UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CENTRALSQUARE TECHNOLOGIES, LLC,

Petitioner,

v.

CARBYNE, LTD.,

Patent Owner.

Case No. IPR2025-01179

U.S. Patent No. 11,689,383

PATENT OWNER'S RESPONSE

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LISTING OF EXHIBITS

Exhibit	Description
2001	*CentralSquare Technologies LLC v. Carbyne, Inc*, Case No. 1:24-cv-01497, Complaint for Patent Infringement (W.D. Tex. Dec. 4, 2024)
2002	*CentralSquare Technologies LLC v. Carbyne, Inc*, Case No. 1:24-cv-01497, Answer, Affirmative Defenses and Counterclaims (W.D. Tex. May 12, 2025
2003	*CentralSquare Technologies LLC v. Carbyne, Inc*, Case No. 1:24-cv-01497, Scheduling Order (W.D. Tex. July 8, 2025)
2004	Declaration of Gerald Christensen
2005	Transcript of the March 20, 2026 Deposition of Stuart J. Lipoff
2006	June 7, 2021 CentralSquare press release entitled "CentralSquare Technologies Now Offering Carbyne's C-Live Universe"
2007	U.S. Pub. 2016/0028790 A1 to Eriksson et al.
2008	Exhibit L, Declaration of Stuart J. Liphoff in Support of Counterclaim Defendant CentralSquare's Claim Construction for U.S. Patent No. 11,689,383 from *CentralSquare Technologies, LLC v. Carbyne, Inc. et al.*, Case No. 1:24-cv-01497 (WDTX)
2009	Garcia et al., WebRTC Testing: Challenges and Practical Solutions, IEEE (2017)
2010	Counterclaim Defendant CentralSquare's Opening Claim Construction Brief from *CentralSquare Technologies, LLC v. Carbyne, Inc. et al.*, Case No. 1:24-cv-01497 (WDTX)
2011	Counterclaim Defendant CentralSquare's Reply Claim Construction Brief Relating to U.S. patent No. 11,689,383 from *CentralSquare Technologies, LLC v. Carbyne, Inc. et al.*, Case No. 1:24-cv-01497 (WDTX)
2012	2025 Product Leader Report, Frost & Sullivan

2013	Dec. 21, 2020 Memo Published by the Washoe County Communications Supervisor regarding a "Regional PSAP Funding Request" (available at https://www.washoecounty.gov/technology/board_committees/911_response/2021/Files/012121/Item%2015%20-%20WC%20Carbyne%20c-Live%20Universe.pdf)
2014	April 11, 2022 Scope of Services Document Published by Miami Dade County regarding "Carbyne c-Live Universe Video-To-911" (available at https://www.miamidade.gov/Apps/ISD/StratProc/ProcurementNAS/pdf_Files/WaiveCompetitions/Notice_to_Wave_Comp_-_Scope.pdf)

I. INTRODUCTION

Patent Owner Carbyne, Inc. respectfully submits this Response to the Petitioner CentralSquare Technologies, LLC's Petition for *Inter Partes* Review (Paper 1, "Petition") of U.S. Patent No. 11,689,383 ("the '383 patent).

This proceeding was instituted via a Director order dated December 11, 2025. *See* Paper 11. The order simply listed the proceeding among a collection of other proceedings that were also instituted. None of Patent Owner's preliminary response arguments were addressed, mentioned, or assessed. Patent Owner submits that this constituted error. There are multiple, fundamental issues with the Petition in this proceeding.

First, the Petition failed to present Petitioner's constructions of the '383 patent's claims as required. In district court, Petitioner argued that several claim terms—including those requiring that "the URL link is associated with the phone number of the mobile device" and "the real-time video stream is associated with a unique identifier for the mobile device"—have no clear meaning to a POSITA and are thus indefinite. It also proposed narrow, alternate constructions for both terms. In this proceeding, however, Petitioner and its expert appear to be of the view that the claim terms can be readily understood. No claim constructions were provided in the Petition. Neither Petitioner nor its expert discussed how the art would satisfy the claims when construed in manner Petitioner itself apparently believes appropriate.

The Petition was required to discuss claim construction. It did not. Not only does this merit rejection of the Petition's grounds, but it undermines the credibility of Petitioner's arguments.

Second, the Petition is substantively deficient. The '383 patent relates to a system and method that allows an emergency caller to simultaneously transmit both audio and WebRTC real-time video communications to a dispatcher via different connections (a first connection and a separately established WebRTC session). As explained below, this is a fundamental feature of the '383 patent's claimed invention, and is described in detail in the '383 patent's specification. According to the patent, the simultaneous receipt of both audio and real-time video allows the dispatcher to better assess and respond to an emergency.

The Petition here includes two grounds: ***Ground 1*** argues that certain claims are either anticipated or rendered obvious by Ramanujaiaha (Ex. 1005). ***Ground 2*** argues that the claims are obvious over the combination of Ramanujaiaha and Krishnan (Ex. 1006). No other art is cited. Neither ground has merit. Neither reference teaches or renders obvious (either alone or in combination) a system and method where an emergency caller ***simultaneously*** transmits both audio and WebRTC real-time video to the same recipient via different connections.

Ramanujaiaha—the only reference at issue in ***Ground 1***—is not anticipatory. It also does not render the claimed subject matter obvious. Again, all of the claims

require simultaneous audio and real-time video communication: a "recipient" must receive a "real-time video stream … through the WebRTC session ***while*** audio content of the emergency call is received" via the "first connection." Ramanujaiaha does reference WebRTC video as a possible alternative to an audio call when initiating communication between a customer and a call center in the first instance. Ramanujaiaha separately notes that the call center can later send a calling customer "visual" information (like a web page, interactive form, or interactive menu) while a call is ongoing. But Ramanujaiaha never says that it ***simultaneously*** transmits audio and WebRTC real-time video from a caller ***to*** recipient over two ***different*** connections (the first connection and the separately established WebRTC session). Thus, there is no anticipation.

Moreover, the Petition fails to include any evidence supplementing Ramanujaiaha's deficient disclosure. No meaningful discussion of WebRTC is provided. And there is no explanation of why a POSITA would have been motivated to combine or modify Ramanujaiaha's separate teachings to arrive at the claimed subject matter. Indeed, there is no discussion at all in either the Petition or Petitioner's expert declaration regarding why a POSITA would have been motivated to implement Ramanujaiaha such that it simultaneously engages in audio and real-time video communication as claimed.

This was required to show obviousness; merely listing out disparate, separate prior art teachings is not enough. Rather than providing this required motivation, Petitioner engaged in a hindsight driven analysis. Indeed, Petitioner's expert conceded this at deposition, explaining that he proposed implementing Ramanujaiaha in the way discussed in his declaration because this was necessary to achieve the '383 patent's "objectives." *See* Ex. 2005, 38:12-41:10, 42:11-22. It is the prior art—and not the '383 patent itself—that must supply a motivation to piece together different prior art teachings.

Ground 2 is no better. Once again, the Petition points to separate, distinct teachings in the prior art without providing any explanation regarding how (or why) those teachings would be combined to arrive at the claims. Like Ramanujaiaha, Krishnan separately discusses voice calls and other forms of communication, such as transmitted pictures, videos or text. It also notes that data is transmitted to a PSAP server for analysis ***before*** connecting (and for purposes of prioritizing) incoming emergency calls. But the Petition never explains how this staged, ordered prioritization process would have led a POSITA to the claimed ***simultaneous*** audio and WebRTC real-time video communications.

Putting the deficiencies regarding the independent claims aside, the Petition separately failed to show that several dependent claims are obvious, including claims

4, 7, 11, 14, and 18. The Petition simply ignored what these claims require, treating the added limitations as effectively meaningless.

In sum, there has been a complete failure of proof. The Petition does nothing more than point to separate, distinct prior art disclosures. It makes no effort to explain (let alone present evidence showing) why the prior art would be combined in the way the claims here all require. And it likewise fails to meaningfully discuss the requirements of those claims.

II. BACKGROUND

A. Overview of the '383 Patent

The '383 patent (Ex. 1001) explains that it "relates generally to streaming of data … from a user device without the need to download and install a specialized application." '383 patent, 1:25-28. According to the patent, "[m]any mobile devices on the market today … come equipped with built-in media capturing components" like "still cameras, video cameras, microphones, global positioning receivers, and the like." *Id.*, 1:29-32. The patent goes on to note that the information collected by these components may be extremely useful when the mobile device user calls "an emergency or municipal dispatch unit" seeking assistance. *Id.*, 1:37-39, 45-50. "[E]very additional detail that can be retrieved from the call may help the dispatch operator better understand the situation in the field, and explain to the dispatched forces the situation before they arrive on-scene so they can be better prepared." *Id.*

The patent also explains that existing systems for collecting additional information during emergency calls require users to "download and install specialized applications, which may take time, losing precious moments of data." *Id.*, 1:58-60.

To achieve enhanced emergency call data collection—while avoiding the problems of the prior art—the '383 patent discloses a "method for streaming real-time data from a user device to a dispatch unit terminal." *Id.*, 2:21-25. Rather than requiring special software on the user device, the '383 patent's method transmits "a link" to that device that "includes instructions to initiate streaming of real-time data" in a way that "match[es]" that data to an existing "connection" between the user device and the "dispatch terminal." *Id.*, 2:23-31. The link can be in the form of a "URL" sent to the device in a text message. *Id.*, 2:57-3:2. The texted URL "allows the user to click on the URL to access a web browser" (rather than special purpose software) "to establish a WebRTC (Web Real-Time Communication) session to transmit a real-time video stream" from the device to the dispatcher. *Id.*, 3:1-12.

