

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

**PATENT OWNER MEETRIX IP, LLC'S RESPONSE
UNDER 37 C.F.R. § 42.120**

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EXHIBIT LIST

Previously Filed – Petitioners

Ex. No.	Description
1001	U.S. Patent No. 9,094,525 (“the ’525 patent”)
1002	Patent Assignments for the ’525 patent
1003	Declaration of Dr. Henry H. Houh
1004	<i>Curriculum Vitae</i> for Dr. Henry H. Houh
1005	File History of Application No. 13/674,233 (the ’233 application)
1006	U.S. Patent No. 7,180,997 (“Knappe”)
1007	U.S. Patent No. 6,690,654 (“Elliott”)
1008	U.S. Patent No. 7,089,285 (“Drell”)
1010	1010 Guichard <i>et al.</i> , “MPLS and VPN Architectures, A practical guide to understanding, designing, and deploying MPLS and MPLS-enabled VPNs,” Cisco Press, 2001 (“VPN Textbook”)
1011	Declaration of Ingrid Hsieh-Yee, Ph.D., under 37 C.F.R. § 1.68
1012	U.S. Patent No. 3,060,265
1013	U.S. Patent No. 4,139,731
1014	U.S. Patent No. 3,601,530
1015	U.S. Patent No. 4,796,293
1016	A Primer on the T.120 Series Standard
1017	T.120 Standard (1996)
1018	U.S. Patent No. 6,237,025
1019	U.S. Patent No. 6,782,413
1020	U.S. Patent No. 6,980,526
1021	Caputo, “Cisco Packetized Voice & Data Integration,” McGraw-Hill, 2000
1022	De Moraes <i>et al.</i> , “The Internet Multicast from ITS: How it was Done and Implications for the Future,” IEEE Communications Magazine, January 1995
1023	U.S. Patent Publication No. 2004/0261116 A1
1024	U.S. Patent No. 6,850,496
1025	U.S. Patent No. 6,553,515
1026	U.S. Patent No. 6,633,848
1027	Computer Desktop Encyclopedia
1036	U.S. Patent No. 6,215,515 (“Voois”)

1046	Declaration of C.J. Alice Chuang
1047	Declaration of Carolyn Chang
1048	Declaration of Ryan J. Marton

Previously and Currently Filed – Patent Owner

Ex. No.	Description
2001	Declaration of Thomas Dye
2002	Memorandum Opinion and Order Regarding Claims Construction dated December 1, 2017

I. STATEMENT OF MATERIAL FACTS IN DISPUTE

Petitioners Zoho Corporation and Zoho Corporation Pvt., Ltd. (“Petitioners”) did not submit a statement of material facts in their Petition for *inter partes* review. Paper 1 (Petition). Accordingly, no response to a statement of material facts is due pursuant to 37 C.F.R. § 42.23(a), and no facts are admitted.

II. INTRODUCTION

This Patent Owner’s Response (“Response”) should be considered in context of the Patent Owner’s Response with respect to IPR2023-00379, which also relates to United States Patent No. 9,094,525 (the “’525 Patent”). The ’00379 IPR is addressed to claims 9-20 of the ’525 Patent, whereas this (the ’00378 IPR) is addressed to claims 1-8.

“In an inter partes review instituted under this chapter, the petitioner shall have the burden of proving a proposition of unpatentability by a preponderance of the evidence.” 35 U.S.C. § 316(e). Petitioners’ propositions of unpatentability fail to meet that burden with respect to claims 1-8 of the ’525 Patent.

Patent Owner Meetrix IP, LLC (“Patent Owner”) respectfully submits this Patent Owner Response under 35 U.S.C. §§ 311-319 and 37 C.F.R. § 42.120. It is being timely filed on or before October 16, 2023 pursuant to the Scheduling Order issued in this proceeding. Paper 7 (Scheduling Order) at 12.

A. STATEMENT OF RELIEF REQUESTED

Pursuant to 35 U.S.C. § 316, Patent Owner respectfully requests that the Board find that originally issued claims 1-8 of the '525 Patent are not invalid based upon the instituted grounds of rejection.

B. OVERVIEW OF THE '525 PATENT

The technology of the '525 Patent is directed to a “computer system architecture, and more particularly to audio and video telecommunications for collaboration over hybrid networks.” *See e.g.* '997 Patent, col. 1, lines 23-26.¹ At their core, the Patents-in-Suit teach a system and method of achieving, multi-participant, audio/video conferencing, over the Internet, using secure connections and multicasting. Fig. 3 provides a high-level graphical depiction.

The method described in the claims involves establishing a secure multi-participant conference call with full duplex audio capabilities. The process begins by initiating a dial-in connection with a local moderator client in response to input from a Public Switched Telephone Network (PSTN) client. Audio data is received from both the PSTN client through a PSTN gateway and a remote client via a Virtual Private Network (VPN) tunnel at the local moderator client. The local moderator client then transmits a third audio data, first video data, and collaboration data to the

¹ The '525 Patent is a continuation of the '997 Patent, with which it shares a specification and figures.

remote client through the VPN tunnel, while also transmitting audio data to the PSTN client through the PSTN gateway.

A VPN is a network which is a subset of a public network that has been rendered “virtually private” by blocking anyone outside of a defined list of private users from accessing or using the network. It is virtual because it is a logical implementation using encryption over a public network, as opposed to a physical implementation using private, non-public wires. It is private because the public at large is denied access to it. Typically, VPNs for intermittent connections like those used for online conferencing are implemented using a protocol called SSL/TLS.

Tunneling in a packet-based network such as the Internet is a method for transmitting types of packets through the network when those packet types have header formats that are not necessarily compatible with the network. Routers in a network are programmed with the ability to handle a certain set of packet headers. If they encounter a packet with a header they are unfamiliar with, they cannot handle the packet properly.

