration purposes)" and (2) "is a simple substitution of one known element (PSTN videophone taught by Voois) for another (the PSTN conference endpoint of Drell)." Pet. 24 (citing Ex. 1003 ¶ 172). Petitioner argues the "results would have been predictable and there would have been a reasonable expectation of success in the combination given that both Drell and Voois describe similar conferencing systems." *Id.* (citing Ex. 1003 ¶ 173). As in the proposed combination with Knappe, Petitioner contends that the proposed combination with Voois "permits, but does not require, physical incorporation of elements from Drell and Voois." *Id.* at 24–25.

Petitioner, therefore, contends that it would have been obvious to a person of ordinary skill in the art that Drell's MP conferencing application "would produce a mixed audio-and-video data stream for the videoconferencing PSTN conference endpoint . . . because it would allow for providing the same rich, multimedia conferencing experience to PSTN-based participants as is provided to participants using other forms of videoconferencing equipment." *Pet.* 44–45 (citing Ex. 1003 ¶¶ 241–243).

Patent Owner does not respond to these arguments. *See generally* PO Resp. After considering the evidence and arguments of the complete record,

we determine that Petitioner has shown, by a preponderance of the evidence, that the combination of Drell, Knappe, and Voois teaches limitation [1.3] and that a person of ordinary skill in the art would have had a reason to combine the references in the manner Petitioner proposes, with a reasonable expectation of success.

f) [1.4] a second transport output that transmits a mixed audio data stream, corresponding to the second mixed data stream, to the PSTN client.

Petitioner relies on the combination of Drell, Knappe, and Voois to teach this limitation. Pet. 45–48. Petitioner relies on its contentions for limitations [1.1], [1.2.1], and [1.3], discussed above. *Id.* Petitioner further contends that it would have been obvious to a person of ordinary skill in the art to "'*transmit*[]' the '*second mixed data stream*' to a remote conferencing endpoint, such as the videophone PSTN conference endpoint ('*PSTN client*') taught by Drell and Voois." *Id.* at 45 (alteration in original) (citing Ex. 1003 ¶ 245). Petitioner contends that the "*mixed audio data stream*" is produced by Drell's audio mixing module 308 (as discussed for limitation [1.3]), and this is the audio portion of the "*second mixed data stream*." *Id.* at 45–46 (citing Ex. 1003 ¶¶ 232–242, 245). Petitioner further contends that, as discussed for limitation [1.2.1], Drell's communication process 404 discloses a "*transport output*," and therefore, the output of communication process 404 instantiated for the PSTN conference endpoint is a "*second transport output*." *Id.* at 46 (citing Ex. 1003 ¶¶ 213–220, 247; Ex. 1008, 4:21–24, 5:65–6:2).

Petitioner further contends that, as discussed for limitation [1.1], it would have been obvious "to utilize a gateway positioned between the PSTN and Internet networks, as Knappe teaches, because it would provide Drell

the benefit of converting Internet network communications to suitable signals for the PSTN, and vice-versa." Pet. 47 (citing Ex. 1006, 4:18–25; Ex. 1003 ¶¶ 148–168, 249). Petitioner contends that it would have been obvious to a person of ordinary skill in the art "that the gateway would transmit at least the audio portion of the '*second mixed data stream*' to the PSTN conference endpoint ('*PSTN client*') so that the conference participant using the PSTN conference endpoint could hear the audio portion of the conference (that is, the speech of other conference participants)." *Id.* (citing Ex. 1008, Fig. 1; Ex. 1003 ¶ 250). Petitioner contends that as further combined with Voois, it would have been obvious for the gateway "to also transmit the video portion of the second mixed data stream to the PSTN conference endpoint (implemented as a videophone)." *Id.* at 48 (citing Ex. 1003 ¶ 251).

As with limitation [1.1], Patent Owner argues that Drell's remote conference endpoint 104 cannot be termed as a moderator endpoint and that "Knappe and Drell cannot be combined due to fundamental differences." PO Resp. 18–19; *see also* Sur-reply 5–6.

After considering the evidence and arguments of the complete record, and for the reasons already discussed above with respect to limitation [1.1], we determine that Petitioner has shown, by a preponderance of the evidence, that the combination of Drell, Knappe, and Voois teaches limitation [1.4].

g) Summary of Independent Claim 1

Accordingly, after considering the evidence and arguments of the complete record, we determine Petitioner has shown, by a preponderance of the evidence, that the combination of Drell, Knappe and Voois teaches the limitations in claim 1 and that a person of ordinary skill in the art would

have had a reason to combine the references in the manner Petitioner proposes, with a reasonable expectation of success.

5. Dependent Claim 2

Petitioner contends that claim 2, which depends from claim 1, would have been obvious over Drell, Knappe, and Voois. Pet. 48–50. Claim 2 recites "a third mixer that mixes the audio data from the PSTN client with the audio-data video stream from the remote client into a third mixed data stream and communicates the third mixed data stream to the moderator." Ex. 1001, 10:18–22.

