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10 INTERUM GROUP INC.

11 **UNITED STATES DISTRICT COURT**
12 **FOR THE CENTRAL DISTRICT OF CALIFORNIA, WESTERN DIVISION**

13 INTERUM GROUP INC., a Delaware
14 Corporation,

15 Plaintiff

16 v.

17 ZOOM VIDEO COMMUNICATIONS,
18 INC., a Delaware Corporation,

19 Defendant.

—

**COMPLAINT FOR PATENT
INFRINGEMENT**

Civil Action No.

JURY TRIAL DEMANDED

22
23 Plaintiff Interum Group Inc. (“Interum”) brings this action for patent
24 infringement against Zoom Video Communications, Inc. (“Zoom”), and for its
25 Complaint alleges as follows:

26 **INTRODUCTION**

27 This case concerns Interum’s groundbreaking innovations in the remote video
28 conferencing space. These innovations were conceived and patented well before the

1 global pandemic, which forced schools, businesses and even courts to conduct their
2 studies, business meetings and court appearances through remote video terminals.
3 Even though the pandemic (which lasted from approximately 2020 to 2022) has
4 subsided, the use of video conferencing has continued effectively unabated. Remote
5 working has become an accepted norm, and reliance on video conferencing
6 technology is as strong after the pandemic as it was before.

7 **NATURE OF THE ACTION**

8 1. This is a civil action for infringement of United States Patent No. 9,325,940
9 (“the ‘940 patent”). The ‘940 patent is generally directed to novel and innovative
10 methods and systems for conducting remote video conferences amongst multiple
11 participants at different locations, using different computers and accessing the internet
12 with different bandwidth and connectivity limitations.

13 2. Interum seeks judgment that Zoom has infringed, and continues to infringe,
14 one or more claims of the ‘940 patent arising out of Zoom’s commercialization of
15 video conferencing services in the United States.

16 **THE PARTIES**

17 3. Interum is a corporation organized and existing under the laws of Delaware
18 with its principal place of business at 2819 Embassy Drive, West Palm Beach, FL
19 33401.

20 4. Zoom is, upon information and belief, a Delaware Corporation having its
21 principal place of business at 55 Almaden Boulevard, 6th Floor, San Jose, CA 95113.
22 Zoom can be served through its registered agent, The Corporation Trust Company,
23 Corporation Trust Center, 1209 Orange Street, Wilmington, New Castle County,
24 Delaware 19801.

25 **JURISDICTION AND VENUE**

26 5. This is a civil action arising under the patent laws of the United States, 35
27 U.S.C. § 1 *et seq.*, including 35 U.S.C. § 271, for infringement of the ‘940 patent.

1 6. The Court has exclusive subject matter jurisdiction over the matters pleaded
2 herein under 28 U.S.C. §§ 1331 and 1338(a).

3 7. On information and belief, Zoom's United States headquarters are located
4 in the State of California and Zoom also has a regular and established place of
5 business at 200 E Carrillo St, Suite #300, Santa Barbara, CA 93101. Accordingly, this
6 Court has personal jurisdiction over Zoom.

7 8. Venue is proper in this judicial district pursuant to 28 U.S.C. §§ 1391 and
8 1400(b) because Zoom has committed acts of infringement in this District, including
9 by providing infringing services to participants within the District. Additionally,
10 Zoom has a regular and established place of business in the District.

11 **FACTUAL BACKGROUND**

12 9. Interum is a research and development company founded by
13 telecommunications pioneer Patricia Mathis (“Mathis”) and Vladimir Smelyansky
14 (“Smelyansky”), one of the lead innovators in the field of Voice (or Video) over
15 Internet Protocol, commonly referred to as “VOIP”. VOIP, which fundamentally
16 relies on packetized digital data, has transformed the telecom industry into what it is
17 today.

18 10. Mathis and Smelyansky have been at the forefront of the telecom
19 transformation. Mathis has been a thought leader and entrepreneur in
20 telecommunications for over forty years, a time period which started with telephone
21 booths and cooper wire strung on telephone poles, to the present where the wireless
22 handset is ubiquitous, and the phone is now a computing device rather than just a
23 speaker and microphone.

