

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 IPR2023-00371
Patent 8,339,997

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

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E. Neither Knappe nor Elliott disclose the “the telephone participant providing conference ID information;” limitation of independent claim 1 22

F. Neither Knappe nor Elliott disclose the “the gateway server establishing communication with a conferencing server;” limitation of independent claim 1 23

G. Knappe does not disclose the “authenticating the telephone participant;” limitation of independent claim 1 23

H. Neither Knappe nor de Moraes nor Elliott disclose the “wherein the gateway server is operable to use the multicast group information to enable the telephone participant to participate in the multi-participant video conference.” limitation of independent claim 1 24

I. Neither Knappe nor de Moraes nor Shepherd disclose the “the method of claim 1, wherein the telephone participant participating in the multi-participant video conference comprises: encapsulating the multicast IP packet as a unicast packet;” limitation of dependent claim 2 25

J. Neither Knappe nor Shepherd disclose the “transmitting the unicast packet over the virtual private networks across the internet between one or more appliances;” limitation of

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EXHIBIT LIST

Previously Filed – Petitioners

Ex. No.	Description
1001	U.S. Patent No. 8,339,997 (“the ’997 patent”)
1002	Patent Assignments for the ’997 patent
1003	Declaration of Dr. Henry H. Houh
1004	<i>Curriculum Vitae</i> for Dr. Henry H. Houh
1005	File History of Application No. 12/646,892 (the ’892 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”)
1009	U.S. Patent No. 6,701,434 (“Hoke”)
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 (Freedman)
1028	RFC 760

1029	RFC 791
1030	RFC 1112
1031	RFC 2401
1032	RFC 2406
1033	H.323 Standard
1034	U.S. Patent No. 7,281,058 (“Shepherd”)
1035	U.S. Provisional Patent Application No. 60/453,307
1037	Declaration of C.J. Alice Chuang
1039	Declaration of Carolyn Chang
1040	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

“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 1-10 of the ’997 Patent.¹

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 1-10 of the ’997 Patent are not invalid based

¹ While Petitioner’s petition begins by requesting *inter partes* review of claims 1-18 of the ’997 patent, it only analyzes challenges to claims 1-10. The board recognizes this discrepancy and only considers claims 1-10 in its Decision Granting Institution – see Paper 6 at FN 1.

upon the instituted grounds of rejection.

B. OVERVIEW OF THE '997 PATENT

The technology of the '997 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. 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 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 (“ELLIOTT”)

Elliot is a technological improvement to call center technology collaboration. Exhibit 2001 (“Dye Declaration” or “Dye Decl.”) at ¶8. 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.

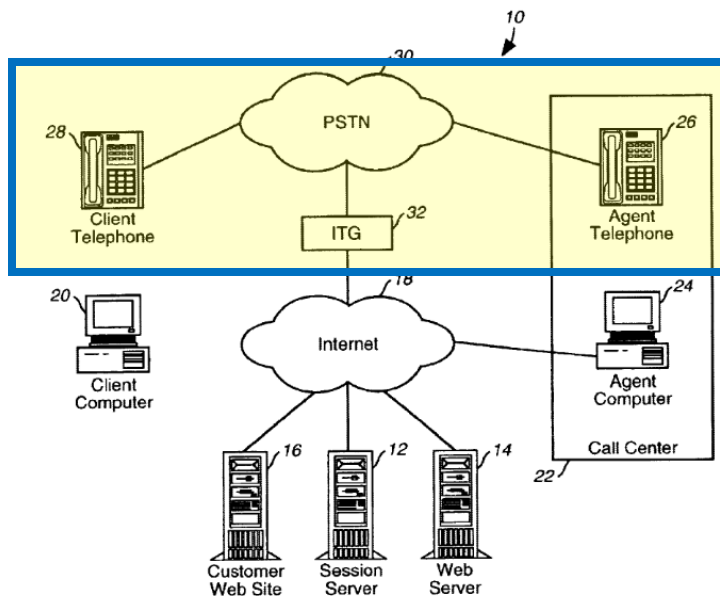


FIG. 1

Elliott 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.**

Elliott 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.