To solve this problem, the packet types having the problematic headers are encapsulated, both header and data payload, in another packet that has a header the network can handle. This is like sending a letter with an envelope having a recipient, return address, and destination address written in French through the US postal system. The letter can be “encapsulated” in a bigger envelope with just the

destination written in English. The recipient can then open the encapsulating envelope and retrieve the original envelope and letter intact. An SSL/TLS link in the Internet encrypts the data payload and part of the header, leaving only the internet destination address and destination port visible to routers in the internet.

The MCU is an example of a Meetrix (network node). When one organizer is connected to a plurality of online meeting attendees, the organizer's desktop image and audio and video must be sent to each of the attendees. If the organizer sends a separate copy to each attendee, his internet connection will become overburdened and response time will drop to a crawl. The Meetrix inventors devised an online meeting system wherein the organizer only sent a single copy of his data to a remote Meetrix (network node), inside the internet infrastructure where high bandwidth channels were available, which then made separate a copy of the organizer data to send to each attendee. This avoided the bottleneck in the organizer's internet connection.

C. OVERVIEW OF THE PRIOR ART

1. EX_1007 – US6690654 (“ELLIOT”)

Elliot is a technological improvement to call center technology collaboration. Exhibit 2001 (“Dye Declaration” or “Dye Decl.”) at ¶ 10. Elliott is directed to a call center where there is a fixed moderator. It teaches the use of PSTN for talking point to point, plus sharing a computer program separately so that the call

participants can view a website.

Call center 22 may consist of Several agent WorkStations 24. In the preferred embodiment, an agent WorkStation comprises an agent computer 24 (regardless of platform, processor-type or operating System) which runs a Web browser and customer Service application Software. The agent WorkStation will typically also include an agent telephone 26 (e.g., a traditional analog telephone).

Exhibit 1007 at 4:42-47.

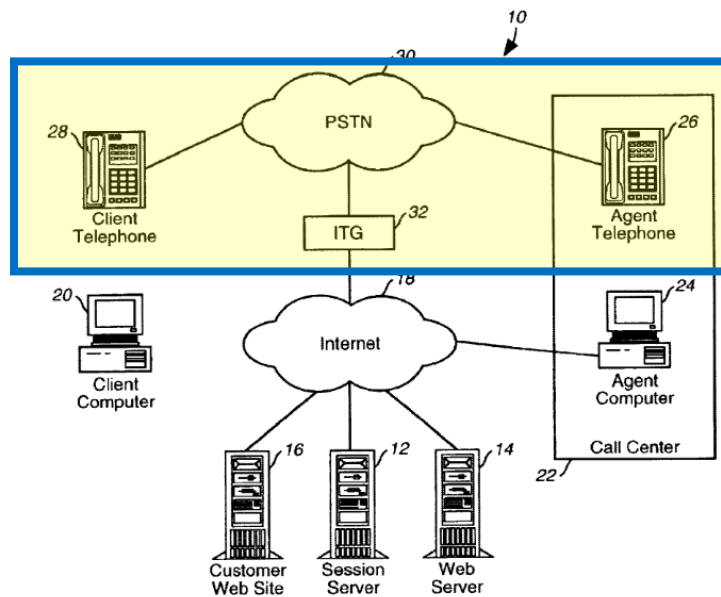


FIG. 1

Elliot is thus addressed to a scenario in which a first party, an agent in a call-center, manages interactions with two or more remote parties via a computer program, **establishing separate sessions for each party. This allows and indeed requires independent communication.**

Elliot teaches Internet telephony transactions facilitated by an internet telephony gateway (ITG) which is provided as an interface between the circuit-switched PSTN and the packet switched IP network, as shown below. Furthermore,

the method involves initiating an internet link to view various websites associated with URLs. The viewing party can selectively share specific URLs with the remote party, beneficial for applications like customer assistance and collaborative browsing. The invention empowers both users and remote parties to control URL sharing, improving flexibility and independence in the collaborative process.

In essence, the communication between the call center and two remote parties operates independently, ensuring individual interactions. Moreover, when it comes to collaboration, the scope is confined to sharing and browsing multimedia solely between the call center and each respective remote party, maintaining a distinct and separate collaborative environment for each party. In the simplest of terms, Elliot embodies a scenario where participants communicate over a traditional PSTN phone line (*e.g.* circuit-switched network), but separately utilize an independent data network (*e.g.* packet-switched network) to “share” website data.

Elliot does not disclose the concept of mixing or streaming audio, voice and collaboration data. Nor does Elliot teach a secure means of provisioning multimedia conferencing.

2. EX_1008 – US7089285 (“DRELL”)

As an initial matter, Drell teaches of an improvement to “traditional” video conferencing systems. Where “commercially available Video conferencing systems are generally capable of communicating with only one other conference endpoint at

a time,” expanding additional nodes traditionally required expensive, expansive hardware such as “a dedicated Inverse Multiplexer (IMUX).” Exhibit 1008, 1:33-36 & 55-59. Thus, Drell teaches a “relatively low-cost *videoconferencing apparatus*” with software-based (*c.f.* hardware IMUX) expansive efficiencies. *Id.* at 1:65-2:5.

Drell discloses a method that involves facilitating a conference or video conferencing between a near conference endpoint and multiple remote endpoints via a network. The network can be internet or combination of two or more networks such as PSTN and the Internet. The near conference endpoint generates its own audio and video signals, while also receiving corresponding signals from the remote endpoints. To manage these signals, distinct processing trains are established for each remote endpoint, processing the received audio and video data. After processing, the audio and video signals from the remote endpoints are merged with the local signals of the near conference endpoint. The resulting combined audio and video signals are then transmitted back to all remote endpoints involved in the conference.