Petitioner relies on its arguments for the preamble and limitations [1.1]–[1.4] of claim 1 (discussed above) and further argues that the combination of Drell and Knappe teaches a "third mixer" and "third mixed data stream" for similar reasons as set forth for limitation [1.1] ("first mixer" and "first mixed data stream"), and "communicat[ing] the third mixed data stream to the moderator" for similar reasons as set forth for limitation [1.2.1]. Pet. 48–50.

Patent Owner argues:

> As argued above, in Knappe, priority is assigned to different participants and the highest priority participant works as moderator, whereas the '525 Patent discloses that a call initiator is designated as a moderator. Moreover, the moderator in Knappe is a participant with the highest priority whereas in case of Drell, near conference endpoint 100 is a special user having control of a multi-party (MP) conference application. The application is responsible for mixing, compressing, processing etc. In essence, the moderator in Knappe can be any participant with highest priority whereas moderator in Drell has the application for mixing, encoding which is occurring at the network in Knappe not at any participant.

PO Resp. 19.

We are persuaded that the combination of Drell and Knappe teaches the limitations in claim 2. Patent Owner's arguments are similar to those made in connection with limitation [1.1]. Patent Owner does not directly address the limitations in claim 2, or present any arguments as to why the combination of Drell and Knappe does not teach the recited "third mixer."

After considering the evidence and arguments of the complete record, and for the reasons already discussed above with respect to limitation [1.1], we determine that Petitioner has shown, by a preponderance of the evidence, that the combination of Drell, Knappe, and Voois teaches dependent claim 2 and provides reasons sufficiently supported by factual underpinnings to combine the references teachings with a reasonable expectation of success.

6. Dependent Claim 3

Petitioner contends that claim 3 would have been obvious over Drell, Knappe, and Voois. Pet. 50–52. Claim 3 depends from claim 1 and recites "a VoIP decoder that receives IP packets including the audio data stream generated by the PSTN client, the VoIP decoder decodes the IP packets including the audio data from the PSTN client." Ex. 1001, 10:23–26.

Petitioner relies on Drell and Knappe to teach this limitation. Pet. 50–52; Reply 8–9. Petitioner relies on its contentions for limitation [1.1], and further contends that "[i]t would have been obvious to a [person of ordinary skill in the art] that near conference endpoint 100 '*receives IP packets including the audio data stream generated by the PSTN client*' since the conference endpoint 100 is 'connect[ed to other] conference endpoints' over the 'PSTN and the Internet' because communications over the Internet use IP packets." Pet. 51 (citing Ex. 1006, 3:53–54; Ex. 1003 ¶¶ 271–272).

Petitioner further relies on Knappe's disclosure that "[a]t the gateway 20, the signals are converted to IP packets in the VoIP format" and "encapsulated in real-time transport protocol (RTP) packets" for transmission over the Internet. *Id.* (citing Ex. 1006[13], 4:18–25, 3:50–61; Ex. 1003 ¶ 273); *see* Ex. 1003 ¶¶ 275–276).

Petitioner argues that "Drell's disclosure of a communication process and audio codec renders obvious '*a VoIP decoder*.'" Pet. 51–52 (citing Ex. 1003 ¶¶ 277–279); *see* Ex. 1008, 6:18–23 ("[a]udio code 408 receives the audio data stream from communication process 44 and . . . decod[es] in accordance with a standard . . . or proprietary audio compression algorithm" and produces a "decoded audio stream"); Reply 8. Petitioner also relies on Drell's disclosure that its communication process includes a "H323 (packet-based) process," which Petitioner asserts "was a well-known standard that specifies encoding and decoding VoIP communication." Pet. 52 (citing Ex. 1008, 2:17–33; Ex. 1003 ¶¶ 280–281); *see* Reply 8–9. Petitioner also contends that Knappe's "codec (coder/decoder)" for processing "IP packets such as VoIP packets . . . encapsulated in real-time transport protocol (RTP) packets" renders obvious a "*VoIP decoder*." Pet. 52 (citing Ex. 1006, 4:9–14, 3:50–57; Ex. 1003 ¶¶ 282–283); *see* Reply 9.

Petitioner contends that it would have been obvious to a person of ordinary skill in the art "to encode Drell's real-time audio data in VoIP packets and encapsulate them in [real-time protocol (RTP)] packets for transmission over the Internet, as Knappe teaches, because RTP was

[13] Petitioner cites to Exhibit 1008 (Drell), but the citations and corresponding quotations, as well as Dr. Houh's Declaration (Ex. 1003 ¶ 273) indicate that the citation should have been to Exhibit 1006 (Knappe).

specifically created for applications such as Drell's real-time conferencing application." Pet. 20 (citing Ex. 1003 ¶ 162; Ex. 1021, 22). Petitioner also contends that a person of ordinary skill in the art "would have been motivated to apply Knappe's VoIP and RTP teachings to Drell because they are well suited for use with H.323 packet processing," "[t]he result would have been predictable and there would have been a reasonable expectation of success in applying Knappe's VoIP and RTP teachings to Drell, since use of both VoIP and RTP were known in the conferencing context." *Id.* at 21 (citing Ex. 1003 ¶ 164).