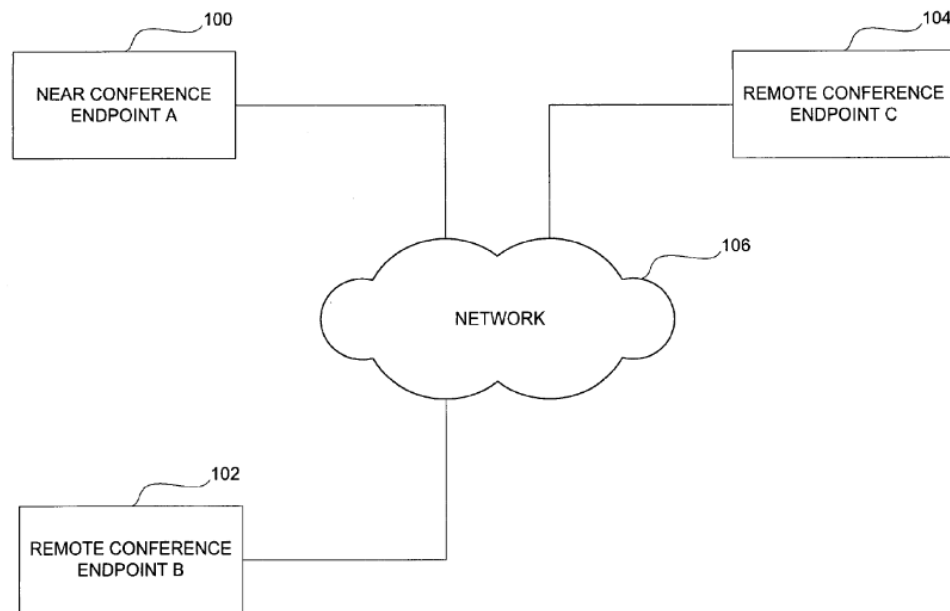


FIG. 1

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 suggests VPN tunneling or for that matter, any other secured form of communication.

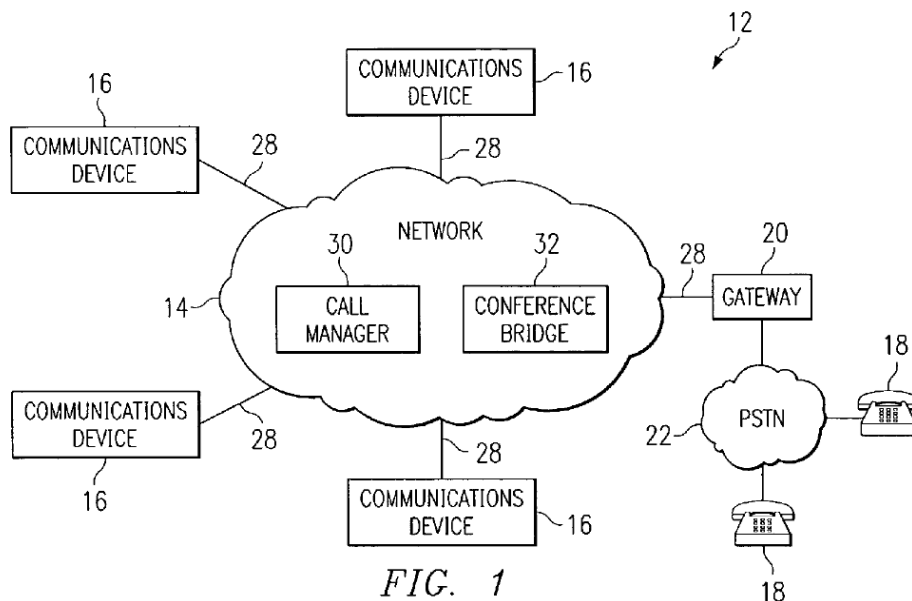
Knappe does not mix voice signals as claimed. Indeed, Petitioner notes that Knappe states “[i]f the moderator is not speaking, at step 208 the participant voice streams are transmitted to all participants.” *Id.* (citing Exhibit 1006, 9:13–15).