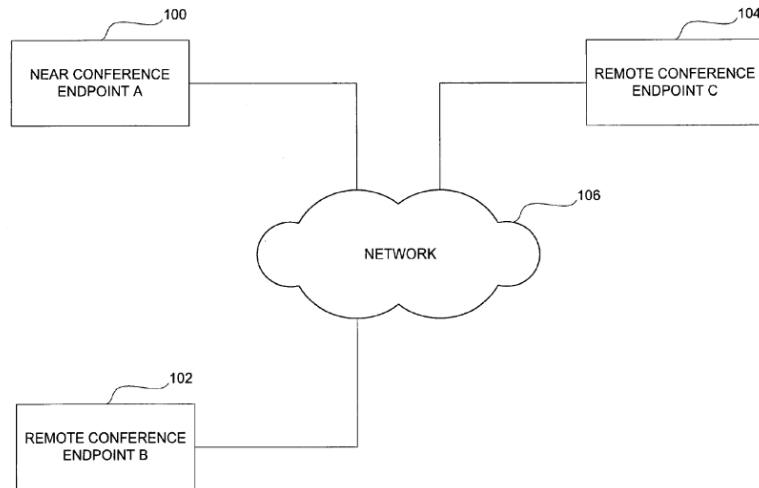


FIG. 1

While Drell refers to an audio mixer, it does not teach or disclose mixing multiple distinct sets of audio data as claimed, or indeed understand the problem associated with serving different mixed sets of audio data to appropriate participants.

Drell does not disclose any network security features or indeed any disclosure related to VPNs or VPN tunnels.

3. EX_1006 – US7180997 (“KNAPPE”)

Knappe seeks to solve a problem in the art related to audio quality on traditional conference calls. With traditional conference calls multiple speakers then to “step-on” each other “such that the resultant audio is incomprehensible.” Exhibit 1006 at 1:49-55. Thus, Knappe is directed to “enhancing the intelligibility of a moderator during a multiparty communication session.” *Id.* at 1:59-63. In other words, Knappe is directed to improving the quality of a moderator’s audio communications. Knappe neither discloses nor suggest VPN tunneling or for that

matter, any other secured form of communication.

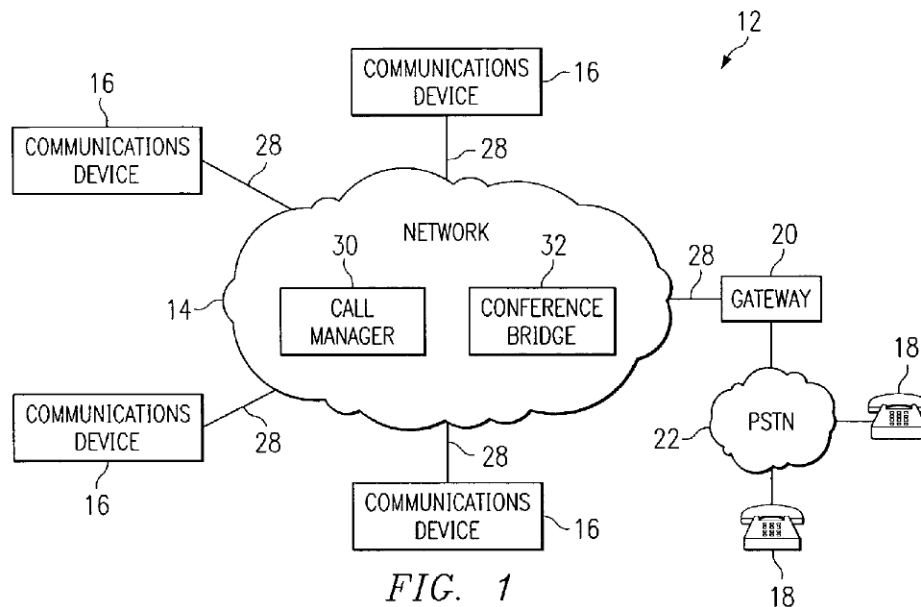
Knappe does not mix voice signals as claimed. Indeed, Petitioner notes that Knappe states “[i]f the moderator is not speaking, at step 208 the participant voice streams are transmitted to all participants.” *Id.* (citing Exhibit 1006, 9:13–15).

“[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. Exhibit 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.

Knappe thus focuses on enhancing the clarity of a moderator's speech in a multi-party communication session. It starts by automatically recognizing the moderator who initiated the session. Incoming voice streams from various participants are received alongside the moderator's voice stream. Without requiring input from any participant or the moderator during the session, the incoming participant and moderator voice streams are processed using automated techniques. This processing aims to consistently enhance the clarity of the moderator's voice stream compared to at least one of the participant voice streams, thereby ensuring improved intelligibility of the moderator's speech throughout the multi-party

communication session. Moreover, network used to connect multiple parties can be a PSTN network, Internet, WAN, LAN etc. The network is used to connect the multiple devices to each other and to standard analog telephones through a gateway and the public switched telephone network (PSTN). Gateway converts analog signals from standard telephones via PSTN into VoIP IP packets. It also transforms incoming VoIP packets from network into standard signals for destination telephone through PSTN. **It does not disclose or suggest VPNs or VPN tunnels.**



Further, the network contains a conference bridge that includes a controller, buffers, converters, normalizer, mixer, and database etc. The mixer takes input streams from participants and merges them using summers to create conference output streams for each participant in a call. Each participant has a designated summer that combines incoming audio/video streams from other participants to

produce a unified conference output stream sent back to that participant.

4. EX_1010 – (“VPN TEXTBOOK”)

VPN Textbook (Exhibit 1010) is a general-purpose textbook describing the existence of and general implementation concepts relating to the implementation of VPNs.