Patent Owner argues that "Petitioner points to the audio code 408 of Drell," but "audio codecs cannot be attributed the function of decoding IP packets as IP (internet protocol) packets contain many types of packets other than audio packets." PO Resp. 21; *see* Sur-reply 6. Patent Owner argues that "Drell is completely devoid of any mention of VoIP, much less decoding same." Sur-reply 6. According to Patent Owner, "[t]he input to an Audio codec would be an encoded/compressed audio and not IP packets, as they are encapsulated form of actual data (encapsulated using IP (Internet protocol))." PO Resp. 21; Sur-reply 6. In the Sur-reply, Patent Owner additionally argues that in Knappe, a person of ordinary skill in the art "would understand use of a gateway as performing the functions of *merely converting* an analog signal to a digital signal, VOIP and other protocols." Sur-reply 7 (citing Ex. 2001 ¶ 25). Thus, Patent Owner argues, a person of ordinary skill in the art "would not be motivated to combine Drell and Knappe as neither teach a 'VoIP decoder that receives IP packets.'" *Id.*

We are persuaded that the combination of Drell and Knappe teaches the limitations in claim 3. As described above, Petitioner provides

reasoning, supported by testimony from Dr. Houh, explaining how the combination of Drell and Knappe teaches claim 3, and provides reasoning for why a person of ordinary skill in the art would combine the references. Patent Owner's arguments in the Response improperly address Drell individually, rather than the combination of Drell and Knappe on which Petitioner relies. *See Soft Gel Techs., Inc. v. Jarrow Formulas, Inc.*, 864 F.3d 1334, 1341 (Fed. Cir. 2017) (attacking a reference individually does not show non-obviousness where petitioner's ground is premised on the combination of references); Reply 8. Similarly, Patent Owner's arguments in the Sur-reply[14] improperly address Knappe individually, rather than the combination of Drell and Knappe on which Petitioner relies. Patent Owner's argument that "neither reference teaches a 'VoIP decoder that receives IP packets'" similarly does not address the combination as proposed by Petitioner, and is not persuasive in light of Dr. Houh's testimony explaining why the combination teaches a "VoIP decoder that receives IP packets," which we find credible and persuasive. *See* Ex. 1003 ¶¶ 277–285; Reply 8–9.

Therefore, after considering the evidence and arguments of the complete record, we determine that Petitioner has shown, by a preponderance of the evidence, that the combination of Drell, Knappe, and Voois teaches dependent claim 3 and provides reasons sufficiently supported by factual underpinnings to combine the references teachings with a reasonable expectation of success.

[14] This is a new argument raised in the Sur-reply. However, even if we consider this argument, we do not find it persuasive for the reasons stated.

7. Dependent Claim 4

Petitioner contends that claim 4 would have been obvious over Drell, Knappe, and Voois. Pet. 52–53. Claim 4 depends from claim 1 and recites "at least one audio decompressor that decodes IP packets including the audio-video data stream generated by the remote client." Ex. 1001, 10:27–29.

Petitioner relies on the contentions for limitations [1.2.1], [1.3], and claim 3, as discussed above, and further generally asserts that "Drell's audio codec that utilizes an audio compression algorithm to decompress IP packets containing audio-video data stream from remote conference endpoint 102 discloses an '*audio decompressor*.'" Pet. 52–53.

Patent Owner does not respond to these arguments. *See generally* PO Resp. After considering the evidence and arguments of the complete record, we determine that Petitioner has shown, by a preponderance of the evidence, that the combination of Drell, Knappe, and Voois teaches dependent claim 4 and provides reasons sufficiently supported by factual underpinnings to combine the references teachings with a reasonable expectation of success.

8. Summary of Ground 1

Having considered the *Graham* factors,[15] including the level of ordinary skill in the art, the scope and content of the prior art, and the differences between the prior art and the challenged claims, we are persuaded, based on the current record, that Petitioner has shown, by a preponderance of the evidence, that claims 1–4 would have been obvious over Drell, Knappe, and Voois.

[15] Patent Owner does not submit evidence of secondary considerations. *See* PO Resp.

E. Ground 2: Alleged Obviousness Over Drell, Knappe, Voois, Elliott, and VPN Textbook

Petitioner additionally contends that dependent claims 5–8 are obvious over the combination of Drell, Knappe, Voois, Elliott, and VPN Textbook. Pet. 55–67. After reviewing the entire record developed at trial, we determine that Petitioner has shown, by a preponderance of the evidence, that claims 5–8 would have been obvious over the combination of Drell, Knappe, Voois, Elliott, and VPN Textbook.

1. Elliott (Ex. 1007)

Elliott is titled "Method and System for Multi-Media Collaboration Between Remote Parties" and is generally directed to multi-media collaboration where a first party receives requests for access from first and second remote parties, and the first party can independently communicate with the first and second remote parties via a computer program. Ex. 1007, codes (54), (57).

Elliott describes that "[m]ulti-media collaboration refers to the use of more than one media stream (e.g.: voice, fax, data, video, etc.) used in collaboration with more than one party." Ex. 1007, 2:66–3:1. Some examples provided in Elliott are web browsing, chat, telephony, multi-party conferencing, and virtual private networks. *Id.* at 3:2–6.

Figure 1, reproduced below, illustrates the network architecture 10 of a preferred embodiment.