“[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, the 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 or an equivalent with three years of experience relating to conferencing systems in packet based networks.” Petition at 10. 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 '997 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 '997 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 1-10, utilizing Knappe, Elliott, VPH Textbook, de Moraes, and Shepherd as primary references.

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1, 3–7	103 ²	Knappe, ³ Elliott, ⁴ VPN Textbook, ⁵ de Moraes ⁶
2, 8–10	103	Knappe, Elliott, VPN Textbook, de Moraes, Shepherd ⁷

Decision Granting Institution at 7.

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.

’997 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 teach or suggest all of the limitations of the independent claims at issue. Independent claim 1 is a method claim that recites:

1. A method for adding a telephone participant to a multi-participant audio-video conference, the method comprising:

sending a first message to each of a plurality of multicast appliances over the Internet, wherein the first message comprises a group address which identifies a plurality of participants;

each of the multicast appliances receiving the first message;

establishing a plurality of virtual private networks across the Internet routes between the multicast appliances;

enabling at least one of the participants to communicate in the multi-participant video conferences;

the telephone participant joining the multi-participant video conference, wherein said joining comprises:

the telephone participant calling into a gateway server;

the telephone participant providing conference ID information;

the gateway server establishing communication with a conferencing server;

authenticating the telephone participant; and

transmitting multicast group information to the gateway server;

wherein the gateway server is operable to use the multicast group information

to enable the telephone participant to participate in the multi-participant video conference.

Exhibit 1001 ('997 Patent) at 10:64-11:23.

Independent claim 3 is a method claim that recites:

3. A method for adding a telephone participant to a multi-participant audio-video conference comprising:

sending a first message to each of a plurality of multicast appliances over the Internet, wherein the first message comprises a group address which identifies the participants;

each of the multicast appliances receiving the first message;

establishing a plurality of virtual private networks across the Internet routes between the multicast appliances;

enabling at least one of the participants to communicate in the multi-participant video conferences;

the telephone participant joining the multi-participant video conference, wherein said joining comprises:

the telephone participant providing conference ID information;

authenticating the telephone participant; and

the telephone participant participating in the multi-participant video conference comprises:

the telephone participant speaking in the video conference; and

generating digital voice data in response to the telephone participant speaking.

Exhibit 1001 ('997 Patent) at 11:43-65.

Knappe and Elliott, including in combination with VPN Textbook, de Moraes and Shephard, do not disclose these independent claim limitations or certain

dependent claim limitations as discussed *infra*.

A. NEITHER KNAPPE NOR DE MORAES DISCLOSE THE “SENDING A FIRST MESSAGE TO EACH OF A PLURALITY OF MULTICAST APPLIANCES OVER THE INTERNET, WHEREIN THE FIRST MESSAGE COMPRISES A GROUP ADDRESS WHICH IDENTIFIES A PLURALITY OF PARTICIPANTS;” LIMITATION OF INDEPENDENT CLAIM 1

Knappe discloses identification of individual participants using a called number or other unspecified criteria. Exhibit 1006 at 5:27-29. Knappe is not focused on efficiency because it is directed to modifying moderator data (audio/video) by suppressing or blocking other users in the network. Any message (if any) is sent unicast as each participant has different identification, therefore one single message cannot be transmitted to multiple participants and each participant receives a different message.

De Moraes discloses a very simple method of conducting an audio and image sharing using multicast addressing defined in RFC 1112. But several key features, including the nature of any message and its contents, are not disclosed. Consider the

'997 Patent specification:

20 In one embodiment, the method for adding a telephone
participant to a multi-participant video conference operates
as follows. A first message is sent to each of a plurality of
multicast appliances over the Internet, wherein the first mes-
sage comprises a group address which identifies participants.
25 Each of the multicast appliances receives the first message. A
plurality of virtual private networks are then established
across the Internet between the multicast appliances. As a
result, one or more of the participants are able to communi-
cate in the multi-participant video conference. The telephone
30 participant then joins the multi-participant video conference
wherein this comprises a first participant contacting the tele-
phone participant; establishing a phone number with a VoIP
server; the VoIP server communicating with a gateway to call
the telephone participant; and the telephone participant par-
35 ticipating in the multi-participant video conference.