Figure 2 provides an example of this method. As shown, "a call is" first "initiated from a user device 130, e.g., a user dials 9-1-1 to report a robbery…." *Id.*, 7:37-40. The call is "connected to a call center 135" and then "forwarded to an appropriate DUT" (or dispatch unit terminal) "140." *Id.*, 7:40-42. "When the call is answered," a "server 120 identifies the UD 130 and sends a link over a second connection, such as an SMS, to the UD 130." *Id.*, 7:42-45. Upon receipt of the

SMS, "the user engages the link" and the user device's "web browser is launched…." *Id.*, 7:45-46. This in turn allows for "streaming of real-time data, such as video, audio, location data, and the like from the UD 130" to the "DUT 140." *Id.*, 7:45-49. To enable receipt of both audio and real-time video simultaneously, "[a]ny real-time data streamed or otherwise uploaded to the call center 135 is coupled with [a] unique identifier included in the link" originally sent to the user. *Id.*, 7:20-22. This allows the video to be "route[d]" to the same recipient that "was connected to through the first connection" allowing for receipt of "audio content." *Id.*, 7:22-36.

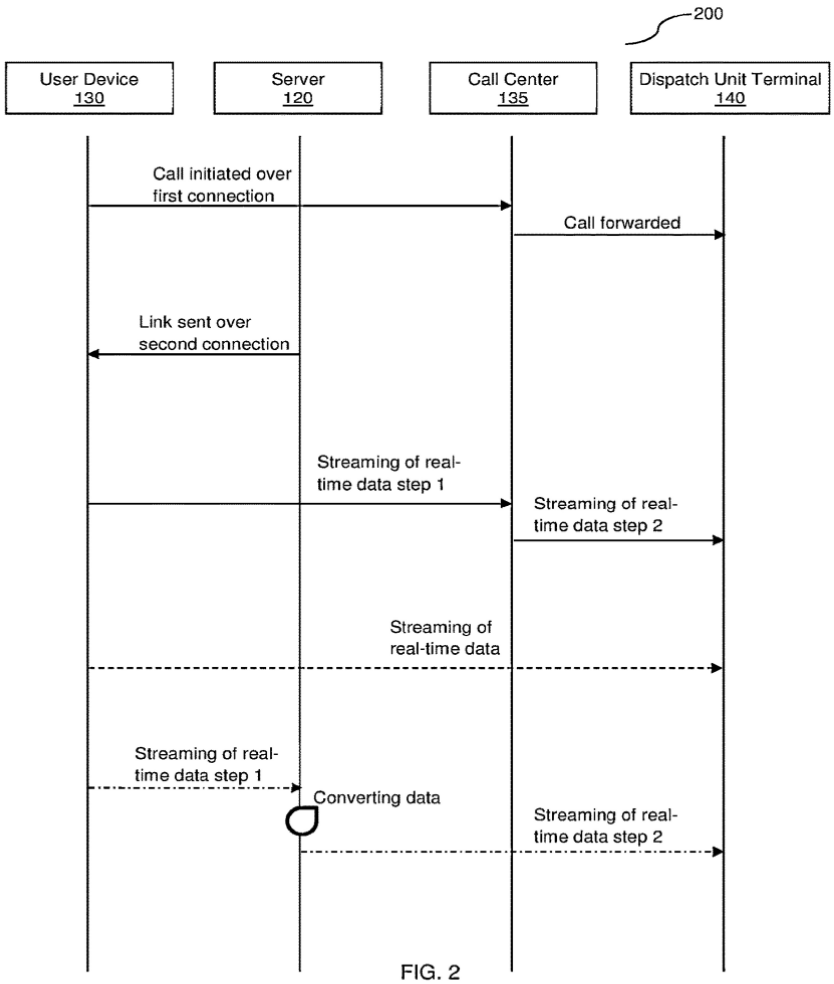


FIG. 2

Id., Fig. 2. Thus, the dispatch unit terminal receives additional real-time data (in the form of WebRTC video) from the user device after an emergency call has been made and answered and while audio communication is ongoing. *See id.* According to the '383 patent, this "may enable a dispatch operator operating the DUT 140 to have a better perspective of the circumstances where the UD 130 is located." *Id.*, 7:60-65.

B. Claims

The '383 patent includes three independent claims 1, 8, and 15. All three of these claims require two forms of communication that must occur simultaneously: (1) "an emergency call" with "audio content" "received through" a "first connection" and (2) a "real-time video stream" received "through" a "WebRTC session." '383 patent, claims 1, 8, and 15.

C. Asserted Prior Art

The Petition in this proceeding cites only two references: Ramanujaiaha (Ex. 1005) and Krishnan (Ex. 1006).

Ramanujaiaha relates to a system for "enhanc[ing] … the customer relationship or the buying/servicing experience overall" when a customer calls into a customer service line. Ramanujaiaha, 1:26-35. "Enhancing or optimizing such interactions may result in greater CX and positive outcome for the business." *Id.*, 1:33-35. To achieve this goal, Ramanujaiaha's system allows customers to, "for example, fill a form visually, while being provided voice instructions through an

interactive voice response (IVR) system or through a live agent." *Id.*, 5:29-34. Alternatively, the customer may be provided with the ability to "switch" communication methods. *Id.*, 5:33-35. For instance, "a customer desiring to speak with a live agent over a voice medium may decide to switch the interaction modality to chat, for example, when the wait time for engaging in a chat session is shorter than a voice session." *Id.*, 5:35-42.

Krishnan relates to the "management of callers reporting an emergent event." Krishnan, 1:7-8. Krishnan explains that "[u]tilization of audio information alone can make call prioritization" (or "triage") "very difficult" during an emergency. *Id.*, 1:28-32. Thus, Krishnan proposes routing emergency callers to a "trusted data channel (e.g., a WebRTC call) with a PSAP system" that allows the caller to "provide their perspective about the event via the data channel." *Id.*, 1:41-44. This collected data allows the PSAP to "determine information about the event (e.g., to build a picture of the scenario) as well as determine which caller gets through to the PSAP agent first and which callers wait." *Id.*, 1:44-49.

III. THE PETITION FAILED TO SATISFY THE REQUIREMENTS FOR IPR

An IPR petition must explain "[h]ow the challenged claim is to be construed." 37 C.F.R. § 42.104(b)(3). A petition does not comply with this requirement when the petitioner pursues different, inconsistent constructions in a parallel district court litigation. *See, e.g., Revvo Tech., Inc. v. Cerebrum Sensor Tech., Inc.*, IPR2025-

00632, Paper 20 at 3-4 (Director Rev. Nov. 3, 2025) (precedential) (noting that "[t]he Board's claim construction rules are designed to … minimize inconsistency in claim construction between forums"); *Cambridge Mobile Telematics, Inc. v. Sfara, Inc.*, IPR2024-00952, Paper 12 at 8 (PTAB Dec. 13, 2024) (informative) (similar). Arguing that claims are indefinite in district court while employing plain and ordinary meaning constructions in the petition is an example of such an inconsistency. *See Tesla, Inc. v. Intellectual Ventures II LLC,* IPR2025-00340, Paper 13 at 2-3 (Director Rev. Aug. 25, 2025) (informative) (noting that petitioners are not "permitted to raise inconsistent invalidity challenges in … two forums").

Petitioner did not comply with this fundamental requirement. The Petition proposed no claim constructions, stating that "[n]o terms need construction to resolve the unpatentability issues in this Petition." Petition, 5. In district court, however, Petitioner argued that several of the '383 patent's claim terms were either indefinite or required explicit, limiting construction. *See* Exs. 2010-2011. It also submitted an expert declaration—signed by the very same expert whose declaration accompanied the Petition—offering opinions regarding how a POSITA would purportedly understand the '383 patent's claims. *See* Ex. 2008.

Petitioner's district court positions—expressed in both its claim construction briefing and the opinions of its expert—are at odds with the positions it takes in this proceeding. For example, Petitioner argued in district court that the claim phrase

"wherein the URL link is associated with the phone number of the mobile device" purportedly has no ascertainable meaning and is thus indefinite even when read in view of the '383 patent. Ex. 2010, 8-12. According to Petitioner, the term "associated" somehow fails to specify what "perceived connection or relationship between the URL link and phone number of the mobile device" is required. *Id.*, 9. Despite this, Petitioner argues that Ramanujaiaha teaches what this element requires because it—like the '383 patent—purportedly "identifies the user's phone number when a call is made, and [the] link is subsequently sent to the same calling device…" Petition, 30 n.3.

Petitioner alternatively proposed that "wherein the URL link is associated with the phone number of the mobile device" be construed to mean "wherein the URL link includes a unique identifier associated with the phone number of the mobile device." *Id.*, 13. The Petition, however, identifies no such URL links in Ramanujaiaha. *See generally* Petition, 17-19. Instead, it points only to a passage in Ramanujaiaha noting that a "unique URL" or a "URL … corresponding to the user's phone number" can be sent to a user device. *Id.*, 18 (quoting Ramanujaiaha, 12:5-13). There is no explanation of why the link includes a "unique identifier associated with the phone number of the mobile device" as Petitioner argues the claims require. *See* Ex. 2005, 20:11-21:2 (Petitioner's expert agreeing that this construction was not applied in his IPR declaration).

Next, Petitioner separately argued that the claim term "wherein the real-time video stream is associated with a unique identifier for the mobile device" is also indefinite. Ex. 2010, 14-16. Once again, Petitioner explained that the term "associated with" purportedly makes it impossible to determine what "relationship" with the mobile device is required. *Id.* In the Petition, however, Petitioner encountered no difficulty when attempting to explain why—at least in its view—this element is taught by Ramanujaiaha. *See* Petition, 37-39. Petitioner also proposed an alternative district court construction for this element: "wherein the real-time video stream is associated with the mobile device using a unique identifier." Ex. 2010, 16. This "unique identifier" must also be "used to match the real-time data with the dispatch terminal used in the connection." *Id.*, 18. There is no discussion of these constructions in the Petition. Nor is there any explanation of why the portions of Ramanujaiaha the Petition cites would satisfy the claims if construed in the way Petitioner proposed. Among other things, Petitioner makes no mention of a "dispatch terminal used in the connection," or how any of the identifiers Ramanujaiaha employs are used to match data with a specific such terminal. *See generally* Petition, 37-39; *see also* Ex. 2005, 25:15-26:10 (Petitioner's expert agreeing that this construction was not applied in his IPR declaration).