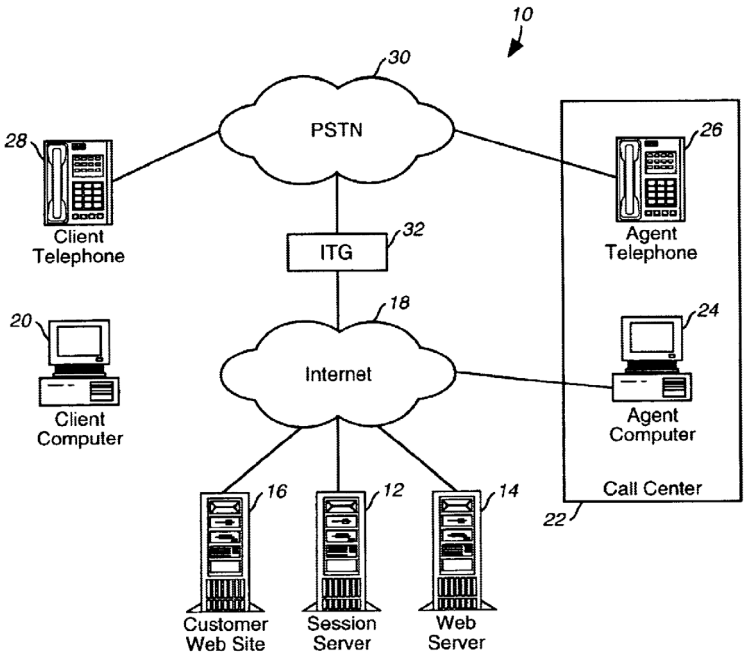

FIG. 1

Figure 1 depicts network architecture 10 which includes, among other things, shared network resources as represented by session server 12, customer web site 16, and web server 14, to provide resources to a plurality of parties including clients (client telephone 28 and client computer 20), agents (agent telephone 26 and agent computer 24), and call center 22. Communications between the parties can be made over network 18, which is "at least two (and preferably more) computers interconnected together so that communication between them is possible." *Id.* at 4:4–9. As shown in Figure 1, the public Internet is an exemplary Internet Protocol-based (IP-based) network 18, but network 18 may also comprise "either a public or a carrier supported virtual private network (VPN) or a local area network (LAN) which uses IP or IP-tunneling." *Id.* at 4:10–12, 30–34.

2. VPN Textbook (Ex. 1010)

VPN Textbook is "[a] practical guide to understanding, designing and deploying MPLS and MPLS-enabled VPNs," published by Cisco Press. Ex. 1010, 1. Exhibit 1010 includes Chapter 7 of VPN Textbook, which is titled "Virtual Private Network (VPN) Implementation Options" and "gives you an overview of VPN services, common VPN terminology, and detailed classification of various VPN usages and topologies that are encountered most often." *Id.* at 12. In addition, it "also provides an overview of technologies that were used traditionally to implement Virtual Private Networks either on individual service provider backbones or over the public Internet." *Id.*

3. Dependent Claim 5

Petitioner contends that claim 5 would have been obvious over the combination of Drell, Knappe, Voois, Elliott, and VPN Textbook. Pet. 55–62. Claim 5 depends from claim 1 and further recites "wherein the PSTN client audio data stream and the moderator audio-video data stream are transported across a virtual private network tunnel." Ex. 1001, 10:30–32.

Petitioner relies on its contentions for limitation [1.1], i.e., that "Drell and Knappe teach that the near conference endpoint 100 receives an audio data stream from the PSTN conference endpoint through a gateway and an audio-video data stream from the moderator remote conference endpoint 104." Pet. 60 (citing Ex. 1003 ¶¶ 183–185, 328). In addition, Petitioner relies on Elliott's disclosure that "multi-media collaboration" including "voice, fax, data, video, etc." is transmitted over the Internet using a "virtual private network (VPN) . . . which uses IP or IP-tunneling." *Id.* (citing Ex. 1007, 2:66–3:13, 4:6–12, 4:31–24).

Petitioner argues that "[i]t would have been obvious to a [person of ordinary skill in the art] to utilize VPN tunneling when communicating audio and video data to and from the PSTN conference endpoint's gateway and the moderator remote conference endpoint 104, because it would provide Drell with secure communications as the communications traverse Internet network 106." Pet. 60–61 (citing Ex. 1003 ¶¶ 303–317, 331). Relying on VPN Textbook, Petitioner further contends that it would have been obvious to use a hub-and-spoke configuration because it was "the most commonly encountered topology" often chosen for "cost or complexity reasons." *Id.* at 61 (citing Ex. 1010, 129; Ex. 1003 ¶¶ 318–325, 334). Petitioner argues that it would have been obvious to connect Drell's conference endpoints to the routers providing a VPN tunnel. *Id.* (citing Ex. 1010, 130, Fig. 7-10; Ex. 1003 ¶¶ 334–335); *see id.* at 62 (citing Ex. 1003 ¶¶ 335–336).