'997 Patent, 4:20-36.

Neither Knappe nor De Moraes teach the claimed messaging, including identifying the group participants. Nor does the combination disclose adding a telephone participant using a group address. Hence, both Knappe and De Moraes, even in combination, lack the essential information necessary to satisfy the criteria delineated in claim 1.

B. NEITHER KNAPPE NOR DE MORAES DISCLOSE “EACH OF THE MULTICAST APPLIANCES RECEIVING THE FIRST MESSAGE;” OF INDEPENDENT CLAIM 1

Because Knappe and De Moraes do not, even taken together, teach or disclose “sending a first message” to each of a plurality of multicast appliances, neither do they teach or disclose a plurality of multicast appliances receiving that message in

claim 1.

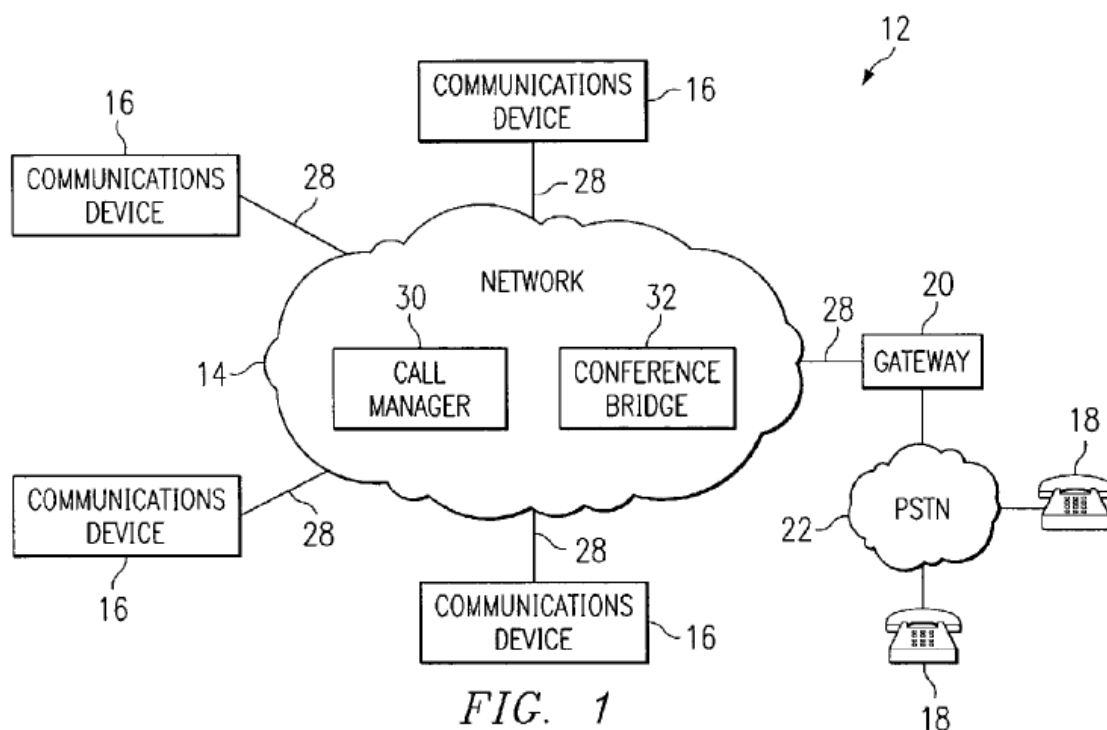
C. NEITHER KNAPPE NOR DE MORAES NOR ELLIOTT NOR VPN TEXTBOOK DISCLOSE THE “ESTABLISHING A PLURALITY OF VIRTUAL PRIVATE NETWORKS ACROSS THE INTERNET ROUTES BETWEEN THE MULTICAST APPLIANCES;” LIMITATION OF INDEPENDENT CLAIM 1

As set forth above, neither Knappe nor De Moraes describe the generation of a network of multicast appliances using the claimed messaging. They also do not disclose VPN internet routes between the multicast appliances—indeed, De Moraes teaches the use of tunnels without VPNs, teaching away from the claimed element. Exhibit 1022 at 6 (claiming packets in the network “look like normal unicast packets.”)