24 11. Mathis played a key role as strategic advisor to both MCI and Sprint in post-
25 divestiture environment. By the 1990s, her Washington-based consulting team
26 conducted several high-profile evaluations of nascent technologies in both the public
27 and private sectors, including the development of strategies for both the United States
28 Patent and Trademark Office (“USPTO”) and the World Intellectual Property

1 Organization (“WIPO”) to adopt digital text and image search tools. Mathis founded
2 several start-up telecom companies between 1995 and 2008. She has also served on
3 both public and private corporate boards and as a Trustee of several major
4 universities.

5 12. Mathis has led several national task forces commissioned by Congress or
6 the President to conduct complex data analysis. She has served on the staff of three
7 US Presidents and is a former Assistant Secretary of the United States Treasury. In
8 her Treasury role, she crafted the data analysis that convinced a federal court to draw
9 evidentiary conclusions based on multiple regression algorithms. Mathis also led the
10 task force on data retrieval that allowed President Carter to freeze the Iranian assets
11 in 1979. She developed the strategy and oversaw the transition of the Executive
12 Branch for President-elect Bill Clinton. In addition, she is the author of numerous
13 monographs on workplace behavior, one of which led to the passage of the
14 Whistleblower Protection Act of 1989, 5 U.S.C. 2302 (b) (8)- (9), Pub. L. 101-12 as
15 amended.

16 13. With Mathis, Smelyansky co-founded XCastLabs, Inc. and has served as
17 its Chief Technology Officer from the beginning. He has more than twenty-five (25)
18 years of leadership experience in the deployment and deployment of cutting-edge
19 technologies, which include image and voice recognition, real time TCP/IP
20 networking, telephony and VoIP communications. He led the four-year product
21 development of the unified communications technology provided by Webley
22 Systems, one of the early industry leaders in the convergent technology industry.

23 14. A team led by Smelyansky conceptualized and developed the first ever
24 session initiation protocol or “SIP” based Unified Communications system.
25 Smelyansky was also a founder of start-up initiatives, including Digisoft Inc., which
26 provided consulting professional services to such companies as Price Waterhouse,
27 TDK Corporation, Anderson Consulting (Accenture), Unisys, United Airlines, Office
28

1 Max and other Fortune 100 companies. Smelyansky’s advanced graduate education
2 was completed at Kiev University in Applied Mathematics and Computer Science.

3 15. The collaboration between Mathis and Smelyansky began in the mid-1990s
4 when Mathis founded an enterprise that developed and introduced the first voice-
5 recognition software solution to the market. Smelyansky was recruited to join the
6 project as the Chief of Engineering. By the late 1990s, their collaborative efforts had
7 led to the development and deployment of the first soft-switching solution into
8 PacBell’s carrier switching. Shortly thereafter, the team introduced its SIP-based
9 software solution into the network of a major carrier for the first time in history.

10 16. Successes of the type noted above were followed by further successful
11 development and deployments in the field of telecommunications. By 2002,
12 Smelyansky’s engineering team had refined its SIP-based technology into a unified
13 business software product that would enable small businesses to have the same
14 capabilities as large carriers. Their innovations fueled the competitive opportunities
15 envisioned by the passage of the Telecommunications Act of 1996.

16 17. By 2004, the team had developed over 300 features embodied in its
17 signature software that supported intelligent Hosed IP-PBX and SIP Trunking
18 technology. This solution offered the same or better quality and reliability but with
19 even more flexibility.

20 18. Mathis and Smelyansky, and engineers working under their supervision,
21 continued to anticipate and develop software solutions that anticipated future market
22 trends driven by the acceleration of unified communication. Their vision included the
23 consolidation of all communication solutions and activities into “unified devices”,
24 what are now known as “Smart TV” or “Smart Phones” or “Smart Houses”.

25 19. During the time that these break-through technologies were being
26 developed, Mathis and Smelyansky filed for and obtained numerous U.S. patents.
27 One patent that was filed in 2009, entitled “Unified Communications Center”,
28 provided, among other things, means to allow a tv watcher to observe a screen runner

1 identifying an incoming call that the watcher could direct to voice mail or answer
 2 through a unified remote control. A user could simultaneously call up an intercom or
 3 security monitor screen to see on the tv screen who was ringing the doorbell without
 4 interrupting any programming. By 2002, a Smelyansky engineering team had made a
 5 video softphone available well before market adoption.