Petitioner contends that a person of ordinary skill in the art would have been motivated to combine Drell and Elliott "for multiple reasons, including to produce the obvious, beneficial, and predictable results of utilizing VPN tunneling within Drell's system." Pet. 55 (citing Ex. 1003 ¶ 303). According to Petitioner, it was known "that data transmitted over public IP networks is vulnerable to eavesdropping and other problems since the transmission is not secure" and that "communications over a public network could be secured using a VPN." *Id.* (citing Ex. 1003 ¶ 311). Therefore, according to Petitioner, it would have been obvious to a person of ordinary skill in the art to use VPN tunneling, as taught by Elliot "when communicating audio, video, and other data across Drell's Internet network 106 because VPN tunneling would make the transmitted data secure from

outside access and interference." *Id.* at 56 (citing Ex. 1003 ¶ 313). Petitioner also argues that a person of ordinary skill in the art "would have understood that VPNs are beneficial because they reduce the need to lease private data lines, which reduces or avoids the costs for implementing a private network by communicating securely over the Internet." *Id.* Petitioner contends that "the combination of Drell and Elliott is merely the ordinary use of a common technique (using VPN tunneling for conferencing data) in the similar conferencing system of Drell to yield predictable results of (1) securing the transmitted data, and (2) reducing or avoiding costs associated with leasing private data lines." *Id.* (citing Ex. 1003 ¶ 314). Petitioner also argues that there would have been a reasonable expectation of success in the combination. *Id.* at 56–57 (citing Ex. 1003 ¶¶ 315, 316).

Petitioner argues that a person of ordinary skill in the art would have been motivated to combine Drell and VPN Textbook "to produce the obvious, beneficial, and predictable result of providing a hub-and-spoke VPN topology when implementing VPN tunneling in Drell (per Elliott), and to provide a cost effective and less complex VPN implementation." Pet. 57 (citing Ex. 1003 ¶ 318); *see id.* at 59 (citing Ex. 1003 ¶ 323; Ex. 1010, 129). Petitioner argues that a person of ordinary skill in the art "would have been familiar with conventional VPN tunneling implementations suggested by Elliott, and that such VPN implementations were well documented in readily available textbooks," such as VPN Textbook. *Id.* at 57 (citing Ex. 1003 ¶ 319); *see id.* at 58 (citing Ex. 1003 ¶¶ 320–321). According to Petitioner, "[u]sing a hub-and-spoke VPN topology, as taught by the VPN Textbook, in the system of Drell (as modified by Elliott) is simply the use of a known technique (utilizing hub-and spoke VPN topology) in Drell's system to yield

predictable results (provide VPN tunnels to Drell's system for improved security)." *Id.* at 58–59 (citing Ex. 1003 ¶ 322). Petitioner also argues that there would have been a reasonable expectation of success in making the combination. *Id.* at 59 (citing Ex. 1003 ¶ 324).

Patent Owner argues that "the USPTO has already determined that general VPN textbooks are not invalidating prior art." PO Resp. 14; Sur-reply 1. According to Patent Owner "the principal references disclose nothing about how to implement a VPN or VPN tunnel in a web videoconferencing network," and Petitioner "rel[ies] on a textbook, like a catalog of electronic components, to recreate the invention using hindsight." PO Resp. 14–15; Sur-reply 2.

Patent Owner further argues that "Knappe discloses conference scenarios involving the simultaneous connection of multiple participants," whereas "Elliott's disclosure pertains solely to isolated interactions." PO Resp. 22. Therefore, Patent Owner argues, "[t]he limitation regarding provision of a VPN tunnel to protect ***mixed audio*** is taught by neither [Knappe nor Drell]." PO Resp. 22; Sur-reply 9. Patent Owner continues that "[a]lthough Elliott mentions in passing a Virtual Private Network (VPN), its application can only be understood as directed to 'network 18,' which is used to connect two computers over the Internet, and not audio data, mixed or otherwise." PO Resp. 23 (citing Ex. 1007, 4:6–19); Sur-reply 9. According to Patent Owner, the '525 patent "operates such that data arriving from a remote endpoint via a VPN tunnel is decrypted at the local moderator's end before being shared with the [PSTN] client" and "[g]iven this intricate decryption and sharing process, combining either Drell's or Knappe's teachings with Elliot's is inherently unsuitable for these

limitations." PO Resp. 23; Sur-reply 10. Patent Owner argues that the '525 patent "employ[s] a VPN bridge . . . which is not present in any of the prior arts even by combining it with Elliott." PO Resp. 23.

In addition, Patent Owner argues that Petitioner fails to distinguish between a VPN and a VPN tunnel, which is "crucial." PO Resp. 23; Sur-reply 8. Patent Owner argues that a VPN[16] is not shown by Knappe, Elliott, or Drell, and that "in Elliott, the VPN is mentioned only in the context of network 18, which is unrelated to audio communication." PO Resp. 24; Sur-reply 8–9. Patent Owner also argues that a VPN tunnel[17] "is not disclosed or suggested for mixed audio data by the art of record. *Id.* at 25; *see also* Sur-reply 8. According to Patent Owner, "Petitioner propose[s] a combination entailing connecting the VPN central hub with an internal server and establishing its effective connection with a conference server linked to the multi-party application," but "Petitioner has not provided any explanation of how this connection between the VPN central hub and the conference server can be achieved effectively, or is taught by the prior art." PO Resp. 25. Additionally, Patent Owner argues that "the limitation requires the combination or handling of both PSTN and IP data," but "Petitioner's reference to a textbook passage regarding 'hub-and-spoke' topology wouldn't enable the central hub to manage PSTN data effectively." *Id.*