D. KNAPPE DOES NOT DISCLOSE THE “THE TELEPHONE PARTICIPANT CALLING INTO A GATEWAY SERVER” LIMITATION OF INDEPENDENT CLAIM 1

Petitioner asserts that “gateway” referenced in Knappe and gateway server in the '997 Patent are the same structure. The gateway of Knappe is depicted simply

as shown in Fig. 1:



Knappe describes the gateway as performing the functions of converting analog to digital, VOIP and other protocols. It is not a server. Knappe, 4:18-28.

Knappe's gateway and the claimed gateway server are two different capability devices. Exhibit 2001 (Dye Decl.) at ¶25. A gateway is a basic component in networking, serving as a bridge between different networks. Its primary purpose is to translate and facilitate data flow between networks that employ different protocols or formats. Gateways handle tasks like protocol translation, data encapsulation, and routing, allowing disparate networks to communicate effectively. For instance, a home router connecting a local area network to the internet functions as a gateway,

enabling devices within the network to access online resources. Another example could be converting an analog data from PSTN telephone to digital IP data as defined by Knappe.

Unlike a gateway, a gateway server operates on a server-class computer and combines the functions of a gateway with server capabilities. It not only manages communications between diverse networks but also hosts applications, provides security features, and offers services such as caching, load balancing, or authentication. For example, gateway servers manage encryption, authentication, and authorization protocols to secure data transmission. Access control mechanisms ensure that only authorized users can join the conference, preventing unauthorized access. Other examples of gateway servers include an email gateway, regulating the flow of emails between an internal network and the external internet, or it could serve as a proxy server, overseeing internet access for clients within an organization. In essence, a gateway server enhances traditional gateway functionality by incorporating server-related services and applications into its role. Exhibit 2001 (Dye Decl.) at ¶25.

Additionally, according to Knappe, during any conference call, a call initiation request is first sent to the call manager when a call is placed over the network. The call initiation request is generated by a communication device and/or the gateway for telephones. Therefore, PSTN telephone calls to the network/call

manager and not to the gateway server. Knappe, 4:29-57.

E. NEITHER KNAPPE NOR ELLIOTT DISCLOSE THE “THE TELEPHONE PARTICIPANT PROVIDING CONFERENCE ID INFORMATION;” LIMITATION OF INDEPENDENT CLAIM 1

To argue the presence of the claimed conference ID, Petitioner has combined Knappe and Elliott (EX_1007). Knappe teaches facilitating a conference or video or audio conferencing between communication devices including PSTN clients via a network, whereas Elliott discloses a method and system for efficient communication with multiple remote parties separated by a network, enabling multimedia collaboration. In the system, 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 independent communication.

In Elliott, audio data is communicated the end user and call center, whereas in the claimed configuration, the data secured between local moderator and remote client via VPN is decrypted and shared to the PSTN client. Moreover, the session ID of Elliott is different for each participant and specific to one-to-one session between the call centre and one of the participants, the conference ID is consistent for a multicast video conferencing between multiple users. Hence, the session ID of

Elliott cannot be used to show the conference ID present in the element.

F. NEITHER KNAPPE NOR ELLIOTT DISCLOSE THE “THE GATEWAY SERVER ESTABLISHING COMMUNICATION WITH A CONFERENCING SERVER;” LIMITATION OF INDEPENDENT CLAIM 1

As set forth above, “gateway” and “gateway server” are not interchangeable. Because there is no “gateway server” in the claimed combination, this element is not shown.