D. LEVEL OF ORDINARY SKILL IN THE ART

“The person of ordinary skill in the art is a hypothetical person who is presumed to have known the relevant art at the time of the invention.” Manual of Patent Examining Procedure (“MPEP”) 2141.II.C. Factors that may be considered in determining the level of ordinary skill in the art may include: (1) type of problems encountered in the art; (2) prior art solutions to those problems; (3) rapidity with which innovations are made; (4) sophistication of the technology; and (5) educational level of active workers in the field. *In re GPAC*, 57 F.3d 1573, 1579 (Fed. Cir. 1995).

Petitioners propose that “[a] person of ordinary skill in the art (‘POSITA’) as of March 2003 would have held either a bachelor’s degree in computer science, computer engineering or an equivalent with three years of experience relating to conferencing systems in packet based networks.” Petition at 8. Patent Owner disagrees with Petitioners’ proposal for a person of ordinary skill in the art (“POSITA”) because it is too specialized and would instead be properly characterized

as a person of extraordinary skill in the art. Exhibit 2001 (Dye Decl.) at ¶¶ 3-4. Patent Owner believes a POSITA would have a bachelor's degree in electrical engineering, computer science, or equivalent with two years or more of experience in computing systems development. Exhibit 2001 (Dye Decl.) at ¶3.

E. CLAIM CONSTRUCTION

In an *inter partes* review (“IPR”) filed on or after November 13, 2018, the Board construes claim terms based on their ordinary and customary meaning in accordance with *Phillips v. AWH Corporation*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). The specification is the “best source for understanding a technical term,” to be supplemented, “as needed, by the prosecution history.” *Id.* at 1315.

Various terms in the '525 Patent were construed in a related district court litigation. Exhibit 2002 (Memorandum Opinion and Order Regarding Claims Construction dated December 1, 2017). Petitioners failed to disclose Exhibit 2002, which is material to the resolution of this IPR, to the Board.

Instead, Petitioners allege that “no claim term requires express construction for the Board to evaluate the patentability of the claims.” Paper 1 (Petition) at 7-8. Patent Owner disagrees and asserts that the claim terms should be construed consistently with Exhibit 2002, and that the challenged claims clearly do not read on the prior art under the proper claim construction.

A POSITA would understand, in light of the '525 Patent and applying the *Phillips* standard, the following constructions:

“Virtual Private Network”: (VPN) a private network of securely connected appliances configured within a public network

“VPN tunnel”: a connection between two devices that permits encapsulating a first packet from one protocol in a second packet from a different protocol.

“audio-video data stream” / “audio-video audio and video data transmitted together in stream” audio and video transmitted together in a continuous fashion.

“mixed audio-video data” a mix of both audio and video data

“first mixer” a mixer that is not the second or third mixers

“second mixer” a mixer that is not the first or third mixer

“third mixer” a mixer that is not the first or second mixers

“first mixed data stream” 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

“second mixed data stream” 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

“third mixed data stream” data stream that contains a mix of both the remote client audio-video data and PSTN client audio data but not moderator audio-video data

“first mixed audio data” data that contains a mix of both the PSTN client audio data and moderator audio data but not remote client audio data

“second mixed audio data” data that contains a mix of both the moderator audio data and remote client audio data but not PSTN audio data

“third mixed audio data” data that contains a mix of both the PSTN audio data and remote client audio data but not moderator audio data

F. SUMMARY OF PATENT OWNER’S ARGUMENTS

The Board instituted *inter partes* review on claims 1-8, utilizing Drell, Knappe, Voois, Elliott, and VPN Textbook as primary references.

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

Decision Granting Institution at 6.

However, the USPTO has already determined that general VPN textbooks are not invalidating prior art, having considered during prosecution, *inter alia*, the following:

- Cisco Systems, Inc., “Multicast VPN Design Guide-Cisco Systems,” Aug. 9, 2003, 25 pgs.
- Cisco Systems, Inc., “Multicast VPN-IP Multicast Support for MPLS VPNs,” 2002, 86 pgs.
- Cisco Systems, Inc., “Networkers: Multicast Support for MPLS/BGP VPNs: RST-322,” cisco.com, 2001, 89 pgs.

’525 Patent, References Cited/Other Publications.

This is so because the principal references disclose nothing about how to

implement a VPN or VPN tunnel in a web videoconferencing network. They rely on a textbook, like a catalog of electronic components, to recreate the invention using hindsight. But that is impermissible:

Judicial hindsight must be avoided. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007) (“A factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon ex post reasoning.”). It is inappropriate to use the template provided by the inventor, to render the inventor's contribution obvious. *See Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1138 (Fed. Cir. 1985) (“The invention must be viewed not with the blueprint drawn by the inventor, but in the state of the art that existed at the time. The invention must be evaluated not through the eyes of the inventor, who may have been of exceptional skill, but as by one of ‘ordinary skill’.”).

Orexo AB v. Actavis Elizabeth LLC, 903 F.3d 1265, 1271 (Fed. Cir. 2018) (reversing and remanding finding of obviousness).

III. PATENT OWNER’S RESPONSE TO PETITIONERS’ GROUNDS OF REJECTION AND THE INSTITUTION DECISION

The Petition advances grounds of rejection that do not disclose all of the limitations of the independent claim at issue. Independent claim 1 is a system claim that recites:

1. A system for supporting a multi-participant conference call comprising:
 - 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;
 - a first transport output that transmits the first mixed data stream to at least one remote client that receives the first mixed data stream, the at least one remote client communicatively coupled to the Internet, which generates

- a remote client audio-video data stream;
- 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
- a second transport output that transmits a mixed audio data stream, corresponding to the second mixed data stream, to the PSTN client.

Exhibit 1001 ('525 Patent) at 10:2-17.

Drell and Knappe, including in combination with VPN Textbook and Elliott, Knappe and Voois, do not disclose these independent claim limitations or certain dependent claim limitations as discussed *infra*.