[16] Patent Owner relies on the district court's construction of VPN, which is "a private network of securely connected appliances configured within a public network." PO Resp. 24; Ex. 2002, 32; Sur-reply 8.
[17] Patent Owner relies on the district court's construction of VPN tunnel, which is "a connection between two devices that permits encapsulating a first packet from one protocol in a second packet from a different protocol." PO Resp. 24; Ex. 2002, 32.

at 26. In the Sur-reply, Patent Owner also argues that the "general concepts discussed in the VPN Textbook" combined with Elliott also do not render obvious the teachings in the '525 patent. Sur-reply 9–10.

We are persuaded that the combination of Drell, Knappe, Voois, Elliott, and VPN Textbook teaches claim 5. As described above, Petitioner provides extensive reasoning, supported by testimony from Dr. Houh, explaining how the combination teaches claim 5, and provides reasoning for why a person of ordinary skill in the art would combine the references. Patent Owner's arguments largely do not address Petitioner's contentions and fail to address Petitioner's arguments in support of the combination. *See* Reply 13–14. In addition, Petitioner supports its arguments with citations to the references and credible declarant testimony from the vantage of a person of ordinary skill in the art, while Patent Owner's arguments as to the interpretation of the references and motivations (or lack thereof) of a person of ordinary skill in the art are insufficiently supported by testimony from the viewpoint of a person of ordinary skill in the art or citation to the references. *See* PO Resp. 21–26. We find Petitioner's interpretation of the references and motivation to combine more persuasive than Patent Owner's insufficiently supported attorney argument on these issues.

We disagree with Patent Owner that "the USPTO has already determined that general VPN textbooks are not invalidating prior art." PO Resp. 14. In support, Patent Owner lists several Cisco Systems, Inc. documents that are listed in the "References Cited" section of the '525 patent (PO Resp. 14; Sur-reply 2), but we are not persuaded that the mere citation of these references leads to the determination that any and all general VPN textbooks are not invalidating prior art. We also disagree that

Petitioner has "recreate[d] the invention using hindsight." PO Resp. 15. As set forth above, Petitioner relies on VPN textbook to support the underlying technical functionality of VPN tunneling, as well as to provide rationale for the combination, which is not explicitly described in Drell, Knappe, Voois, or Elliott. Aside from Patent Owner's conclusory attorney argument, Patent Owner provides no further support for its hindsight argument, and does not expressly address Petitioner's motivation to combine the references, for example, to provide secure communications.

Further, many of Patent Owner's arguments address the references individually, rather than the combination proposed by Petitioner. For example, Patent Owner argues that none of the references teach transporting a mixed data stream across a VPN tunnel. PO Resp. 22–23; Sur-reply n.2, 9; As discussed above in connection with limitation [1.1], however, Petitioner relies on the combination of Drell and Knappe to teach the "mixed data stream" that includes the PSTN client audio data stream and the moderator audio-video data stream. *See* Pet. 26–35. The combination involves, among other things, implementing a gateway (as taught in Knappe) in Drell's system "that converts standard audio data from PSTN conference endpoints into a streaming audio format suitable for transmission over the Internet." *Id.* at 28 (citing Ex. 1003 ¶¶ 148–168, 183–185; Ex. 1006, 4:18–25).

Petitioner then relies on Drell and Knappe, combined with Elliott and VPN Textbook to teach transport across a VPN tunnel. Pet. 55–60. Elliott expressly discloses VPN and VPN tunnelling over a network. *See* Ex. 1007, 2:66–3:6 ("Multi-media collaboration refers to the *use of more than one media stream* (e.g.: voice, fax, data, video, etc.) used in collaboration with more than one party . . . *[and may] include* . . . web browsing, chat,

telephony, multi-party conferencing, audio-on-demand, video-on-demand, integrated messaging, *virtual private networks*, and electronic commerce.") (emphasis added); 4:6–34 ("[C]ommunications between the parties can be made over a variety of networks 18[, where] . . . network 18 can be either a public or a carrier supported virtual private network (VPN) or local area network (LAN) which uses IP or IP-tunneling."). Elliott states that "network 18 is at least two (and preferably more) computers interconnected together so that communication between them is possible." *Id.* at 4:6–8; *see also id.* at 4:20–21 ("Network 18 could also comprise other IP-based networks as well as other networks."). Elliott also describes the ability to place internet telephony calls over PSTN, which "are facilitated by internet telephone gateway (ITG) 32 which is provided as an interface between the circuit-switched PSTN 30 and the packet switched IP network 28." *Id.* at 5:34–39, 6:7–11, Fig. 1. Given this disclosure in Elliott, we are not persuaded by Patent Owner's argument that Elliott's network 18 is "unrelated to audio communication." *See* Reply 12–13. With regard to VPN textbook, Patent Owner generically argues that it "would not enable the central hub to manage PSTN data effectively" (PO Resp. 26), but does not explain, or provide citation to evidence supporting this argument. We also agree with Petitioner that Patent Owner's arguments are not commensurate with the claim language. *See* Reply 13. For example, neither claim 1 nor claim 5 recites an "intricate decryption and sharing process" or a "VPN bridge." *See* PO Resp. 23; Sur-reply 10.