G. KNAPPE DOES NOT DISCLOSE THE “AUTHENTICATING THE TELEPHONE PARTICIPANT;” LIMITATION OF INDEPENDENT CLAIM 1

Knappe teaches identifying a participant using phone number or caller ID. Petitioner argues that Knappe performs a verification of telephone’s participant and uses it as authentication method, but petitioner fails to provide evidence of any regarding verification method. Additionally, the claim element requires authentication of the telephone participant. **Identification** and **authentication** are two distinct concepts in the realm of information security and access control. Identification refers to the process of providing a unique label or username to a user, system, application, or any entity seeking access to a computer system or network. It is essentially claiming an identity, such as a username or phone number. Identification alone doesn't guarantee the legitimacy of the person or entity; it merely establishes a digital or physical identity within the system.

Authentication, on the other hand, is the process of verifying the claimed

identity of an entity. It ensures that the person or system trying to access the data or resources is indeed who or what they claim to be. Authentication methods commonly include passwords, PINs, security tokens, or other multi-factor authentication techniques. The authentication process checks the provided credentials against stored records to confirm the identity. Hence, Knappe only discloses information regarding identification and fails to perform authentication.

H. NEITHER KNAPPE NOR DE MORAES NOR ELLIOTT DISCLOSE THE “WHEREIN THE GATEWAY SERVER IS OPERABLE TO USE THE MULTICAST GROUP INFORMATION TO ENABLE THE TELEPHONE PARTICIPANT TO PARTICIPATE IN THE MULTI-PARTICIPANT VIDEO CONFERENCE.” LIMITATION OF INDEPENDENT CLAIM 1

As set forth above, neither Knappe nor Elliott teach a gateway server.

Moreover, De Moraes’s teaching is inconsistent with the PSTN network or PSTN telephones. As set forth in De Moraes, “A participating workstation should have audio coding hardware plus software for compression to 32-Kb/sADPCM,13-Kb/sGSM,or 4.8 Kb/s LPC.”

Thus, the claimed combination, even if properly combined (which is impossible considering the requirements of De Moraes’s system), omit crucial information regarding the transmission of multicast data within a network that incorporates the PSTN infrastructure. To be more precise, De Moraes overlooks the inclusion of any PSTN telephones and handling of multicast group information by

the gateway server. Hence, it lacks the relevant information, in combination with Knappe, to disclose the claim element.

In summary, Knappe does not disclose a gateway server. Additionally, although De Moraes' work transmits via multicast, it does not teach incorporating PSTN telephones into conference calls.

I. NEITHER KNAPPE NOR DE MORAES NOR SHEPHERD DISCLOSE THE “THE METHOD OF CLAIM 1, WHEREIN THE TELEPHONE PARTICIPANT PARTICIPATING IN THE MULTI-PARTICIPANT VIDEO CONFERENCE COMPRISES: ENCAPSULATING THE MULTICAST IP PACKET AS A UNICAST PACKET;” LIMITATION OF DEPENDENT CLAIM 2

De Moraes' discussion lacks analysis of the Public Switched Telephone Network (PSTN) or PSTN telephones, thereby omitting crucial information essential for understanding the transmission of multicast data within a hybrid network incorporating PSTN infrastructure. Specifically, De Moraes fails to address the inclusion of PSTN telephones capable of facilitating the transfer of multicast group address. Moreover, De Moraes' design fails to specify whether the configuration of multicast IP packets occurs at the gateway.

Shepherd focuses on the delivery and reception of multicast content across unicast networks, addressing the challenge of enabling destination devices in a computer network to receive content delivered as multicast packets. In this system, a destination device intending to join a multicast group associated with specific

content sends a multicast join message to a local router. If the attempt to join the multicast group fails due to non-multicast-enabled routes, the destination device can send a unicast request message marked for interception by intermediate network devices like multicast-enabled routers. This message contains essential information, including the group address, source device address, and delivery mode indication. The multicast-enabled router intercepts the unicast request, processes it, and delivers the multicast packets as unicast packets to the requesting device.