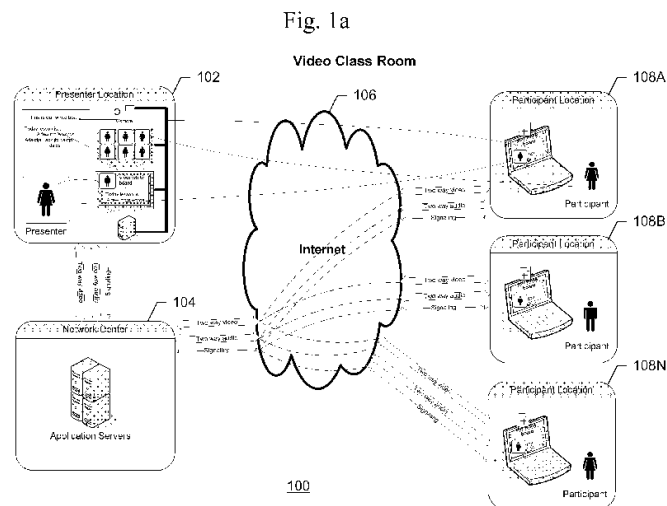
6 **THE '940 PATENT**

7 20. The '940 patent, identifying Smelyansky as the inventor, was filed on May
 8 13, 2010, as application serial number 12/779,794, entitled "Video Class Room," and
 9 issued on April 26, 2016. A true and correct copy of the '940 patent is attached hereto
 10 as Exhibit A.

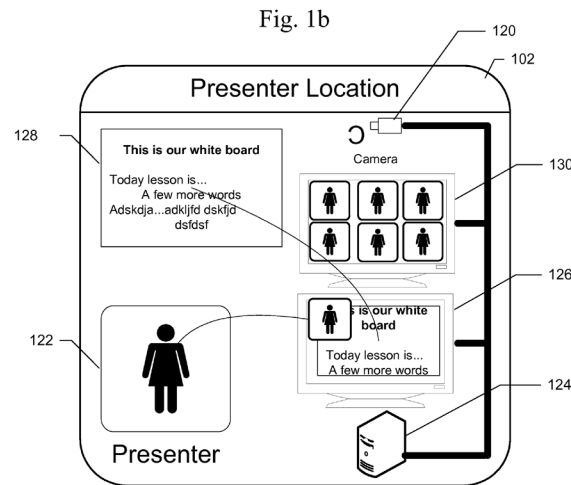
11 21. Interum owns the entire right, title and interest in and to the '940 patent,
 12 including the right to sue and recover damages, including damages for past
 13 infringement.

14 22. The '940 patent has 39 claims, four (4) of which are independent (1, 11, 21,
 15 30) and the remaining 35 of which are dependent.

16 23. The invention is described as "A method, system, and computer program
 17 product for providing full two-way interaction among participants at a large number
 18 of locations." (See '940 patent at col. 3, lines 17-19.) An example of a system
 19 implementing the invention is shown at FIG. 1a. (*id.* at col. 3, lines 20-21):



1 24. “System 100 includes a presenter location 102, such as a classroom, a
 2 network center 104, a network 106, and a plurality of computer systems at remote
 3 locations, such as participant computers 108A-N.” (‘940 patent at col. 3, lines 21-24.)
 4 An example of a presenter location 102 is shown in FIG. 1b, shown below (*id.* at col.
 5 3, lines 47-48).