A. NEITHER KNAPPE NOR DRELL DISCLOSE “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” OF INDEPENDENT CLAIM 1

Knappe’s invention is focused on modifying moderator data (audio/video) by suppressing or blocking other users in the network. Moreover, it discloses a centralized system wherein processes like encoding, mixing, transmission of data to every user are done using a conference bridge and call manager.

Conversely, Drell avoids the need for a Multipoint Control Unit (MCU). Instead, it applies a mixer that blends the audio and video data from all participants, whether they are from near conference endpoint or the remote endpoints. In Drell, the near conference endpoint utilizes an application for tasks like mixing and encoding. Due to this fundamental difference, a POSITA would not be motivated to

combine Knappe with Drell. Exhibit 2001 (Dye Decl.) at ¶¶ 21-22.

Additionally, 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 may be established as a moderator. Moreover, the moderator in Knappe is simply a participant with the highest priority whereas in case of Drell, near conference endpoint 100 is a special user having a multi-party (MP) conference application, so Petitioner's assertion 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" is incorrect. The 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.

In Drell, there is only one audio mixing module 308 and video switching/continuous presence module 306 which are present in the MP conference application where audio and video data from the processing trains from the remote conference endpoints 102 and 104 are extracted, decoded, and mixed respectively using audio mixing module 308 and video switching/continuous presence module 306 and sent to the respective remote conference endpoints. Since, as per Drell's system this MP conference application is embodied by the near conference endpoint

100 which mixes and encodes the audio and video and as per Knappe's system the moderator can control the organization, flow and/or control of the conference, which is done by the near conference endpoint in Drell's system. Hence, remote conference endpoint 104 cannot be termed as a moderator endpoint.

B. NONE OF KNAPPE, DRELL AND VOOIS DISCLOSE THE "A SECOND TRANSPORT OUTPUT THAT TRANSMITS A MIXED AUDIO DATA STREAM, CORRESPONDING TO THE SECOND MIXED DATA STREAM, TO THE PSTN CLIENT." LIMITATION OF INDEPENDENT CLAIM 1

As set forth above, Drell discloses one audio mixing module 308 and video switching/continuous presence module 306 which are present in the MP conference application where audio and video data from the processing trains from the remote conference endpoints 102 and 104 are extracted, decoded, and mixed respectively using audio mixing module 308 and video switching/continuous presence module 306 and sent to the respective remote conference endpoints. Since, as per Drell's system this MP conference application is embodied by the near conference endpoint 100 which mixes and encodes the audio and video and as per Knappe's system the moderator can control the organization, flow and/or control of the conference, which is done by the near conference endpoint in Drell's system. Hence, remote conference endpoint 104 cannot be termed as a moderator endpoint.

Also in Drell, only the near conference endpoint is equipped with the multi-point conferencing application which has the audio and video mixing capability.

Whereas the petitioner has contended that the mixing of audio and video is done at near conference endpoint 100 and the moderator conference endpoint is 104 which is technically invalid as explained earlier since Knappe and Drell cannot be combined due to fundamental differences.

C. NEITHER KNAPPE NOR DRELL DISCLOSE “THE SYSTEM OF CLAIM 1 FURTHER COMPRISING A THIRD MIXER THAT MIXES THE AUDIO DATA FROM THE PSTN CLIENT WITH THE AUDIO-VIDEO DATA STREAM FROM THE REMOTE CLIENT INTO A THIRD MIXED DATA STREAM” OF DEPENDENT CLAIM 2

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.

D. NONE OF KNAPPE, ELLIOTT OR DRELL DISCLOSE THE “MIXING THE FIRST AUDIO DATA WITH THE THIRD AUDIO DATA INTO A THIRD MIXED AUDIO DATA” LIMITATION OF INDEPENDENT CLAIM 19, OR RELATED TERMS IN CLAIM 25

As discussed above, Elliot (EX_1007) and Knappe (EX_1006) cannot be properly combined, as their systems are not interoperable. Although Knappe discloses the mixing of audio and video data, it does not disclose multiple mixers of audio data.

For example, Fig. 6 discloses a hybrid data network having multiple mixers.

As explained in the specification:

FIG. 6 outlines multiple application software boundaries used to mix audio between local and remote clients in hybrid data networks as indicated by the multiple protocol boundaries **562, 564, 566**. Thus, the embodiment allows enhancements to the ability for audio video conferencing with multiple clients and the added value of dialing out to a remote telephone user located somewhere within the global dial-up network **450** (shown in FIG. **3**). Prior art techniques, such as that known in the ITU H.323 recommendations, have the compressor **522** and decompressors **524** located within the VoIP server running the H.323 network system as indicated in FIG. **2** (audio codec **211**). This poses a problem for low bit-rate networks especially when video and audio are already part of the transport data. The present embodiment uses highly compressed audio that is compressed and decompressed at the client computer. Thus, the voice over IP server can be located anywhere within the Internet **435** without concern about the limited bandwidth of the first and last mile.

'525 Patent, 9:41-58.

The district court construed each mixer to be distinct. For example, "third mixer" is a mixer that is not the first or second mixers. "Third mixed data stream" is a data stream that contains a mix of both the remote client audio-video data and PSTN client audio data but not moderator audio-video data. Petitioner does not

direct the Board to prior art that teaches or discloses distinct mixers as construed.