Patent Owner attempts to distinguish Drell and Knappe from Elliott, contending that both Drell and Knappe relate to conferencing scenarios with multiple participants, whereas Elliott's disclosure pertains solely to one-to-

one interactions. PO Resp. 22; Sur-reply 10. For example, in the Sur-reply, Patent Owner argues that combining Drell with Elliott is "inherently improper, as the systems have different objectives." Sur-reply 10. In support of this argument, Patent Owner cites to testimony from Mr. Dye, which states that "Drell discloses conference scenarios involving the simultaneous connection of multiple participants within a unified all. In contrast, Elliott's disclosure pertains solely to isolated one-to-one interactions." Ex. 2001 ¶ 26. However, neither Patent Owner nor Mr. Dye provide any citations to Elliott in support of these arguments. Elliott's disclosure does not support these arguments. Elliott states that "the present invention also enables services for one-to-many and *many-to-many* IP-based collaboration." Ex. 1007, 2:10–13 (emphasis added); *see also id.* at 7:59–61 (discussing "multiple 1:1, 1:n, n:1, and n:n sessions").

Therefore, we determine that Petitioner has shown, by a preponderance of the evidence, that the combination of Drell, Knappe, Voois, Elliott, and VPN Textbook teaches dependent claim 5 and provides reasons sufficiently supported by factual underpinnings to combine the references teachings with a reasonable expectation of success.

4. Dependent Claim 6

Petitioner contends that claim 6 would have been obvious over Drell, Knappe, Voois, Elliott, and VPN Textbook. Pet. 62–64. Claim 6 depends from claim 5 and recites "a VoIP encoder that encodes the second mixed

data stream and encodes the second mixed voice data[18] before transmitting the second mixed data stream to the PSTN client." Ex. 1001, 10:33–36.

Petitioner relies on its contentions for independent claim 1 and dependent claims 3 and 5, and further asserts that "Drell's audio codec and communication process that encodes data for transmission over the Internet using RTP packets (per Knappe) teaches a '*VoIP encoder*' and renders obvious this limitation." Pet. 62–64; *see also* Section III.D.6 (claim 3).

Patent Owner presents similar arguments as for limitation [1.1], and further argues that "Knappe's system and Voois's system are fundamentally different from each other [so] couldn't be combined." PO Resp. 26–28; *see also* Sur-reply 10–11. In addition, Patent Owner argues that "two separate encoding processes are performed . . . [h]owever, none of the references, even in combination, disclose two different encoding for the same mixed audio data." PO Resp. 28.

Patent Owner's arguments are not persuasive for generally the same reasons as discussed above for limitation [1.1]. Patent Owner's arguments also do not persuasively address the limitations in claim 6 or Petitioner's contentions for claim 6. For example, in addition to the repeated arguments against the combination of Drell and Knappe, Patent Owner's arguments address the combination of Knappe and Voois, but Petitioner relies on the combination of Drell and Voois to teach limitations [1.3] and [1.4], and does

[18] Petitioner states that neither independent claim 1 nor dependent claim 5 recites a "second mixed voice data," so the Petition assumes that the term "second mixed voice data" corresponds to the "mixed audio data stream" recited in limitation [1.4]. Pet. 62. Patent Owner does not respond to or dispute Petitioner's interpretation of claim 6. PO Resp. 26–28.

not rely on Voois at all in the contentions for claim 6.[19] Patent Owner's arguments as to the combination with Knappe and Voois are not persuasive because the combination proposed by Petitioner is for Drell and Voois (*see* Reply 15), but regardless are also not persuasive for largely the same reasons that Patent Owner's arguments as to the combination of Drell and Knappe were not persuasive, as set forth above in connection with limitation [1.1]. That is, although Patent Owner argues that Drell and Voois are "fundamentally different," Patent Owner fails to explain how the alleged "fundamental" differences in Knappe and Voois have any bearing on how they are used in the proposed combination. Finally, Patent Owner's argument that none of the references, even in combination, teach two separate encoding processes is not supported by any citation to record evidence or testimony that two *separate* encoding processes are required by the claim language, or any further discussion of this argument, and therefore, we do not find it persuasive.

Therefore, after considering the evidence and arguments of the complete record, we determine that Petitioner has shown, by a preponderance of the evidence, that the combination of Drell, Knappe, and Voois teaches dependent claim 6 and provides reasons sufficiently supported by factual underpinnings to combine the references teachings with a reasonable expectation of success.

5. Dependent Claim 7

Petitioner contends that dependent claim 7 would have been obvious over Drell, Knappe, Voois, Elliott, and VPN Textbook. Pet. 64–65. Claim 7

[19] Patent Owner did not dispute the combination of Drell and Voois in the arguments for claim 1.

depends from claim 1 and further recites "wherein the moderator audio-video data stream and the remote client audio-video data stream are transported across a virtual private network tunnel." Ex. 1001, 10:37–39.