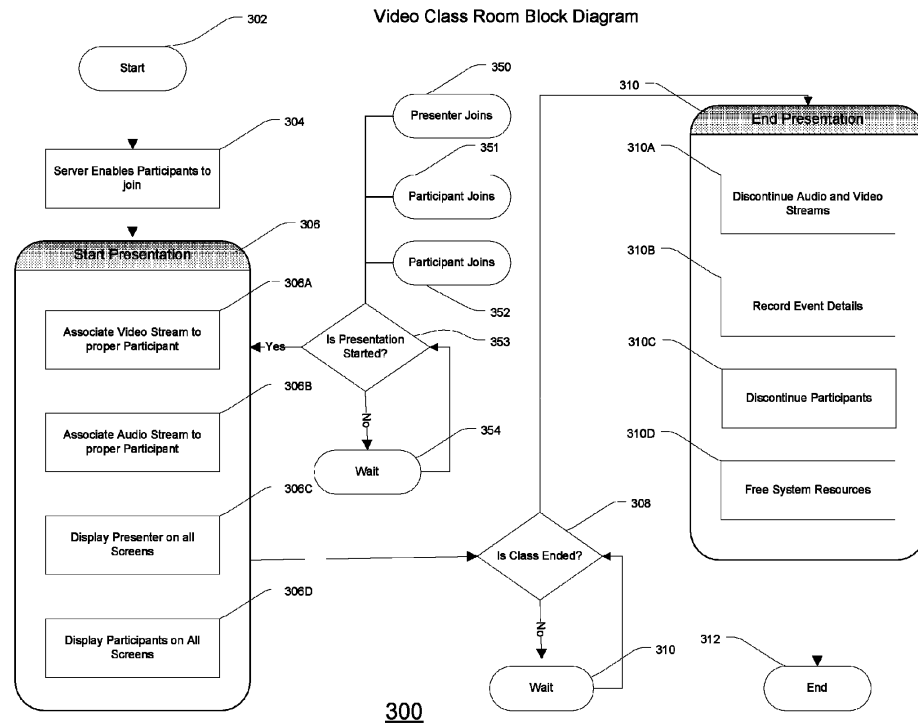


15 25. “Presenter location 102 is a location, such as a classroom, where a presenter
 16 and/or moderator, such as a teacher or conference moderator, provides a presentation,
 17 such as a lecture, recitation, etc. and/or moderates an interactive session, such as a
 18 discussion, question and answer session, etc. Presenter location 102 is linked
 19 to network center 104, which includes plural application servers which provide the
 20 computing power needed to provide the presentation services. Network center 104 is
 21 further linked to remotely located computers 108A-N via network 106. Network 106,
 22 which may include any type of private or public data network, such as a LAN, a WAN,
 23 the Internet, etc., connects presenter location 102 and participant computers 108A-N
 24 for carrying two way voice, video, and data between presenter
 25 location 102 and participant computers 108A-N.” (‘940 patent at col. 3, lines 24-39.)

26 26. Although the ‘940 patent is entitled “Video Class Room”, the use of the
 27 invention in an educational setting is just one of its many contemplated uses and, by
 28 particular reference to the specification (col. 3, lines 40-46), it is clearly not so limited.

1 27. “An exemplary flow diagram of a process 300 of operation of the system
 2 shown in FIG. 1a is shown in FIG. 3.” (*Id.* at col. 7, lines 3-4.) FIG. 3, shown below,
 3 is described at col. 7, lines 3 to 30 of the ‘940 patent.

Fig. 3



BACKGROUND OF THE INVENTION OF THE ‘940 PATENT

19 28. The ‘940 patent draws upon many of the experiences and technical
 20 developments overseen by Mathis and Smelyansky up to the time of filing of the
 21 patent application. The title of the ‘940 patent further draws upon one of the first and
 22 foremost anticipated uses of the technology, in the field of education.

23 29. Prior to the ‘940 invention, some universities had begun introducing
 24 learning management systems for delivering course content over the world wide web.
 25 These portals allowed faculty and students to engage in dialogue through
 26 collaborative chat boards, expanding on the type of academic exchanges made
 27 possible through “list servers” that were popular in the late 1990s among academics
 28 and researchers with shared interests. But like the “list servers,” these on-line learning

1 solutions lacked the nascent features of unified communications (voice and video
2 transmission, text to speech and speech to text) and had no real-time interactive
3 features or ability for quick access to multiple databases.

4 30. Mathis was intimately familiar with the shortcomings of the available
5 remote learning tools prior to the '940 invention because she was a Fellow at Harvard
6 Divinity School between 2002 and 2004 and leading an interdisciplinary program of
7 business ethics for graduate students at the Kennedy School for Public Policy, the
8 Harvard Law School and the Harvard Business School, where each department
9 managed their own communication tools. The Video Class Room concept was the
10 first illustrative example of how collaborative communities could work in a modern
11 technological world.

12 31. Smelyansky cast these concepts into the technology identified in the '940
13 patent but with the knowledge and vision that the technology and tools were
14 applicable to any situation where community and collaboration were required.

15 32. The '940 patent vision not only includes what is now known as “desk top
16 collaboration” but also the much broader collaboration that would produce an
17 emergence of “communities”, i.e., professional groups, friends and family, churches,
18 corporations, etc.