E. NEITHER KNAPPE NOR DRELL DISCLOSE “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.” OF DEPENDENT CLAIM 3

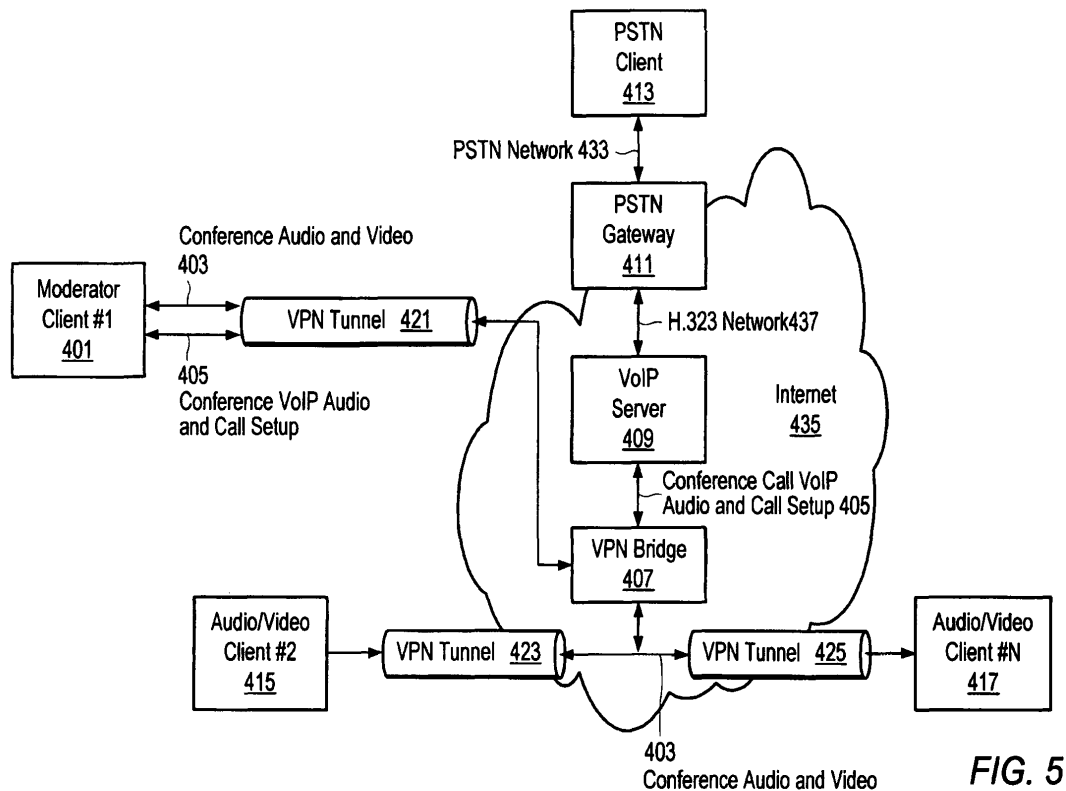
Petitioner points to the audio codec 408 of Drell to show the presence of a VOIP decoder. Because the claim requires decoding IP packets, audio codecs cannot be attributed the function of decoding IP packets as IP (internet protocol) packets contain many types of packets other than audio packets (for example, source IP address, destination IP address, etc.).

Audio codecs decode audio data in encoded format (compressed format). The 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)).

F. NEITHER KNAPPE NOR DRELL NOR ELLIOTT NOR VPN TEXTBOOK DISCLOSE THE “THE SYSTEM OF CLAIM 1 WHEREIN THE PSTN CLIENT AUDIO DATA STREAM AND THE MODERATOR AUDIO-VIDEO DATA STREAM ARE TRANSPORTED ACROSS A VIRTUAL PRIVATE NETWORK TUNNEL.” LIMITATION OF DEPENDENT CLAIM 5

The district court has construed “Virtual Private Network” (VPN) to mean a private network of securely connected appliances configured within a public network. The district court construed “VPN tunnel” to mean a connection between

two devices that permits encapsulating a first packet from one protocol in a second packet from a different protocol.



Petitioner has broken the complete claim element into two parts. The element is “receiving first audio data, first video data, and first collaboration data at a server from a first remote client through a first Virtual Private Network (VPN) tunnel.”

Moreover, as previously discussed, Knappe discloses conference scenarios involving the simultaneous connection of multiple participants—more than two—within a unified call. In contrast, Elliot's disclosure pertains solely to isolated interactions. The limitation regarding provision of a VPN tunnel to protect *mixed*

audio is taught by neither reference. Although Elliot 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. Elliott, 4:6-19.

Conversely, the mechanism detailed in 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 Public Switched Telephone Network (PSTN) client.

Given this intricate decryption and sharing process, combining either Drell's or Knappe's teaching with Elliot's is inherently unsuitable for these limitations. In Elliot, secure audio data remains between the end user and call center whereas the ’525 Patent share the data secured between local moderator and remote client via VPN tunnel is decrypted and shared to the PSTN client. Additionally, the ’525 Patent is employing a VPN bridge which creates a secure environment for multi-party conference call in which secured data through VPN tunnel is decrypted and shared with a third party (PSTN client) as required in the claim which is not present in any of the prior arts even by combining it with Elliot.

Furthermore, it is crucial to distinguish between a VPN and a VPN tunnel, which Petitioner fails to do.

Petitioner appears to apply an overly simplistic construction of VPN tunneling, as

merely meaning a “secure” connection.

A VPN should be construed as “a private network of securely connected appliances configured within a public network.” That is not shown by Knappe, Elliott or Drell; in Elliott, the VPN is mentioned only in the context of network 18, which is unrelated to audio communication.

A VPN tunnel, on the other hand, envisions multiple protocols transmitted on the channel, and is construed to mean “a connection between two devices that permits encapsulating a first packet from one protocol in a second packet from a different protocol.” Exhibit 2002. For example, in the context of Fig. 4, a VPN tunnel is disclosed as enabling the use of a “multicast protocol,” resulting in the use of less bandwidth.