Petitioner maintained all of these various claim constructions in responsive briefing. *See* Ex. 2011. It also submitted a lengthy expert declaration where the

same expert it employs here testified that a POSITA would be unable to ascertain the meaning of various '383 patent claim terms. *See, e.g.*, Ex. 2008, ¶¶ 48 ("[A] POSITA would not know with reasonable certainty when a URL link is associated with the phone number of the mobile device"), 63 (similarly explaining that a "POSITA would be unable to understand the claimed scope").

While Petitioner has withdrawn its district court contentions, it has not stipulated to employ Patent Owner's plain-and-ordinary meaning constructions of the disputed limitations. *Compare Caption Health, Inc. v. Univ. of British Columbia*, IPR2025-01422, Paper 15 at 3 (Director Rev. Dec. 18, 2025) (finding that petitioner "stipulation" to adopt Patent Owner's construction eliminated position inconsistency) with *Revvo Tech.*, IPR2025-00632, Paper 20 at 3-4 (holding that simply accepting a Patent Owner's district court construction without more "does not explain sufficiently why different positions were warranted"). Thus, the inconsistent position remains. Because Petitioner has failed to satisfy the requirements for IPR, the claims cannot be found unpatentable for the reasons explained in the Petition. Moreover, even if this does not merit outright rejection of Petitioner's arguments, Patent Owner submits that at the very least Petitioner's inconsistent positions serve to undermine the credibility of Petitioner's arguments and those of its expert in this proceeding.

IV. THE PETITION IS SUBSTANTIVELY DEFICIENT

The Petition also failed to meet its substantive burden: it does not show unpatentability. Neither Ramanujaiaha nor the combination of Ramanujaiaha and Krishnan teach or render obvious a method and system that provides for the ***simultaneous*** conduct of audio communication and real-time video streaming during an emergency call. The Petition also failed to meaningfully explain why a POSITA would have considered dependent claims 4, 7, 11, 14, and 18 to be obvious.

A. *Ground 1*: Ramanujaiaha Is Not Anticipatory and Does Not Render the Claims Obvious

Ground 1 in the Petition argues that Ramanujaiaha either anticipates or renders obvious claims 1-6, 8-13, and 15-19 of the '383 patent. *See* Petition at 1. The Petition is wrong on both counts. Ramanujaiaha does not anticipate. It also does not render the claims obvious.

1. *Ramanujaiaha Does Not Teach Receipt of a WebRTC Real-Time Video Stream "While Audio Content of the Emergency Call Is Received"*

The method of independent claim 1 of the '383 patent requires two forms of communication: (1) "an emergency call" between a mobile device and recipient "conducted … through a first connection[,]" and (2) "a WebRTC … session to transmit a real-time stream from the mobile device" to the recipient. Importantly, the claim also imposes a timing requirement that specifies when these two communications must occur relative to each other: "the real-time video stream" must

be "sen[t] … to the recipient for display," such that the "real-time video stream is received through the WebRTC session ***while audio content of the emergency call is received*** through the first connection." In other words, both an audio call via one connection and real-time video communication via a WebRTC session with the recipient must occur ***simultaneously***. *See* '383 patent, claim 1. The patent's two other independent claims—8 and 15—include an analogous requirement: the same recipient must ***receive*** both audio and WebRTC real-time video communication via ***different*** connections (the first connection and separately established WebRTC session) from a mobile device user ***at the same time***. *See id.*, claims 8, 15.

Like the claims, the '383 patent specification emphasizes the importance of ***simultaneous*** audio and video communication between a mobile device and a recipient (like an emergency dispatcher) during an emergency. According to the patent, "every additional detail that can be retrieved" during an emergency call "may help the dispatch operator better understand the situation in the field…." *Id.*, 1:45-48; *see also id.*, 7:60-65 (noting that receipt of real-time data allows a dispatcher "to have a better perspective of the circumstances where" a user device "is located"). But while "mobile devices … come equipped with built-in media capturing components[,]" these are "rarely used" "when a person calls an emergency or municipal dispatch unit." *Id.*, 1:29-31, 37-40. To address this problem, and improve emergency communications, the '383 patent's system and method allows for

"streaming real-time data from a user device to a dispatch unit terminal" while an audio call is still ongoing. *Id.*, 2:21-31; *see also id.*, 2:67-3:12 (discussing transmission of a "real-time video stream from the mobile device" through a "WebRTC session"). This feature also served to distinguish the '383 patent from the prior art, leading to claim allowance during prosecution. *See* Ex. 1002, pp. 18-19 (noting that the prior art fails to teach a system and method "wherein the real-time video stream is received through the WebRTC session while audio content of the emergency call is received through the first connection").

There is no disclosure of the ***simultaneous*** receipt of audio and WebRTC real-time video communications during an emergency call in Ramanujaiaha. Indeed, the Petition fails to present any cogent explanation of or evidence showing why the prior art teaches this fundamental claim requirement.

According to the Petition, Ramanujaiaha "discloses or renders obvious" the claimed receipt of a real-time video stream while an audio emergency call is ongoing because it references a system that employs "two modalities, a voice media channel that uses the media connection device 215, and a visual media channel that uses the … mobile web 220." Petition, 35. The Petition then goes on to argue that Ramanujaiaha teaches "concurrently invok[ing]" both a "voice channel and a visual channel … during an interaction." *Id.*, 36. From this, Petition appears to conclude—

with no explanation or evidence—that the referenced "visual channel" in Ramanujaiaha must for some reason be a "video stream using WebRTC." *Id.*

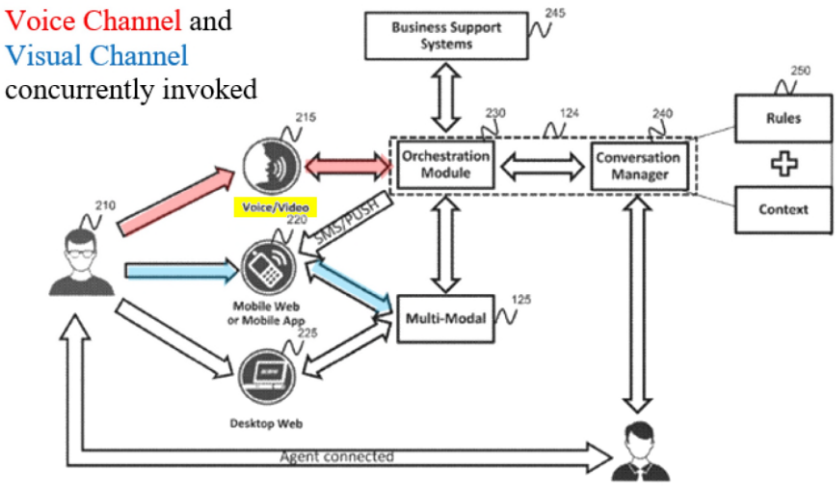
This is wrong. There is ***no*** teaching anywhere in Ramanujaiaha that the "visual channel" that is "concurrently invoked" along with a "voice channel" is WebRTC real-time video transmitted from the user's mobile device as all the '383 patent's claims require. Instead, Ramanujaiaha explains that this "visual channel" is "visual content" or "visual media" that is "generate[d]" by the call center and then "render[ed]" by either a "web browser or mobile application" running on the user's device. Ramanujaiaha, 10:32-45, 11:3-11, 12:22-37; *see also id.*, 5:35-36 (identifying a "web site or email" as examples of "visual" content); 10:46-59 ("the orchestration module provides" the "visual content"); 13:48-49 (referencing a "visual page" provided for display by a user "web browser"). This allows, for instance, the user to "fill a form visually, while being provided voice instructions through an interactive voice response (IVR) system or through a live agent." *Id.*, 5:33-36. Alternatively, "visual content" such as "visual user interfaces (e.g., IVR menu, video, etc.)" can be provided from the call center to the "user device." *Id.*, 11:5-12; *see also id.*, 12:30-37 (repeatedly referring to a "visual media channel" that is used to provide a user device with a "visual IVR" or interactive menu). So, Ramanujaiaha does identify generated web pages, fillable forms, and user interfaces as "visual" content that can be generated by the call center and sent to a user during

a "voice" call. But it ***never says*** that WebRTC real-time video is a contemplated type of "visual" content, or that its system allows a user to transmit both audio and WebRTC real-time video to the call center via different connections (the first connection and the separately established WebRTC session) at the same time. S*ee also* Ex. 2004, ¶¶ 90-98.

The Petition does cite passages in Ramanujaiaha that reference "WebRTC" or "video." *See* Petition, 35-36 (citing Ramanujaiaha, 9:46-52, 10:34-42). These passages merely refer to ***generic methods for communication*** that may be available to a user when initially contacting a call center. For example, Ramanujaiaha explains that a "contact center system" may have a "web page" that "provides a mechanism for contacting the contact center, via, for example, web chat, voice call, email, web real time communication (WebRTC), or the like." Ramanujaiaha, 8:14-27. So, WebRTC is simply one method that may be used by a user to reach a contact center in the first place. Ramanujaiaha also lists "WebRTC" among a collection of other "media connection[s]" or "communication channel[s]" available to a "user 210" for purposes of initially "communicating with the contact center." *Id.*, 9:46-52, 10:34-42; *see also* Ex. 2005, 37:12-40:10 (Petitioner's expert confirming that WebRTC is one of the identified methods to initially contact the contact center). But again, here WebRTC is simply identified as one of many means of communication that may be present on and employed by a user device to initiate contact. ***None*** of

these passages state that a user device simultaneously transmits both audio and real-time video communications (over different connections) to the same recipient at a contact center. Instead, as noted above, the only types of "multi-modal" communication discussed in Ramanujaiaha is the provision of "visual" content—like a contact center generated web page, fillable form, or interactive menu—to the user device while another form of communication is ongoing. *See also* Ex. 2004, ¶¶ 99-104.