19 33. By the second decade of the twenty-first century, some solutions were
20 introduced by large corporations that were mostly directed at business communities;
21 however, they were expensive and less consumer friendly. Then, the COVID
22 pandemic ignited the market with a need to simultaneously “live remotely and be
23 together”. As a result, the vision that the Mathis/Smelansky team had imagined almost
24 two decades earlier finally became a reality as their technology was widely adopted.

ZOOM’S PRODUCTS AND SERVICES

25
26 34. Zoom has become one of the best-known communication platforms for
27 providing video conferencing services. On information and belief, Zoom’s revenues
28 at least doubled during the pandemic as students learned remotely and workers

1 worked remotely. Friend groups, who were accustomed to meeting at bars or
2 restaurants, health clubs or libraries prior to the pandemic, found themselves meeting
3 virtually, online via Zoom video conferencing services.

4 35. An essential feature of Zoom’s video conferencing platform is that a large
5 number of participants in different locations who have different device and network
6 capabilities can join a meeting whereby the video and audio aspects of the meeting
7 are coordinated in such a way that the meeting occurs with minimal interruptions.

8 36. The video conferencing service offered and hosted by Zoom is referred to
9 as “Zoom Meetings”. On information and belief, Zoom offers a number of “plans”
10 that include Zoom Meetings as a primary feature. Zoom offers a free plan (“Zoom
11 Basic”) which provides a 40-minute time limit for meetings of 3 to 100 people. Zoom
12 also offers paid plans, such as “Zoom Pro”, “Zoom Business”, “Zoom Business Pro”
13 and “Zoom Enterprise”. Zoom Pro eliminates the 40-minute time limit of Zoom Basic.
14 Zoom Business and Zoom Business Pro further allows users to host meetings that
15 include up to 300 participants. Zoom Enterprise allows users to host up to 500
16 participants in a single meeting (which can be increased to 1,000 participants with an
17 optional bundle), referred to as “Zoom Large Meetings”. Zoom also offers plans
18 specifically for “Education”.

19 37. On information and belief, Zoom launched an AI-powered “Zoom
20 Workplace” platform in early 2024. Prior to that time, the platform utilized by Zoom
21 for providing Zoom Meetings was “Zoom One”. As part of its effort to replace the
22 Zoom One platform with the Zoom Workplace platform, Zoom will rename the plan
23 names referred to above by including the word “Workplace”.

24 38. Zoom Video Webinar is a platform designed to facilitate large-scale virtual
25 events with video, audio and screen sharing, enabling up to 100 video panelists to
26 broadcast to a large audience (of up to 50,000 attendees located anywhere globally)
27 while maintaining control over interactions by restricting attendees to view and listen
28 mode. During a webinar a presenter can momentarily promote any attendee to be a

1 panelist so they can turn on their audio and video. The features and capabilities of
2 Zoom Video Webinar are described in the document entitled “*Zoom Video Webinar*
3 *FAQ*”, dated July 2020, at [https://explore.zoom.us/media/zoom-video-webinars-](https://explore.zoom.us/media/zoom-video-webinars-faq.pdf)
4 [faq.pdf](https://explore.zoom.us/media/zoom-video-webinars-faq.pdf).

5 **CLAIMS FOR PATENT INFRINGEMENT**

6 39. The allegations provided below are exemplary and without prejudice to
7 Interum’s infringement contentions provided pursuant to the Court’s scheduling order
8 and local rules.

9 **COUNT I: INFRINGEMENT OF THE ‘940 PATENT**

10 40. Interum incorporates by reference the allegations set forth in paragraphs 1-
11 39 as though fully set forth herein.

12 41. On information and belief, the use of Zoom’s systems and services which
13 incorporate Zoom Meetings and Zoom Webinars, such as the Zoom One and Zoom
14 Workplace platforms, and any apparatus and service used therewith (collectively the
15 “Zoom Accused Product and Services”), meets all the claim limitations of at least
16 Claim 1 of the ‘940 patent.