FIG. 4 illustrates one embodiment of the present invention. The system of FIG. 4 performs audio transport between multiple client groups who all share the same multicast group address such that audio/video and data may be shared interactively without the need of central servers. Multicast protocol and encapsulated media packets are implemented so that media data may be routed through public or private IP networks without the need for special hardware and software during the majority of the network transport. FIG. 4 shows a system of virtual networks that interconnect as a virtual private network 423. Each VPN tunnel can be connected in a series or star topology between one or more multicasting appliances 447-457. One or more central servers or VPN bridge(s) 407 are at the center of the network topology. Multicasting enabled appliances 447, 449, 451, 453, 455, and 457 are used at the origination or termination points for audio, video, or data (media data) to and from the backbone of the transport path. PSTN gateways are used to provide "points of presence" throughout and are responsible for origination or termination of audio data on and off of the PSTN from the IP network topology. Multicast enabled routing allows remote clients to be PC's or PSTN gateways which become "Listeners" of media data. Thus, media data is presented or broadcast onto a network with one or more group addresses. This method uses less bandwidth and reduces latency during transport.

'525 Patent, 5:36-61.

In summary, a VPN tunnel as recited in claim 5 is not disclosed or suggested for mixed audio data by the art of record.

Petitioner propose 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 conference call application. 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.

To illustrate this distinction further, consider a scenario where Company A maintains its internal server and has subscribed to the multi-party conference call

services offered by companies such as Zoom and Microsoft Teams. In this setup, Company A's employees, located at various remote sites, connect to the conference call application (e.g., Zoom, Teams) through a conferencing server provided by external entities like Zoom or Microsoft, distinct from Company A. This external conferencing server performs mixing of audio data and facilitating the conference call. The connection of this conferencing server (an external entity) provided by companies like Zoom or Microsoft with the VPN central hub is fundamentally different from the connection between Company A's internal server and the VPN central hub. These are two separate and distinct implementations.

Additionally, the limitation requires the combination or handling of both PSTN and IP data. Petitioner's reference to a textbook passage regarding "hub-and-spoke" topology would not enable the central hub to manage PSTN data effectively.

G. NONE OF KNAPPE, DRELL OR VOOIS DISCLOSE "THE SYSTEM OF CLAIM 5 FURTHER COMPRISING A VOIP ENCODER THAT ENCODES THE SECOND MIXED DATA STREAM AND ENCODES THE SECOND MIXED VOICE DATA BEFORE TRANSMITTING THE SECOND MIXED DATA STREAM TO THE PSTN CLIENT" OF DEPENDENT CLAIM 6

Knappe's invention is focused on modifying moderator data (audio/video) intelligently by suppressing or blocking other users in the network. Moreover, it discloses a centralized system wherein processes like encoding, mixing, transmission of data to every user etc. are done at the network using conference

bridge and call manager. For Knappe, every participant is same and only difference is in their priority. Whereas the Voois's system discloses videoconferencing device through which a conference call is initiated to other remote devices and controlled. Audio and video data generated locally at the initiator device is mixed and encoded with the received audio and video data from the remote conferencing devices. Hence, Knappe's system and Voois's system are fundamentally different from each other which couldn't be combined.

Conversely, Drell avoids the need for a Multipoint Control Unit (MCU). Instead, it employs a straightforward method where a mixer blends the audio and video data from all participants, whether they are from near conference endpoint or the remote endpoints. In the Drell model, the near conference endpoint utilizes an application for tasks like mixing and encoding. **Due to this fundamental difference, Knappe's design lacks the motivation to be integrated with the Drell approach.**

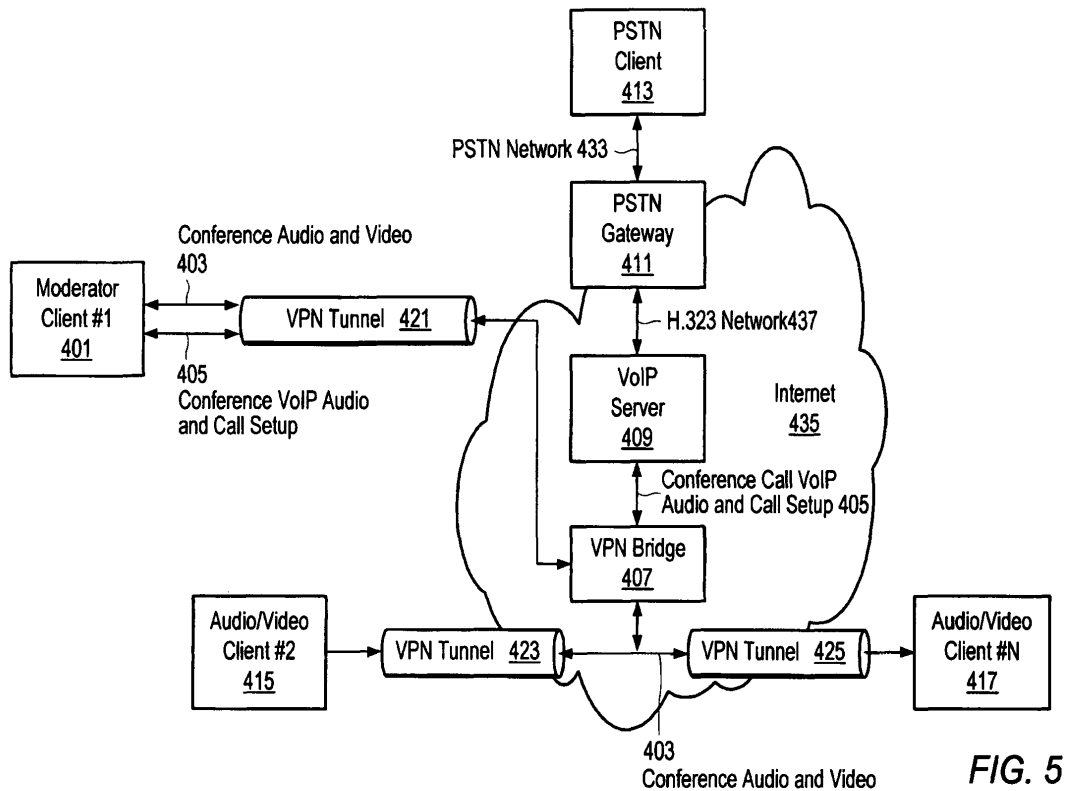
In Drell, only the near conference endpoint is equipped with the multi-point conferencing application which has the audio and video mixing capability. Whereas the petitioner has contended that the mixing of audio and video is done at near conference endpoint 100 and the moderator conference endpoint is 104 which is technically invalid as explained earlier since, Knappe's system and Drell's system

couldn't be combined due to fundamental differences.