Shepherd's relevance to the realm of videoconferencing or conferencing is notably absent, as it solely focuses on the transmission of multicast packets within a unicast network. Moreover, it fails to address the intricate process of handling data from PSTN telephones, which operate independently of the internet. This significant gap in Shepherd's scope underscores its lack of synergy with Knappe. The absence of any substantial connection to the videoconferencing domain, coupled with its disregard for essential aspects like PSTN data handling, diminishes Shepherd's applicability and motivation to be integrated with Knappe's framework. Therefore, the element "encapsulating the multicast IP packet as a unicast packet" cannot be evaluated in isolation. The method prescribed for encapsulation must align with the intricacies of videoconferencing technology. To elaborate further, it is crucial to consider the source of data, which, in this case, originates from the PSTN telephone. The proposed technique of encapsulating the multicast IP packet as a unicast packet

specifically pertains to PSTN telephones engaged in a conference call which petitioner fails to disclose in Shepherd.

**J. NEITHER KNAPPE NOR SHEPHERD DISCLOSE THE
“TRANSMITTING THE UNICAST PACKET OVER THE
VIRTUAL PRIVATE NETWORKS ACROSS THE
INTERNET BETWEEN ONE OR MORE APPLIANCES;”
LIMITATION OF DEPENDENT CLAIM 2**

Shepherd focuses on the delivery and reception of multicast content across unicast networks, addressing the challenge of enabling destination devices in a computer network to receive content delivered as multicast packets. In this system, a destination device intending to join a multicast group associated with specific content sends a multicast join message to a local router. If the attempt to join the multicast group fails due to non-multicast-enabled routes, the destination device can send a unicast request message marked for interception by intermediate network devices like multicast-enabled routers.

Shepherd's relevance to the realm of videoconferencing or conferencing is notably absent, as it solely focuses on the transmission of multicast packets within a unicast network. Moreover, it fails to address the intricate process of handling data from PSTN telephones, which operate independently of the internet. This significant gap in Shepherd's scope underscores its lack of synergy with Knappe. The absence of any substantial connection to the videoconferencing domain, coupled with its disregard for essential aspects like PSTN data handling, diminishes Shepherd's

applicability and motivation to be integrated with Knappe's framework.

Additionally, Shepherd's disclosure lacks any reference to the use of a VPN (Virtual Private Network) for PSTN networks and telephones. The unicast packets are, essentially, transmitted by the PSTN telephone as discussed above and in previous elements as well. The absence of any mention of VPN implementation for data transmitted through PSTN phones in Shepherd's explanation is a substantial gap. Hence, Shepherd lacks the sufficient information required to completely disclose the claim element.

K. NEITHER KNAPPE NOR SHEPHERD NOR DE MORAES DISCLOSE “ONE OR MORE OF THE APPLIANCES DETERMINING THE MULTICAST DATA FROM THE UNICAST PACKET” OF DEPENDENT CLAIM 2

Firstly, De Moraes' discussion fails to encompass the PSTN network or PSTN telephones, omitting crucial information regarding the transmission of multicast data within a network that incorporates the PSTN infrastructure.

Secondly, Shepherd focuses on the delivery and reception of multicast content across unicast networks, addressing the challenge of enabling destination devices in a computer network to receive content delivered as multicast packets. In this system, a destination device intending to join a multicast group associated with specific content sends a multicast join message to a local router. If the attempt to join the multicast group fails due to non-multicast-enabled routes, the destination device can send a unicast request message marked for interception by intermediate network

devices like multicast-enabled routers.

Shepherd is not directed to videoconferencing or even conferencing, as it solely focuses on the transmission of multicast packets within a unicast network. Moreover, it fails to address the intricate process of handling data from PSTN telephones, which operate independently of the internet. This significant gap in Shepherd's scope underscores its lack of synergy with Knappe. The absence of any substantial connection to the videoconferencing domain, coupled with its disregard for essential aspects like PSTN data handling, diminishes Shepherd's applicability and motivation to be integrated with Knappe's framework.