This is reinforced by Figure 2 of Ramanujaiaha, which the Petition cites repeatedly. As shown below, Ramanujaiaha identifies "video" as transmitted over the initial "voice channel" (annotated red by Petitioner) to the call center, not the later opened "visual channel" (annotated blue by Petitioner):



Petition, 36 (reproducing Ramanujaiaha, Fig. 2 in annotated form with further yellow annotation added by Patent Owner); *see also* Figs. 3, 4, 14 (similarly noting that interaction begins with a "voice/video call"). Indeed, Ramanujaiaha

unambiguously says this, explaining that "WebRTC" is one the potential ways that a "user 210" can employ with his or her "media connection device (e.g., a mobile phone or LAN line phone) 215" to make initial contact with the call center. *Id.*, 10:32-38, 11:60-62. In other words, in Ramanujaiaha, a "video" call is identified as an ***alternative*** to an audio call. It is just another way to ***initially*** communicate with the contact center. These two forms of communication are not meant to occur—and are never identified as occurring—at the same time as all the '383 patent's claims require. *See also* Ex. 2007, ¶¶ [0060]-[0063], [0073]-[0075] (noting that WebRTC session may be "audio-only" further confirming that it is an alternative to voice communications); Ex. 2005, 42:11-22 (Petitioner's expert agreeing that WebRTC can provide audio); Ex. 2004, ¶¶ 105-111.

This is further confirmed by Ramanujaiaha's discussion of what occurs after a user "initiates a second interaction" in a "multimodial session" "through the link" provided by Ramanujaiaha's system. *Id.*, 12:3-16. According to Ramanujaiaha, when the user "click[s] on the link or enter[s] the link through mobile web/mobile app 220 or through desktop web 225," "[a]n event is relayed from the user device to the multimodal server 125, which is then forwarded to the orchestration module 230." *Id.*, 12:14-18. The visual content provided to the user is then "synchronized" so that "context is maintained." *Id.*, 12:22-37. This in turn allows the "visual" communication channel to avoid, for instance, "repeat[ing] ... questions that were

already asked and answered while interacting" via "telephony…." *Id.*, 12:34-37. To begin, this process serves to further confirm that the "visual" content is generated by the contact center for provision to a user (and thus is not WebRTC real-time video sent by the user). Moreover, the process makes sense for "visual" content like a menu, web page, or interactive form. "Visual" media like this can be "synchronized" by the contact center ensure its "context" tracks the caller's audio/video communication. *See* Ex. 2004, ¶¶ 112-119. It does not make sense, however, to "synchronize" or "maintain[]" the "context" of real-time communications. Because they are occurring in real-time, real-time communications are by definition (and without any additional processes or adaptation) synchronized and have consistent context. *See id.* Indeed, the contact center has no control over what the user is communicating and thus cannot do anything to maintain the "context" of those user-originated communications. Moreover, a second real-time communication would "repeat" the first communication (which is also real-time) in contravention of Ramanujaia's teachings. A POSITA would have recognized that this provides further insight into what Ramanujaiaha means when it refers to a "second interaction" that occurs via a "visual communication channel": the user is provided with an interactive visual (like a menu, web page, or form) that must be updated by the contact center to reflect and maintain context with the audio or video conversation the user is having. *See id.*, ¶¶ 119-124. Interpreting Ramanujaiaha as Petitioner does

effectively renders much of its disclosure—and many of the components of and processes performed by its system—meaningless.

Ramanujaiaha's other figures are no different. For instance, Figure 3 depicts a process where a user "may interact with the web browser 310 by clicking a link to generate a page event." Ramanujaiaha, 13:39-61. The "orchestration module 230" and "conversation manager 335" then use this to "render[]" an appropriate "next page" for display to the user at step 376. *Id.*, 13:54-65; *see also* Figs. 3 (depicting a "voice/video call" followed by "user interaction" with a provided "page"); Fig. 14 (similar). This is not referring to real-time video communication from the user. The "visual" communication with the user occurs via a webpage that is updated in view of the interaction with the user. *See id.*; *see also* Ex. 2004, ¶¶ 120-132.

Likewise in Figure 4, the "multimodal" communication entails transmitting "page data" to the user at step 468. Ramanujaiaha, 14:57-15:17. Then "based on the context of … events," the "orchestration module" can later send HTML "content at act 478 to the web browser." *Id.*, 15:22-30; Fig. 4 (depicting a "voice/video call" followed by the provision of "HTML content" and "page data"). Once again, this is HTML content—like an interactive menu or updated web page—that is sent to and then displayed by the user's web browser, not real-time video from the user. *See* Ex. 2004, ¶¶ 123-124. So, in Ramanujaiaha, the "visual" media is something that originates from the call center: it is a form, web page, or menu the call center

generates and then transmits to the caller to allow for response. The "visual" media is not, however, real-time video sent from the user to the contact center.

Petitioner also appears to argue that Ramanujaiaha's statement that a "multimodal session" may entail opening "a visual communication channel" (Ramanujaiaha, 12:10-13) coupled with an earlier discussion of the term "communication" (*id.*, 9:45-52) somehow means that the referenced "visual communication channel" must include WebRTC. This does not follow. Ramanujaiaha discusses the meaning of the term "communication," not "visual communication channel." *See id.*, 9:45-52. The word "visual" is repeatedly used to refer to content provided to a user, like a "visual interface (e.g., a web site or email)." *Id.*, 5:35-36. Similarly, Ramanujaiaha consistently explains that its system is intended to provide "visual content" via the "visual channel." *E.g.*, *id.*, 10:38-42, 10:55-59; 11:4-8; *see also id.*, 13:44-49 (noting discussing "rendering a page (e.g., a visual page)"); 15:65-67 (noting that a "user" can "utilize" a center provided "visual channel to input data (or events).") It also characterizes the "visual communication channel" as a "visual media channel" that is meant to display "app" or "web" data. *Id.*, 12:23-26. Again, this is referring to the provision of typical visual content like a web page, interactive menu, or form during a voice call, not simultaneous audio and real-time video communication. *See* Ex. 2004, ¶¶ 127-130.

This renders Ramanujaiaha non-anticipatory. "A claim is anticipated if each and every element as set forth in the claim is found, either expressly or inherently, in a single prior art reference." *Arbutus Biopharma Corp. v. ModernaTX, Inc.*, 65 F.4th 656, 662 (Fed. Cir. 2023); *see also Sage Prods., LLC v. Stewart*, 133 F.4th 1376, 1380 (Fed. Cir. 2025); *Eli Lilly & Co. v. Zenith Goldline Pharms., Inc.*, 471 F.3d 1369, 1375 (Fed. Cir. 2006). An element is "inherently" disclosed only if it is "necessarily present" in the prior art. *Arbutus Biopharama*, 65 F.4th at 662. Moreover, it is not enough to simply point to claim elements separately present in the prior art. For there to be anticipation, the required elements must also be "arranged or combined in the same way as in the claim." *Net Money-IN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1370 (Fed. Cir. 2008).

There is nothing of the sort in Ramanujaiaha. Ramanujaiaha does reference "concurrent[]" invocation of a "voice" and "visual" "channel" using a "multimodal server." *E.g.*, Ramanujaiaha, 10:55-59. But it ***never says*** that this "visual" channel is WebRTC real-time video sent from the user to the contact or call center. Instead, to the extent used at all, WebRTC is employed as an alternative to "voice" as an initial method of communication. *See, e.g., id.*, 9:46-52, 9:32-38. Moreover, the "visual" communications are not only generated by the call center (not the user), but they are also content such as web sites, fillable forms, and interactive menus. So in sum, Ramanujaiaha never discloses that WebRTC must be used to transmit real-time

video, let alone that this WebRTC real-time video is transmitted from the user device to the contact center ***at the same time*** an audio call is occurring. That, however, is what the '383 patent's claims require. There is no anticipation. *See also* Ex. 2004, ¶¶ 133-139.

The Petition also failed to show that Ramanujaiaha renders the claims obvious. "[A] patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007). There must also be "a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does." *Id.* The Petition does not make this type of showing. *See* Ex. 2004, ¶¶ 140-149.

When discussing another, earlier claim element, the Petition argues that "Ramanujaiaha at least suggests" what the claims require "because it discloses that the user may use the web browser to send the call center 'visual content' such as 'video communications' using 'web real time communication (WebRTC).'" Petition, 25-27. Its expert uses the exact same language (*i.e.*, Ramanujaiaha "at least suggests" that the "visual" content be WebRTC) but provides no further detail or information. *E.g.*, Ex. 1003, ¶ 91. The Petition also cites Ramanujaiaha's separate discussion of concurrent provision of "voice" and "visual" content (like a web page, form, or interactive menu) from the contact center to a mobile device. *See* Petition,

35-37. This mischaracterizes Ramanujaiaha. It also fails to explain why a POSITA would have been motivated to combine—and modify—the various different portions of Ramanujaiaha cited by the Petition to arrive at the claimed subject matter.

More specifically, the Petition includes ***no explanation whatsoever*** regarding why a POSITA would have been motivated to combine Ramanujaiaha's different teachings together. The section of the Petition discussing the claim requirement that "real-time video stream [be] received through the WebRTC session while audio content of the emergency call is received" does not even mention motivation to combine. *See id.* The motivation discussion was directed only to another, different claim element. Petitioner's expert likewise completely ignored this fundamental requirement for showing obviousness. *See* Ex. 1003, ¶¶ 113-115. Instead, both Petitioner and its expert simply assumed that the "visual content" or "visual channel" in Ramanujaiaha is necessarily real-time video. It is not. Again, the only examples of this type of communication Ramanujaiaha provides are (1) "visual content" that is "generate[d]" by a contact center and then "render[ed]" by a "web browser" (like a web page or interactive form) or (2) a "visual user interface." Ramanujaiaha, 10:39-45; 11:5-12. And voice and video communications with the call center are expressly disclosed as ***alternative*** means of communication over a single channel. *See, e.g., id.*, Fig. 2. The Petition is ***completely devoid*** of any explanation of why a POSITA would have configured Ramanujaiaha any differently. There is no

explanation anywhere in the Petition of why a POSITA would have employed audio and real-time video communication from a user at the same time, what benefit this would have provided, or how it would have been accomplished. *See also* Ex. 2004, ¶¶ 150-154.