Petitioner relies on the same arguments as in claim 5 and limitations [1.1] and [1.3], and further argues that it would have been obvious to a person of ordinary skill in the art "that Drell's near conference endpoint 100 . . . receives data transmitted by the moderator remote conference endpoint 104 and remote conference endpoint 102 via a 'VPN tunnel.'" Pet. 64–65 (citing Ex. 1010, 130; Ex. 1003 ¶¶ 356–351); *see also* Ex. 1003 ¶¶ 352–362.

Patent Owner presents similar arguments to those made for claim 5 (PO Resp. 28–32), which are not persuasive for the same reasons as set forth above. Therefore, after considering the evidence and arguments of the complete record, we determine that Petitioner has shown, by a preponderance of the evidence, that the combination of Drell, Knappe, and Voois teaches dependent claim 7 and provides reasons sufficiently supported by factual underpinnings to combine the references teachings with a reasonable expectation of success.

6. Dependent Claim 8

Petitioner contends that dependent claim 8 would have been obvious over Drell, Knappe, Voois, Elliott, and VPN Textbook. Pet. 65–67. In support, Petitioner identifies certain passages and figures in the references and explains their significance with respect to the corresponding claim limitation. *Id.* Patent Owner does not respond to these arguments. *See generally* PO Resp.

We have reviewed Petitioner's contentions, including the cited portions of Drell, Knappe, Voois, Elliott, and VPN Textbook as well as Dr.

Houh's testimony in support of these assertions. We determine that, on this record, Petitioner has shown by a preponderance of the evidence that dependent claim 8 would have been obvious over the combination of Drell, Knappe, Voois, Elliott, and VPN Textbook.

7. Summary of Ground 2

Having considered the *Graham* factors, including the level of ordinary skill in the art, the scope and content of the prior art, and the differences between the prior art and the challenged claims, we are persuaded, based on the current record, that Petitioner has shown, by a preponderance of the evidence, that claims 5–8 would have been obvious over Drell, Knappe, Voois, Elliott, and VPN Textbook.

F. Grounds 3 and 4: Alleged Obviousness Over Drell and Knappe; Obviousness Over Drell, Knappe, Elliott, and VPN Textbook

Petitioner additionally contends that claims 1–4 are obvious over the combination of Drell and Knappe (Ground 3) and dependent claims 5–8 are obvious over the combination of Drell, Knappe, Elliott, and VPN Textbook (Ground 4). Pet. 67–68. Petitioner essentially relies on the same arguments as for Grounds 1 and 2, but removes Voois from the combination "[t]o the extent that Patent Owner argues that the claimed 'second mixed data stream' does not require both audio and video data." *Id.* at 67.

Patent Owner does not separately respond to these contentions, argue that the "second mixed data stream" does not require both audio and video, or challenge the removal of Voois from the combination. *See* PO Resp.

As explained above, we conclude that Petitioner has established that claims 1–4 are unpatentable over Drell, Knappe, and Voois, and that claims 5–8 are unpatentable over Drell, Knappe, Voois, Elliott, and VPN Textbook.

See supra Sections III.D. and III.E. As such, we need not address Petitioner's alternative grounds based on combinations that do not include Voois. *See Boston Sci. Scimed, Inc. v. Cook Grp. Inc.*, 809 F. App'x 984, 990 (Fed. Cir. Apr. 30, 2020) (non-precedential) (recognizing that "the Board need not address issues that are not necessary to the resolution of the proceeding" and, thus, agreeing that the Board has "discretion to decline to decide additional instituted grounds once the petitioner has prevailed on all its challenged claims").

IV. CONCLUSION

For the foregoing reasons, we are persuaded that Petitioner has established by a preponderance of the evidence that claims 1–8 of the '525 patent are unpatentable.

In summary:[20]

Claims	35 U.S.C. §	Reference(s)/Basis	Claims Shown Unpatentable	Claims Not shown Unpatentable
1–4	103(a)	Drell, Knappe, Voois	1–4	
5–8	103(a)	Drell, Knappe, Voois, Elliott, VPN Textbook	5–8	
1–4	103(a)	Drell, Knappe[21]		
5–8	103(a)	Drell, Knappe, Elliott, VPN Textbook[22]		
Overall Outcome			1–8	

V. ORDER

In consideration of the foregoing, it is hereby:

[20] Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner's attention to the April 2019 Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding. *See* 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. *See* 37 C.F.R. § 42.8(a)(3), (b)(2).

[21] As explained above, given our disposition of the ground based on Drell, Knappe, and Voois, we need not reach Petitioner's alternative ground based on Drell and Knappe. *See supra* Section III.F.

[22] As explained above, given our disposition of the ground based on Drell, Knappe, Voois, Elliott, and VPN Textbook we need not reach Petitioner's alternative ground based on Drell, Knappe, Elliott, and VPN Textbook. *See supra* Section III.F.

ORDERED that claims 1–8 of the '525 patent have been shown to be unpatentable under 35 U.S.C. § 103(a); and

FURTHER ORDERED that, because this is a final written decision, parties to this proceeding seeking judicial review of our Decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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