According to Petitioner in claim 1, communication devices (16) are classified as appliances. Neither De Moraes nor Shepherd teach the determination of multicast data from unicast data performed by communication devices at the user end. Instead, both sources refer to routers for this purpose, positioning them somewhere between end user devices or communication devices (16). Hence, both De Moraes and Shepherd fails to disclose this element.

**L. NEITHER KNAPPE NOR SHEPHERD NOR DE MORAES DISCLOSE THE “THE APPLIANCES PROVIDING THE MULTICAST DATA TO EACH OF THE OTHER PARTICIPANTS IN THE GROUP ADDRESS.”
LIMITATION OF DEPENDENT CLAIM 2**

Firstly, De Moraes' discussion fails to encompass the PSTN network or PSTN telephones, omitting crucial information regarding the transmission of multicast data

within a network that incorporates the PSTN infrastructure.

Secondly, Shepherd focuses on the delivery and reception of multicast content across unicast networks, addressing the challenge of enabling destination devices in a computer network to receive content delivered as multicast packets. In this system, a destination device intending to join a multicast group associated with specific content sends a multicast join message to a local router. If the attempt to join the multicast group fails due to non-multicast-enabled routes, the destination device can send a unicast request message marked for interception by intermediate network devices like multicast-enabled routers.

Shepherd is not directed to videoconferencing or conferencing. Moreover, it fails to address the intricate process of handling data from PSTN telephones, which operate independently of the internet. This significant gap in Shepherd's scope underscores its lack of synergy with Knappe. The absence of any substantial connection to the videoconferencing domain, coupled with its disregard for essential aspects like PSTN data handling, diminishes Shepherd's applicability and motivation to be integrated with Knappe's framework.

According to Petitioner in claim 1, communication devices (16) are classified as appliances. Neither De Moraes nor Shepherd teach the determination of multicast data from unicast data performed by communication devices at the user end. Instead, both sources refer to routers for this purpose, positioning them somewhere between

end user devices or communication devices (16). Hence, both De Moraes and Shepherd fails to disclose this element.

M. DE MORAES DOES NOT DISCLOSE THE “CONFIGURING THE IP PACKET WITH A GROUP ADDRESS ACCORDING TO A MULTICAST PROTOCOL TO CREATE A MULTICAST IP PACKET.” LIMITATION OF DEPENDENT CLAIM 7

De Moraes excludes the Public Switched Telephone Network (PSTN) or PSTN telephones, thereby omitting crucial information essential for understanding the transmission of multicast data within a network incorporating PSTN infrastructure. Specifically, De Moraes fails to address the inclusion of PSTN telephones capable of facilitating the transfer of multicast group address. Moreover, De Moraes' design fails to specify whether the configuration of multicast IP packets occurs at the gateway.

In summary, De Moraes does not teach multicast's potential utility in incorporating PSTN telephones into conference calls.

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 '997 Patent claims. For at least the foregoing reasons, the Petition's grounds for unpatentability are legally deficient and claims 1-10 of the '997 Patent should be confirmed under 35

U.S.C. § 316.

Date: October 16, 2023

Respectfully submitted,

/s/ Andrew G. DiNovo

Andrew G. DiNovo

Reg. No. 40,115

DiNovo Price LLP

7000 North MoPac Expressway

Suite 350

Austin, TX 78731

Telephone: (512) 539-2632

Facsimile: (512) 539-2627

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 6,148 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:

Hector J. Ribera
C.J. Alice Chuang
Carolyn Chang
Ryan J. Marton
Marton Ribera Schumann & Chang LLP
548 Market St., Suite 36117
San Francisco, CA 94104
hector@martonribera.com
cjalice@martonribera.com
carolyn@martonribera.com
ryan@martonribera.com

/s/ Andrew G. DiNovo

Andrew G. DiNovo
Reg. No. 40,115
DiNovo Price LLP
7000 North MoPac Expressway
Suite 350
Austin, Texas 78731