Indeed, Petitioner's proposed implementation of Ramanujaiaha makes little practical sense. Ramanujaiaha explains that "voice/video" is one of the means to initially reach a contact center. *See, e.g., id.*, Figs. 2, 3, 4, 14. So Petitioner is effectively proposing that Ramanujaiaha be configured such that users simultaneously engage is two identical (or at least non-distinguishable) forms of communication: voice/video and then video again. This is contrary to Ramanujaiaha's teaching that the second "visual" media channel is meant to be "different" from the first communication. Ramanujaiaha, 10:11-14; *see also id.*, 12:34-37 (noting that the second communication should not "repeat" the first). An interactive menu or form that is synchronized is different from a voice/video call. Another voice/video call is not. There is no explanation at all in the Petition of why Ramanujaiaha even allows for such duplicative communications, let alone the required evidence that this would have been obvious.

Again, the Petition does include a brief section entitled "motivation to combine" when discussing why—in its view—Ramanujaiaha teaches another different claim element: "establish[ment of] a WebRTC (Web Real-Time

Communication) session to transmit a real-time video stream from the mobile device." *See* Petition, 25-29; Ex. 2005, 57:9-18 (Petitioner's expert confirming that his "motivation to combine" analysis appears only in connection with "element 1G"). Here the Petition declares that a POSITA purportedly would have "appreciated the advantages of utilizing … real-time communication in emergency situations" such as "allow[ing] the user to quickly and accurately convey the nature of their emergency." *Id.*, 27-28. At best, this addresses only whether it would have been obvious to use real-time video as one of the means of communication during an emergency. It says nothing at all about ***simultaneous*** audio and real-time video communications. The claims here require more than just video communication. The emergency dispatcher must receive both audio and WebRTC real-time video from a mobile device ***at the same time***. *See, e.g.,* '383 patent, claim 1**.** Moreover, the Petition cites nothing—besides a single expert declaration paragraph—in support of its assertion. Petitioner's expert declaration includes a verbatim recitation of same conclusory statement from the Petition. *See* Ex. 1003, ¶¶ 95-97. Expert testimony that "merely repeats, verbatim, the conclusory assertion for which it is offered to support," and "does not cite to any additional supporting evidence or provide any technical reasoning [in] support" is entitled to no weight. *Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9 at 15 (PTAB Aug. 24, 2022) (precedential).

So, in sum, the Petition has done nothing more than (1) point to Ramanujaiaha's teaching of "concurrent" or "multimodal" communications, and (2) list out the various different communication methods identified in Ramanujaiaha. This falls well short of showing obviousness. There is no discussion of the how or why of the proposed combination. "Obviousness concerns whether a skilled artisan not only could have made but ***would have been motivated to make the combinations*** or modifications of prior art to arrive at the claimed invention." *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1073 (Fed. Cir. 2015); *see also Wasica Finance GmbH v. Continental Auto Sys.*, 853 F.3d 1272, 1286 (Fed. Cir. 2017) ("obviousness determinations cannot be sustained by merely conclusory statements … instead, there must be some articulated reasoning with some rational underpinning…")

Even worse, not only is the required motivation entirely absent from the Petition, but Petitioner's expert explained during deposition that he put together Ramanujaiaha's various teachings simply because this was necessary to produce a system that achieves the '383 patent's "objectives." *See, e.g.,* Ex. 2005, 38:12-41:10, 42:11-22 (Mr. Lipoff repeatedly explaining that he "read[] the disclosure" of "Ramanujaiaha" "in the context of the objectives of the 383 patent"). This constituted improper hindsight. "The inventor's own path itself never leads to a conclusion of obviousness; that is hindsight." *Otsuka Pharm. Co. v. Sandoz, Inc.*,

678 F.3d 1280, 1296 (Fed. Cir. 2012). Petitioner was required to show why ***the prior art*** would have led a POSITA to the claimed subject matter. It did not do so.

The Federal Circuit's decision in *Virtek Vision Int'l ULC v. Assembly Guidance Sys.*, 97 F.4th 882 (Fed. Cir. 2024) is instructive. That case involved a patent claiming an improved method for aligning a laser and work surface. *Id.* at 885. The claims required the identification of a target pattern using a 3D coordinate system. *Id.* at 886. The prior art at issue separately referenced (1) identifying target patterns using angular direction and (2) both angular direction and 3D coordinate systems. *Id.* The Board held that the existence of these teachings in the prior art rendered the claims "obvious to try." *Id.* Federal Circuit reversed, determining that the Board erred. The Federal Circuit explained that "[i]t does not suffice to meet the motivation to combine requirement" to simply point to "alternative arrangements" that were "known in the art." *Id.* "The mere fact that these possible arrangements existed in the prior art does not provide a reason that a skilled artisan" would have combined the arrangements in the way the claims required. *Id.* at 887. More evidence—such as an identified common-sense reason for combination, a discussion of a market need, or an explanation of why there are only a finite number of identified, predictable solutions—is required. *See id.*

The Petition here is even more deficient. It merely references Ramanujaiaha's separate teachings of audio calls and video. There is no explanation of or evidence

showing why a POSITA would have found it obvious that these things would be used together in the way the claims require. There is no discussion of common sense. There is no explanation of why Ramanujaiaha includes a finite number of identified, predictable solutions. Indeed, Ramanujaiaha embraces virtually every known method of communication, from telephone calls over a PSTN network, email, social media messages, chat, to video. *See, e.g.,* Ramanujaiaha, 9:46-52. There is also no evidence of any sort of design need or market pressure for a system that engages in simultaneous audio and real-time video communication as the '383 patent's claims require. In short, there is no evidence—or even explanation—of motivation. Accordingly, the claims have not been shown to be obvious.

"An IPR is an expedited administrative procedure, driven by the invalidity theories presented in a petition." *Axonics, Inc. v. Medtronic, Inc.*, 75 F.4th 1374, 1380 (Fed. Cir. 2023). Thus, the ***petition itself*** must "identify 'in writing and with particularity … the grounds on which the challenge to each claim is based, and the evidence that supports the grounds for the challenge to each claim." *Id.* (*quoting* 35 U.S.C. § 312(a)(3)); *see also Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369 (Fed. Cir. 2016) (explaining that "[i]t is of the utmost importance that petitioners in … IPR proceedings adhere to the requirement that the initial petition identify 'with particularity'" the "evidence" purportedly showing unpatentability); *Adaptics Ltd. v. Perfect Co.*, IPR2018-01596, Paper 20 at 15-16

(PTAB Mar. 6, 2019) (informative) (similarly explaining that a petition must set forth unpatentability arguments with "particularity"). An instituted IPR proceeding is not an opportunity for a petitioner to develop evidence of unpatentability. That evidence must be ***in the petition***. *See id.* The Petition here fails to present the required evidence showing a motivation to combine Ramanujaiaha's various teachings to arrive at the claimed method and system that simultaneously engages in audio and real-time video communication.

If this were not enough, there are affirmative reasons why a POSITA ***would not*** have employed WebRTC to communicate with a mobile device, particularly during an emergency call. For instance, WebRTC was known to provide poor "video quality due to packet loss," "lossy" (or inaccurate) video due to the encoding codec employed, and "jitter" that produces "unintended deviations that degrade the quality of communications." Ex. 2009, 6; *see also* Ex. 2004, ¶¶ 155-156. During an emergency, clear, uninterrupted communication with the emergency dispatcher is of tantamount importance. *See id.*, ¶¶ 157. A POSTIA would have recognized that use of WebRTC to transmit real-time video—particularly at the same time other communication is occurring—has the potential to significantly increase the demands on the user's device. *See id.*, ¶¶ 158-160. This would in turn adversely impact the user's ability to engage in the required clear communication with the dispatcher. *See*

id. Not only would this have led a POSITA away from the claimed subject matter, but it is yet another issue that the Petition ignored and failed to address.

2. *Ramanujaiaha Does Not Teach Use of "the Phone Number of the Mobile Device" as the Claimed "Unique Identifier"*

Claims 4, 11, and 18 all provide that the "unique identifier comprises the phone number of the mobile device." '383 patent, claims 4, 11, 18. This refers back to, and further limits, an element in claims 1, 8, and 15 requiring that "the real-time video stream is associated with a unique identifier for the mobile device." *Id.*, claims 1, 8, 15.

Petitioner failed to meaningfully explain why this claim element is satisfied. When discussing claim 1, the Petition argued that Ramanujaiaha includes the claimed "unique identifier" for two reasons: (1) it "generate[s]" a "session ID" associated with a particular "multimodal session," and (2) purportedly because "the real-time video stream is associated with the caller's telephone number." Petition, 37-38. When discussing claim 4 (and similar claims 11 and 18), the Petition cites back to (2), Ramanujaiaha's purported "associate[ion]" of "real-time video" "with the caller's telephone number." *See id.*, 41.

Ramanajaiaha does state that it uses a "Session ID" to associate the different parts of a "multimodal session." Ramanujaiaha, 12:16-26 ("The multimodal session is associated with the session ID of the first interaction."); 12:47-54 ("A web engagement module … creates a session at act 344 identified by a session ID…");

13:10-15 (similar). But it never teaches that this "Session ID" is the user's telephone number. None of the passages cited by Petitioner state this. Certain cited passages note that Ramanujaiaha's system receives telephone calls. *See, e.g.*, Ramanujaiaha, 7:4-5 ("The call controller 118 may be configured to process PSTN calls, VoIP calls, and the like."). Other passages note that the system can obtain telephone number information. *See, e.g.*, *id.*, 7:10-17 (referencing "extract[ing] data about the customer interaction"). Still further passages reference "concurrent" communication via a "voice channel" and "visual channel." *Id.*, 10:55-59, 12:23-30. But nothing about this teaches or requires any deviation from Ramanujaiaha's disclosed method of using a "Session ID" to associate the different parts of "multimodal" communication. The mere fact that Ramanujaiaha's system receives voice calls and collects information about the caller does not mean—as Petitioner appears to argue—that it must be using "the phone number of the mobile device" as a "unique identifier." This is particularly the case when the art says that another, different identifier (the "Session ID") is used for this purpose. Petitioner has failed to explain why the art renders claims 4, 11, and 18 obvious. *See also* Ex. 2004, ¶¶ 161-173.