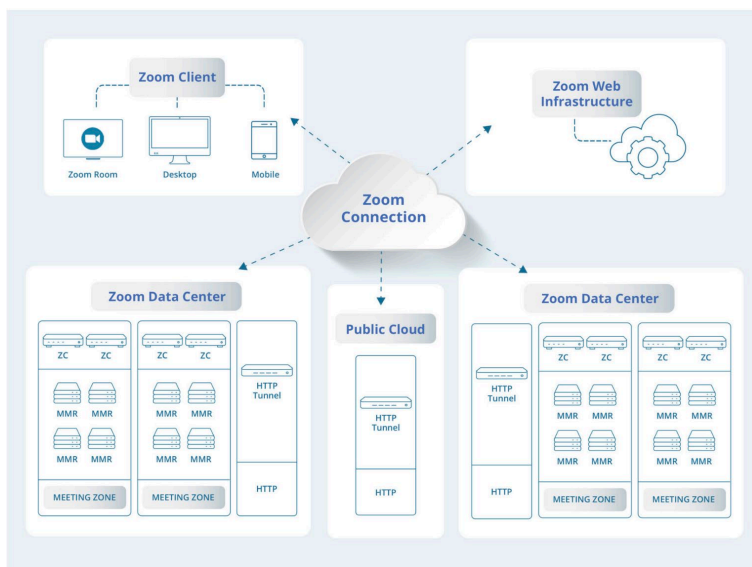
17 42. Claim 1 recites a “*method for providing video classroom presentation*
18 *services*”.

19 43. Zoom provides a video conferencing platform that allows full two-way
20 interaction among a host and participants at several different locations. According to
21 an April 2020 white paper entitled “*Client Connection Process*” (hereinafter referred
22 to as the “White Paper”), available on Zoom’s website at
23 [https://explore.zoom.us/docs/doc/Zoom_Client_Connection%20Process_Whitepape](https://explore.zoom.us/docs/doc/Zoom_Client_Connection%20Process_Whitepaper.pdf)
24 [r.pdf](https://explore.zoom.us/docs/doc/Zoom_Client_Connection%20Process_Whitepaper.pdf), page 1, “*Zoom’s connection process ensures that whenever someone attempts*
25 *to access the platform there is an optimized path to Zoom’s geographically distributed*
26 *and highly available infrastructure.*” Moreover, the services provided by Zoom
27 specifically include video classroom presentations. According to an April 24, 2020
28 feature (as updated on September 22, 2022) posted on Zoom’s blog at

1 [https://www.zoom.com/en/blog/zoom-for-education-top-10-frequently-asked-](https://www.zoom.com/en/blog/zoom-for-education-top-10-frequently-asked-questions/)
 2 [questions/](https://www.zoom.com/en/blog/zoom-for-education-top-10-frequently-asked-questions/), entitled “Zoom for Education: Top 10 Frequently Asked Questions”, at
 3 page 1 (emphasis added), “Remote virtual learning has become the new normal for
 4 many teachers, administrators, students, and parents . . . we want to provide resources
 5 to ensure users are creating secure and effective virtual classrooms using Zoom . . .
 6 [Zoom] Meetings are designed to be highly collaborative, giving attendees the ability
 7 to use audio and video, share their screen, and annotate in a live, interactive
 8 environment.”

9 44. Claim 1 further recites “receiving a real-time audio stream and a plurality
 10 of real-time video streams of a video classroom presentation, wherein at least some
 11 of the plurality of received video streams have at least two of different frame rates,
 12 resolutions, and encoding”.

13 45. Zoom is described on page 1 of the White Paper as a “cloud platform for
 14 video and audio conferencing, collaboration, chat, and webinars across mobile
 15 devices, desktop computers, telephones, and room systems.” A diagram of the
 16 architecture for Zoom’s connection process, through the Zoom cloud, is shown on
 17 page 1 of the White Paper, as follows:



1 46. The Zoom Client is the host and participants' method of accessing the
2 Zoom cloud for purposes of a Zoom Meeting or Zoom Video Webinar session (*see*
3 White Paper at pages 1-2). A Zoom Multimedia Router (hereinafter referred to as an
4 "MMR") is a server which is responsible for hosting the session (*id.*). The MMR
5 receives, transmits and distributes audio streams, video streams and content amongst
6 the host and participants in the session through the Zoom cloud.