Moreover, two separate encoding processes are performed; one on the second mixed data stream and other one is on the mixed audio/voice data. However, none of the references, even in combination, disclose two different encoding for the same mixed audio data.

H. NONE OF KNAPPE, DRELL AND VPN TEXTBOOK DISCLOSE THE “THE SYSTEM OF CLAIM 1 WHEREIN THE MODERATOR AUDIO-VIDEO DATA STREAM AND THE REMOTE CLIENT AUDIO-VIDEO DATA STREAM ARE TRANSPORTED ACROSS A VIRTUAL PRIVATE NETWORK TUNNEL.” LIMITATION OF DEPENDENT CLAIM 7

The district court has construed “Virtual Private Network” (VPN) to mean a private network of securely connected appliances configured within a public network. The district court construed “VPN tunnel” to mean a connection between two devices that permits encapsulating a first packet from one protocol in a second packet from a different protocol.



Petitioner has broken the complete claim element into two parts. The element is “receiving first audio data, first video data, and first collaboration data at a server from a first remote client through a first Virtual Private Network (VPN) tunnel.”

Moreover, as previously discussed, Knappe discloses conference scenarios involving the simultaneous connection of multiple participants—more than two—within a unified call. In contrast, Elliot's disclosure pertains solely to isolated interactions. The limitation regarding provision of a VPN tunnel to protect *mixed audio* is taught by neither reference. Although Elliot 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. Elliott, 4:6-19.

Conversely, the mechanism detailed in 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 Public Switched Telephone Network (PSTN) client.

Given this intricate decryption and sharing process, combining either Drell’s or Knappe’s teaching with Elliot’s is inherently unsuitable for these limitations. In Elliot, secure audio data remains between the end user and call center whereas the in the ’525 Patent, the data secured between local moderator and remote client via VPN tunnel is decrypted and shared to the PSTN client. Additionally, the ’525 Patent employs a VPN bridge which creates a secure environment for multi-party conference call in which secured data through VPN tunnel is decrypted and shared with a third party (PSTN client) as required in the claim which is not present in any of the prior arts even by combining it with Elliot.

Furthermore, it is crucial to distinguish between a VPN and a VPN tunnel, which Petitioner fails to do.

Petitioner appears to apply an overly simplistic construction of VPN tunneling, as merely meaning a “secure” connection.

A VPN should be construed as “a private network of securely connected

appliances configured within a public network.” That is not shown by Knappe, Elliott or Drell; in Elliott, the VPN is mentioned only in the context of network 18, which is unrelated to audio communication.

A VPN tunnel, on the other hand, envisions multiple protocols transmitted on the channel, and is construed to mean “a connection between two devices that permits encapsulating a first packet from one protocol in a second packet from a different protocol.” Exhibit 2002. For example, in the context of Fig. 4, a VPN tunnel is disclosed as enabling the use of a “multicast protocol,” resulting in the use of less bandwidth.

FIG. 4 illustrates one embodiment of the present invention. The system of FIG. 4 performs audio transport between multiple client groups who all share the same multicast group address such that audio/video and data may be shared interactively without the need of central servers. Multicast protocol and encapsulated media packets are implemented so that media data may be routed through public or private IP networks without the need for special hardware and software during the majority of the network transport. FIG. 4 shows a system of virtual networks that interconnect as a virtual private network 423. Each VPN tunnel can be connected in a series or star topology between one or more multicasting appliances 447-457. One or more central servers or VPN bridge(s) 407 are at the center of the network topology. Multicasting enabled appliances 447, 449, 451, 453, 455, and 457 are used at the origination or termination points for audio, video, or data (media data) to and from the backbone of the transport path. PSTN gateways are used to provide “points of presence” throughout and are responsible for origination or termination of audio data on and off of the PSTN from the IP network topology. Multicast enabled routing allows remote clients to be PC’s or PSTN gateways which become “Listeners” of media data. Thus, media data is presented or broadcast onto a network with one or more group addresses. This method uses less bandwidth and reduces latency during transport.

’525 Patent, 5:26-61.

In summary, a VPN tunnel as recited in claim 7 is not disclosed or suggested

for mixed audio data by the art of record.

IV. CONCLUSION

Patent Owner has shown that Petitioners' proposed grounds of unpatentability fail because they utilize combinations of references that do not disclose or suggest each and every limitation as recited by the '525 Patent claims. For at least the foregoing reasons, the Petition's grounds for unpatentability are legally deficient and claims 1-8 of the '525 Patent should be confirmed under 35 U.S.C. § 316.

Date: October 16, 2023

Respectfully submitted,

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CERTIFICATE OF WORD COUNT UNDER 37 C.F.R. § 42.24(b)(2)

I, the undersigned, do hereby certify that the foregoing Patent Owner Response, including footnotes, contains 6,169 words, as measured by the Word Count function of Word 2007. This is less than the limit of 14,000 words as specified by 37 C.F.R. § 42.24(b)(2).

/s/ Andrew G. DiNovo
Andrew G. DiNovo

CERTIFICATE OF SERVICE

I hereby certify that on October 16, 2023, a true and correct copy of the foregoing PATENT OWNER MEETRIX IP, LLC'S RESPONSE UNDER 37 C.F.R. § 42.120 was served by electronic mail upon the following counsel of record for Petitioners:

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