B. ***Ground 2*: Krishnan Does Not Resolve the Issues with Ramanujaiaha**

Ground 2 in the Petition argues that claims 1-20 of the '383 patent are obvious in view of the combination of Ramanujaiaha and Krishnan. *See* Petition at 1.

Krishnan does not resolve the issues with Ramanujaiaha. Once again, there is nothing in the prior art—or the Petition—explaining why a POSITA would have been motivated to ***simultaneously*** engage in audio and WebRTC real-time video communication between a caller and recipient during an emergency. The combination of Ramanujaiaha and Krishnan also fails to render dependent claims 7 and 14 obvious.

1. *Ramanujaiaha and Krishnan Fail to Render the '383 Patent's Independent Claims Obvious*

According to the Petition, "[t]o the extent … Ramanujaiaha does not disclose or render obvious" the claims, the claims purportedly would still be "obvious over the combination of Ramanujaiaha and Krishnan." Petition, 53. For the vast bulk of claims 1, 8, and 15, the Petition simply points back to its discussion of Ramanujaiaha. *See, e.g., id.*, 53-54. The Petition, does, however, include a section that attempts to explain why Krishnan purportedly makes it obvious to "establish a WebRTC session" to allow for "real-time communication in emergency situations." *Id.* at 54-60. The Petition also argues that Krishnan purportedly teaches "'sending video of an emergent event'" "while 'audio communications' are provided via 'voice-only channel[.]'" *Id.* at 63-64 (quoting Krishnan, 11:28-31); *see also id.* at 47 (alleging that "Krishnan … utilizes multiple data channels to enable the user to maintain a voice call with the emergency center while sending video footage of the emergent event.")

There is no such disclosure in Krishnan. Krishnan discusses a system that allows an "emergency caller" to "establish a trusted data channel (e.g., a WebRTC call) with a PSAP system" to "provide their perspective about" an emergency event. Krishnan, 1:39-44; *see also id.*, 7:33-35 (similarly referencing use of a "WebRTC ... data channel paradigm"). Krishnan also states that a "PSAP can use information incoming from each of the data channels" (*i.e.*, different callers or other sources of information like social media queried by a PSAP) such as "pictures, videos, text information, etc." *Id.*, 1:44-46. The purpose of this is allow for "call triage" "to prioritize which of the calls will make it to an agent." *Id.*, 1:25-32; *see also id.*, 1:39-42 (similarly explaining that the "secondary channel" is used for "prioritizing calls in a contact center"). "The PSAP" is thus able to "determine which caller gets through to the PSAP agent first and which caller waits." *Id.*, 1:44-49; *see also id.*, 1:57-60 ("information obtained from the various data channels may then help the PSAP resources to determine which calls are a priority and which calls can be ignored"); Ex. 2005, 53:17-54:8 (Petitioner's expert agreeing that Krishnan's summary section references a system that employs WebRTC before a caller is connected to an agent). Put another way, in Krishnan, data (like video) is communicated ***before*** there is audio communication between a caller and an emergency dispatcher. *See* Ex. 2004, ¶¶ 165-184.

The portions of Krishnan cited by the Petition would not have led a POSITA to modify Ramanujaiaha such that it allows for ***simultaneous*** audio and real-time video communications from a user to a recipient via the first connection and separately established WebRTC session.

The Petition begins its assessment of this part of claim 1 by pointing to passage in Krishnan's "Summary" section purportedly referencing the use of "multiple data channels to enable the user to maintain a voice call with the emergency user while sending video footage of the emergent event." Petition, 57, 63 (citing Krishnan, 1:41-49, 1:61-63). According to the Petition, this passage states that emergency calls may be "based solely on data received via the data channel, audio channel, or combination thereof." *Id.*, 63. Krishnan does discuss the use of a "secondary channel (e.g., a data channel)" for purposes of "managing multiple calls simultaneously." Krishnan, 1:39-41. Separate "data channels" (*i.e.*, data connections with different callers) are used "to determine which caller gets through to the PSAP agent first and which caller waits." *Id.*, 1:44-49. While Krishnan uses word "combination," this is meant only to note that the "prioritization of" different incoming emergency "calls can be based" on a "combination" of factors. *Id.*, 1:61-63. Krishnan is ***not*** stating here that a single mobile device user sends both audio and video communications (via different connections) to the same recipient during a single call. *See also* Ex. 2004, ¶¶ 186-191.

The Petition cites another passage which purportedly "describe[es] 'sending video of an emergent event' while 'audio communications' are provided via 'voice-only channel[.]'" Petition, 58 (*quoting* Krishnan, 10:56-66). Here, Krishnan states that "[w]hile audio communications may be provided via the data channel and/or a voice-only channel, other content is exchanged via the data channel…." Krishnan, 10:62-66. The word "while" here does not imply or teach simultaneous communication (or anything about communication timing at all). It only indicates that Krishnan's system is able to transmit different types of data in different ways. There is, however, no teaching that the referenced "voice-only" and "data" channels are to be employed at the same time to allow for simultaneous audio and real-time video communication from the user to a recipient as the claims require. *See also* Ex. 2004, ¶¶ 192-195.

Next, yet another cited passage simply states that "multimedia content provided over the data channel" can include "audio, video, datafiles" and other information. *Id.*, 11:28-31 (cited by Petition, 58). There is no discussion of when this occurs, or even if it is possible to simultaneously transmit different types of information. Moreover, any such communication is occurring over the same connection, not a first connection and separately established WebRTC session as the claims require. Another cited passage discusses "establishment of a data channel" but also do not mention simultaneous audio communication with a recipient. Here,

Krishnan notes that "[i]f the interaction is initiated with a voice-only communication channel, the PSAP server 216" (and not the eventual call recipient) will redirect the caller to a "data channel" using a "text message." *Id.*, 7:27-35 (cited by Petition, 57, 58, 63-64). As in the rest of Krishnan, there is no audio communication with an emergency dispatcher until later. *See, e.g., id.*, 7:7-12.7:41-43 (noting that "PSAP server 216 may further prioritize calls in a call queue for processing by a resource 112" such as a "human agent"). And one more passage does little more than note that "suitable communication device[s]" may "be adapted to support video, audio, text, and/or data communication…" *Id.*, 5:49-53 (cited by Petition, 58). Once again, there is no discussion of the timing of audio and video communications. *See also* Ex. 2004, ¶¶ 197-198.

The Petition also argues that "Figure 3" of Krishnan "illustrates" a "real-time video stream … received through the WebRTC session while audio content of the emergency call is received through the first connection." Petition, 64. The Petition identifies step 302 ("Establish a data channel connection") as a "WebRTC Session" and step 316 ("First communication") as a "voice-only channel." *Id.* (citing Krishnan, Fig. 3). This is wrong. There is no depiction or suggestion of simultaneous voice and video communications. Figure 3—like the rest of Krishnan—discloses a sequential, ordered process. Step 302 represents the initial "data connection … with PSAP server 216." *Id.*, 9:13-16. Step 316's "First

communication" is not an initially made voice call (or even a voice call at all). It is the data transmitted from first caller 204 to the PSAP server over the data connection established in preceding steps 302-304. This collected data is then used to determine call connection priority in later steps. *See id.*, 9:66-10:20 ("Step 320" entails "evaluat[ing] information received from one or more first PSAP caller" and "second PSAP caller" at steps 316 and 318 to "reprioritize the queue order" for call connection). There is no "voice-only" communication depicted as preceding step 302 in Figure 3, let alone a "voice-only" communication that continues "while" video is also being transmitted. Nor is there anything about Figure 3 that requires—or even remotely implies—that any of the depicted communication steps are meant to occur simultaneously. *See* Ex. 2004, ¶¶ 199-206.

All of this adds nothing to the obviousness analysis. Krishnan references communication via WebRTC. But so does Ramanujaiaha. Krishnan discusses the collection of "data" (like pictures, videos, and text) from an emergency caller. But it does so for purposes of call prioritization before connecting the caller with an emergency dispatcher. The Petition is once again devoid of any explanation of or evidence showing how this renders the claimed ***simultaneous*** audio and real-time video communications with a recipient obvious. It points to nothing in Krishnan that requires or even suggests this. Further, as was the case in Ground 1, the portion of the Petition in Ground 2 discussing the claim element requiring that "the real-time

video stream is received through the WebRTC session while audio content of the emergency call is received" ***does not even mention*** motivation to combine. *See* Petition, 62-64. Petitioner's expert likewise fails to address this issue. *See* Ex. 1003, ¶¶ 192-193. Instead, Petitioner once again limits itself to discussing why it purportedly would have been obvious to employ "WebRTC" and "video communication" "in emergency situations." *Id.*, 58-59. But simply using "WebRTC" and "video" does not separately motivate use of this simultaneously with audio communication. *See also* Ex. 2004, ¶¶ 207-215.

Rather than presenting evidence of a motivation, both Petitioner and its expert once again appear to simply assume that Ramanujaiaha and Krishnan ***already*** expressly disclose simultaneous audio and real-time video communications. Neither reference includes any such disclosure. As explained, at best Ramanujaiaha identifies WebRTC as a potential means to ***initiate*** communication with a contact center (and not a second form of communication that occurs during an already ongoing audio call). And Krishnan discusses the use of WebRTC to transmit data for purposes of engaging in call triage and prioritization ***before*** conducting an audio emergency call. Simply because these references mention WebRTC, and detail systems that allow for various types of communications between a caller and a call center (or an emergency dispatcher) at various times does not mean the claims are obvious. It is not enough to point to separate, unconnected teachings in the prior art.

Petitioner presents the Board with nothing that would allow it to conclude from these disparate prior art teachings that it would have been obvious to ***simultaneously*** engage in audio and WebRTC real-time video communication as the claims here require. Once again, Petitioner has not met its burden.

2. *The Petition's Discussion of Dependent Claims 7 and 14 is Deficient*

Claim 7 depends on independent claim 1, while claim 14 depends on independent claim 8. *See* '383 patent, claims 7, 14. Both claims specify that "the WebRTC session further transmits at least one of (i) GPS location data of the mobile device for display on the screen of the recipient or (ii) one or more photographs taken on the mobile device for display on the screen of the recipient." *Id.* This "WebRTC session" is the session of claim 1 (or claim 8) that transmits a "real-time video stream … while audio content of the emergency call is received." Because of this, to satisfy claims 7 and 14, the same "recipient" must engage in an "audio" "emergency call" with a "mobile device user" while also simultaneously receiving both (1) a "real-time video stream" and (2) either "GPS location data" or "one or more photographs" via the same "WebRTC session" with the "user." To be clear, Patent Owner ***does not*** propose that claims 7 and 14 require claim construction. This requirement is already apparent from the claim language itself.

The Petition's conclusory and superficial assessment of claims 7 and 14 fails to explain why this claimed subject matter would have been obvious. The Petition's

discussion of claim 7 spans two short paragraphs. *See* Petition, 66-67. The discussion of claim 14 includes nothing further (it only cross-references the short claim 7 section). *See id.*, 71-72. Here, the Petition quotes Krishnan's statement that a PSAP may be "present[ed]" with and "use" "pictures, videos, text information" "incoming from each of the data channels." *Id.*, 66 (quoting Krishnan 1:45-49). It also once again wrongly characterizes Krishnan as "describing 'sending video of an emergent event' while 'audio communications' are provided via 'voice-only channel[.]'" *Id.* (quoting Krishnan, 10:56-66).) As noted above, there is no such teaching in Krishnan. *See supra* Section IV.B.1. In Krishnan, data is received before audio communication occurs. The Petition then goes on to include an annotated version of Figure 2 purportedly showing a "screen for display" available to an "agent." Petition, 67 (reproducing Krishnan, Fig. 2). The Petition then points to passages in Krishan referencing "GPS coordinates," "images," and "position data." *Id.* (quoting Krishnan, 11:20-23, 10:62-66, 7:43-58). No other information or explanation is provided. Petitioner's expert adds nothing at all to this, simply repeating the Petition's conclusory claim 7 discussion almost verbatim. *Compare* Petition, 71-62 *with* Ex. 1003, ¶¶ 200-201.

At best, the Petition shows that Krishnan's PSAP is able to employ "pictures" and "position" information like "GPS coordinates" in some form or another. But the Petition has completely failed to explain why (or how) this information would be

obtained by the recipient via the same WebRTC session used to transmit video as opposed to some other means. It has also failed to explain or present any evidence showing that the picture / position information would be transmitted at the same time an audio call is ongoing for display to the same recipient who is engaging in both audio and real-time video communications.

Not only is this required explanation completely missing, but the portions of Krishnan cited by the Petition are inapt. For instance, the Petition cites a passage where Krishnan notes that "multimedia content" such as "GPS coordinates" may be "provided over the data channel." Krishnan, 11:20-23. This, however, appears to refer to "content" received from a "third-party 220"—not an emergency caller—that "may be helpful in mitigating the emergent situation." *Id.*, 11:6-31. Another cited passage references "images" and "position data." *Id.*, 10:62-66. But this appears to be part of "messages 412, 416, 420" sent to the device user for purposes of "provid[ing] instructions." *Id.*, 10:62-67. Yet another passage simply notes that there may be a "GPS sensing module within first user device 206" that allows the "PSAP servicer 216" to "determine" "commonality between" caller "position[s]." *Id.*, 7:43-58. The passage does not explain when and how this information is sent to the PSAP (if at all). *See also* Ex. 2004, ¶¶ 216-234.

The Petition's very limited discussion of motivation to combine—provided when discussing other claims—adds nothing further. The Petition argues that

"Ramanujaiaha expressly contemplates using a WebRTC session to transmit video communications" which would somehow have "motivated" a "POSITA to establish a WebRTC session." Petition, 27-28. This purportedly would have "allowed the user to quickly and accurately convey the nature of their emergency" "through video communication." *Id.*, 28. Similarly, when discussing Krishnan, Petition notes using WebRTC would purportedly allow users to "quickly and accurately convey" information "through video communication." *Id.*, 58-59. Even accepting this conclusory assertion as true, a motivation to employ "video communication" says nothing at all about why a POSITA would also have been motivated to use the same WebRTC session (at the same time) to also transmit image or position information. This explanation is completely absent from the Petition.

It is not enough for there to simply be "pictures" or "GPS coordinates." The claims require that this information be ***transmitted in a particular way at a particular time***: via "the WebRTC session" while both "audio" and "real-time video" communications are ongoing. Besides quoting the claims, the Petition does not even acknowledge that this is what the claims require. It certainly does not explain why a POSITA would have considered the claimed timing and means of transmission requirements to be obvious. A patent's claims are not rendered obvious by inference or mere generic citation to the prior art. Evidence is required. And as explained, a petition is required to ***explain*** the relevance of that cited evidence with particularity.

See 35 U.S.C. § 312(a)(3); *see also Intelligent Bio-Sys.*, 821 F.3d at 1369. The Petition did not even come close to doing so here.

V. SIGNIFICANT OBJECTIVE EVIDENCE ESTABLISHES THAT THE CLAIMS ARE NON-OBVIOUS

Petitioner's arguments are further undercut by objective evidence of non-obviousness, including significant industry praise of the Carbyne inventions claimed in the '383 patent. This type of evidence "must always [be] consider[ed]" when "presented in a case…" *Transocean Offshore Deepwater Drilling, Inc. v. Maersk Contractors USA, Inc.*, 617 F.3d 1296, 1305 (Fed. Cir. 2010). It establishes the patentability of the '383 patent's claims here.

A. ***Carbyne's Sells Products that Embody the Claimed Subject Matter***

Objective evidence is relevant if it has a nexus with the claimed subject matter. A nexus is presumed if the objective evidence is "tied to a specific product" that both "embodies" and is "coextensive" with the claims. *Fox Factory, Inc. v. SRAM, LLC,* 944 F.3d 1366, 1373 (Fed. Cir. 2019). The nexus requirement can also be satisfied if the objective evidence is "the direct result of the unique characteristics of the" patented subject matter. *Id.*, 1373-74. Carbyne's products satisfy both of these tests.

Carbyne's Universe product—a next-generation 911 system that can be employed with a PSAP's existing call handling infrastructure—falls within the scope of and is effectively coextensive with at least claim 1 of the '383 patent. The features and operation of the Universe product are discussed in publicly available documents,

including documents published by certain of Carbyne's local government entity customers. *See, e.g.,* Exs. 2013 (public documentation of Universe product published by Washoe County Sheriff's Office); 2014 (public documentation of Universe product published by Miami-Dade County). Moreover, the product differentiates itself from other prior products because it provides "Full rich-data capturing (Voice + data)." Ex. 2013 at pp. 7, 11, 15, 16. Thus, the Universe product "enhances … existing call-taking application[s] with true Next Gen feature functionality and rich data providing…." *Id.*, p. 17. Additional details regarding the product follow:

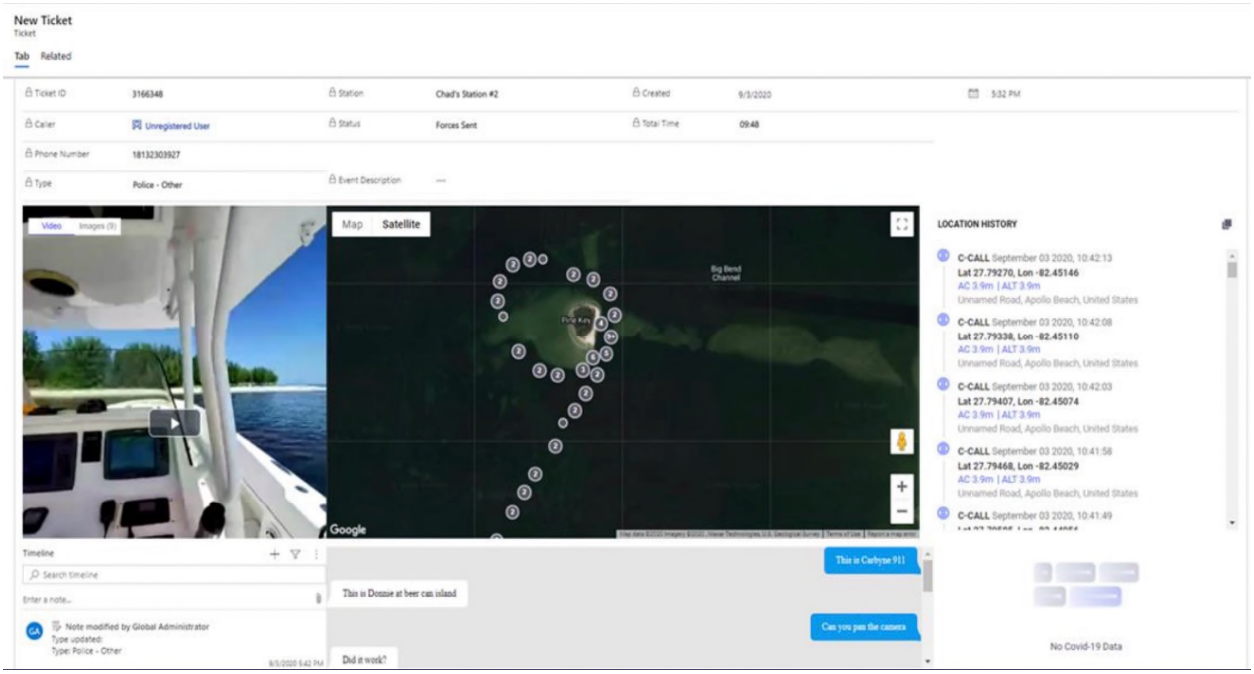
[1.Preamble] "1. A method implemented via execution of computing instructions configured to run at one or more processors, the method comprising:"

Carbyne's Universe product is a "standalone software application" or "Software-as-a-Service (SaaS)" that "sits on top of any Call Center workstation and / or laptop as a typical software icon until opened…" Ex. 2013 at pp. 10-11, 14. The software requires a "CPU" (at least a "Core i5") and a minimum amount of RAM to operate. *Id.* at p. 38; *see also* Ex. 2004, ¶¶ 241-242.

[1a]-[1b] "obtaining a phone number of a mobile device used by a user making an emergency call, wherein the emergency call is conducted with a recipient through a first connection;"

Carbyne's Universe product is able to receive "incoming Wireless calls," including emergency "9-1-1" calls. Ex. 2013, p. 11. "The incoming caller's number is captured via a DIGI device connected in line with the ANI / ALI spill similar to

how CAD and Mapping systems typically receive information." *Id.*, p. 17; *see also id.*, p. 4 (noting that "Caller profile information" including "caller number" is collected.) The below image provides an overview of the call-specific information the Universe product collects, including call number, time, duration, location, video information, and the like:



Id.; see also Ex. 2004, ¶¶ 243-245.

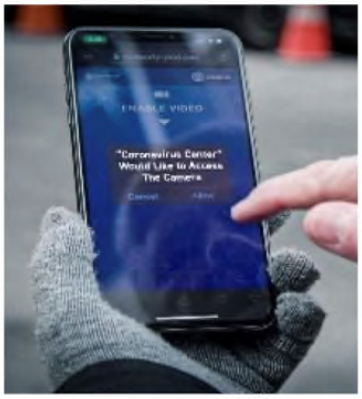
[1c]-[1e] "transmitting a uniform resource locator (URL) link to the mobile device through an electronic message, wherein the electronic message is transmitted through a second connection using the phone number, wherein the second connection is different from the first connection,"

Carbyne's Universe product also allows an emergency dispatcher to "initiate an SMS text to the calling party for approval to share" a "live video stream for on-scene situational awareness." Ex. 2013, p. 11. The SMS message includes a "unique

URL link," along with other information. *Id,* p. 39. Carbyne "rel[ies] on commercial wireless carriers and their infrastructure" to deliver the SMS message to callers. *Id.* Thus, the product allows for communication via two different types of connections: traditional voice calls and SMS messaging. *See, e.g., id.*, pp. 11, 39; *see also* Ex. 2004, ¶¶ 246-249.

[1f]-[1g] "wherein the electronic message allows the user to click on the URL link to access a web browser on the mobile device, instead of a full application on the mobile device, to establish a WebRTC (Web Real-Time Communication) session to transmit a real-time video stream from the mobile device, and wherein the URL link is associated with the phone number of the mobile device;"

Upon receipt of an SMS sent by the Universe product, the caller "will need to open the text message (SMS) notification … and click on the attached link. This will open the mobile device's web browser and will request the relevant permissions / consent to proceed with the Carbyne enhanced call." Ex. 2013, p. 18. An example of this is shown below:

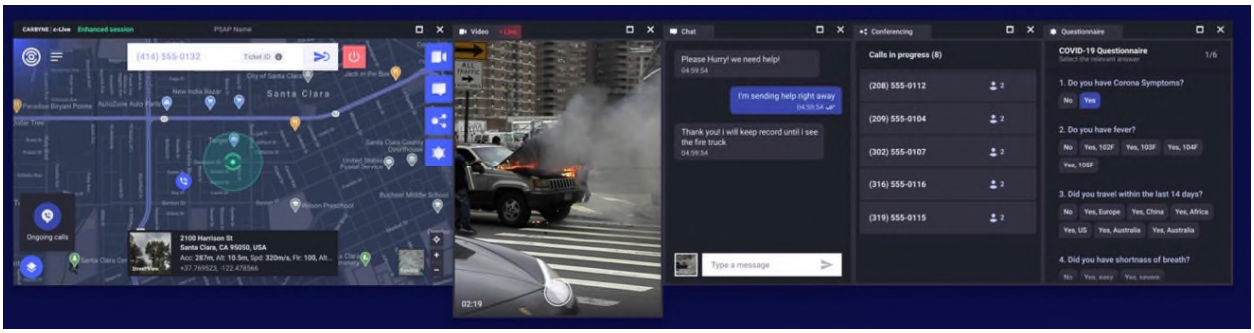


Id., p. 18. After clicking the link, "real-time video" is obtained from the "Caller's device." *Id.*, p. 11. This video is transmitted from the caller to the emergency

dispatcher "using WebRTC and H.264 / VP8 / VP9 codecs." *Id.*, p. 38. The Carbyne system also employs a "unique URL Link" that is specific to the texted caller. *Id.*, p. 39. Thus, the link is associated with the phone number of the mobile device as required. *See* Ex. 2004, ¶¶ 250-255.

[1h]-[1l] "receiving the real-time video stream from the mobile device through the WebRTC session; and sending the real-time video stream to the recipient for display on a screen of the recipient, wherein the real-time video stream is received through the WebRTC session while audio content of the emergency call is received through the first connection, and wherein the real-time video stream is associated with a unique identifier for the mobile device."

Carbyne's Universal product allows a dispatcher to not only "display[] any incoming Wireless calls" but also do so along with "data-rich features including real-time video from the Caller's device." Ex. 2013, p. 11. Receipt of the "live video stream" provides what is effectively "on-scene situational awareness" and allows the "Telecommunicator / Agency" to have "a higher level of confidence regarding incident response and field resource support & safety." *Id.*; *see also id.*, p. 5 (noting that a "Live Video Stream" is received and displayed on "the Call Taker Desktop"). "Viewing live video … is a powerful tool to address incidents where the Caller's communications are not clear or visual images can help the Telecommunicator gain additional information not available." *Id.* at p. 14. The "video session can be viewed by the Telecommunicator" "[a]t any time" during a 9-1-1 call. *Id.* An example display is shown below:



Id., p. 4; *see also id.*, p. 18 (noting that a "Telecommunicator[]" is able to "open … windows that provide them … Live video from the phone"); *id.* (similarly showing display of a video while calls are in progress). As can be seen, an emergency dispatcher is both managing "Ongoing calls" while at the same time viewing a "Live" "Video." *Id.* Finally, "[h]istorical records of all video, chat sessions and location information captured during a session is recorded and stored in the cloud using Carbyne's Event History platform." *Id.*, p. 17. Received "video" is stored along with "Caller number." *Id.*, pp. 20-21; *see also id.*, p. 4 (showing example call history with recorded number and video); Ex. 2004, ¶¶ 256-262.

B. ***Carbyne's Universe Product Has Received Industry Accolades, including from Petitioner Itself***

Carbyne's Universe product—and thus by extension the '383 patent—has received a variety of industry accolades evincing the non-obviousness of the claimed subject matter. For example, Petitioner CST itself agreed to sell and make Carbyne's products available in the United States "for NG9-1-1 to provide dynamic, real-time caller-generated live video, GPS, and chat alongside CentralSquare's Enterprise

CAD solution." Ex. 2006. Petitioner explained that offering Carbyne's products allowed it to "expand the value and capabilities" it was able to "offer" its "customers" while "deliever[ing] greater situational insight for safer and more effective emergency response." *Id.* Petitioner also noted that its "partnership with Carbyne is a powerful example of … continual innovation…" *Id.*; *see also* Ex. 2004, ¶¶ 263-265.

Next, Carbyne received a 2025 award from Frost & Sullivan—a market research firm—for being the "best in practice[] in the North American emergency call handling industry." Ex. 2012, p. 1. The award recognized that Carbyne's products "consolidates communication channels into a single interface, reducing the need for multi-platform navigation." *Id.*, p. 4. Thus, "[u]sers can resize video windows based on operational needs, and display or hide transcription as required." *Id.; see also* Ex. 2004, ¶¶ 266-267. These are all features provided by Carbyne's Universe product. *See supra* Section V.A.

VI. ANY EFFORTS TO INTERJECT NEW EVIDENCE OR ARGUMENT IN REPLY WOULD BE IMPROPER

None of the issues with the Petition raised in Sections IV.A and B of this response are resolvable on reply. "[T]he petition defines the scope of the IPR proceeding…" *VLSI Tech LLC v. Intel Corp.*, 53 F.4th 636, 653-654 (Fed. Cir. 2022); *see also SAS Institute v. Iancu*, 139 S. Ct. 1348, 1356 (2018). Thus, while a petitioner may respond to new claim construction arguments or technical points made by a

patent owner, it is not permitted to introduce an "entirely new rationale" for unpatentability in reply. *Henny Penny Corp. v. Frymaster LLC,* 938 F.3d 1324, 1330-31 (Fed. Cir. 2018). Such an improper reply could include, for instance, "submit[ting] new evidence or argument … that … could have [been] presented earlier, e.g., to make out a prima facie case unpatentability." Consolidated Trial Practice Guide, 73 (Nov. 2019); *see also* ***Wasica Fin. GmbH v. Cont'l Auto. Sys., Inc.,*** 853 F.3d 1272, 1286 (Fed. Cir. 2017) (a reply is not permitted to include an "entirely new theory of prima facie obviousness absent from the petition"). "Any marked departure from the grounds identified with particularity in the petition would impose 'unfair surprise' on the patent owner and, consequently, violate both the APA and the IPR statute." *Corephotonics, Ltd. v. Apple Inc.*, 84 F.4th 990, 1003 (Fed. Cir. 2023) (quoting *Arthrex Inc. v. Smith & Nephew, Inc.*, 935 F.3d 1319, 1328 (Fed. Cir. 2019).)

Here, Petitioner chose not to introduce any prior art besides Ramanujaiaha and Krishnan. It chose for its expert not to provide any technical background. It chose not to discuss or provide any information regarding the types of data that can be transmitted via WebRTC. And it chose not to explain why a POSITA would have been motivated to implement Ramanujaiaha (or the combination of Ramanujaiaha and Krishnan) such that audio and real-time video communications occur

simultaneously. Any effort to introduce any such evidence now will thus constitute improper—and untimely—new argument.

VII. CONCLUSION

For the reasons outlined above, Patent Owner submits that the patentability of the ’383 patent’s claims must be confirmed: Petitioner has failed to show that any of the claims are anticipated or obvious.

Respectfully submitted,

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Dated: March 27, 2026

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CERTIFICATE OF WORD COUNT

The undersigned certifies that the foregoing reply complies with the type-volume limitation in 37 C.F.R. § 42.24. According to the utilized word-processing system's word count, the reply contains 12,315 words.

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