7 47. According to the feature "*Here's How Zoom Provides Industry-Leading*
8 *Video Capacity*" dated June 26, 2019 (last updated on September 29, 2022), provided
9 on the Zoom Blog at [https://www.zoom.com/en/blog/zoom-can-provide-increase-](https://www.zoom.com/en/blog/zoom-can-provide-increase-industry-leading-video-capacity/)
10 [industry-leading-video-capacity/](https://www.zoom.com/en/blog/zoom-can-provide-increase-industry-leading-video-capacity/), Zoom's architecture "*has been optimized to handle*
11 *video's demanding requirements*" by its distinctive key features, two of which are set
12 out below:

13 "3. *Multi-bitrate encoding: In addition to stream routing, each stream*
14 *by itself can adjust to multiple resolutions. This eliminates the*
15 *need to encode and decode the streams for each endpoint,*
16 *optimizing performance and scalability. This also enables Zoom*
17 *to provide different levels of video quality based on the device and*
18 *network capabilities."*

19 4. *Application layer quality of service: Our proactive quality-of-*
20 *service application layer optimizes the video, audio, and screen-*
21 *sharing experience specifically for each device and the available*
22 *bandwidth, resulting in the best possible user experience across*
23 *any network."*

24 48. The various layers of Zoom's architecture are described on pages 2-4 of the
25 Zoom document entitled "*Zoom Architected for Reliability*" (hereinafter referred to
26 as the "Zoom Architecture Document") dated September 2019, at
27 https://zoomgov.com/docs/doc/Zoom_Global_Infrastructure.pdf. The Reactive
28 Quality of Service Layer "*monitors the client's bandwidth, packet loss, latency and*
jitter" and "*notifies the up layer to take the best action within adaptive technology.*"
The Adaptive Codec in Session Layer is comprised of multiple layers which "*optimize*

1 *the video frame rate and resolution and provide superior quality and reliability for*
2 *various network environments and different devices”.*

3 49. The foregoing demonstrates that Zoom’s video architecture accommodates
4 various device and network capabilities which include frame rates, resolutions and
5 encoding.

6 50. In an alternate embodiment, the MMR is deployed within a virtual machine
7 in an on-premise Zoom Meeting Connector whereby all meeting traffic (video, voice,
8 in-meeting chat, and data sharing) received and transmitted by the MMR is done so
9 through a private cloud. This embodiment is described in a “Zoom Support” document
10 entitled “*Zoom On-Premise Deployments*”, dated January 4, 2024, provided at
11 https://support.zoom.com/hc/en/article?id=zm_kb&sysparm_article=KB0060084
12 and a “Zoom Support” document entitled “*Meeting connector core concepts*”, dated
13 August 8, 2022 (updated on February 23, 2024), provided at
14 https://support.zoom.com/hc/en/article?id=zm_kb&sysparm_article=KB0061815.

15 The MMR otherwise operates in the same way described above.

16 51. Claim 1 further recites “*receiving a real-time audio stream and a real-time*
17 *video stream of each of a plurality of participants to the video classroom presentation,*
18 *wherein the receiving comprises receiving a real-time text stream [from] each of a*
19 *plurality of participants to the video classroom presentation”.*

20 52. As previously stated, the MMR is capable of receiving and transmitting
21 “content” amongst the host and participants. The Zoom “chat” feature allows
22 participants to send instant text messages to one or more other participants during a
23 Zoom Meeting or Zoom Webinar session: see “Zoom Support” documents entitled
24 “*Chatting in a Zoom meeting*”, dated January 14, 2024, at
25 [https://support.zoom.com/hc/en/article?id=zm_kb&sysparm_article=KB0064400#:~
26 :text=chats%20between%20participants.,While%20in%20a%20meeting%2C%20ta
27 p%20More%20and%20then%20tap%20Chat,to%20send%20your%20private%20m](https://support.zoom.com/hc/en/article?id=zm_kb&sysparm_article=KB0064400#:~:text=chats%20between%20participants.,While%20in%20a%20meeting%2C%20tap%20More%20and%20then%20tap%20Chat,to%20send%20your%20private%20m)

28

1 [essage](#) and “*Chatting in a Zoom webinar*”, dated December 2, 2023, at
2 https://support.zoom.com/hc/en/article?id=zm_kb&sysparm_article=KB0067761.

3 53. Claim 1 further recites “*selectively transmitting the real-time audio stream*
4 *and the plurality of real-time video streams of the video classroom presentation and*
5 *the real-time audio stream and the real-time video stream of each of the plurality of*
6 *participants to a video classroom presentation location and to each of the plurality of*
7 *participants, wherein at least a plurality of real-time video streams are transmitted*
8 *concurrently to each of the plurality of participants, wherein at least some of the*
9 *plurality of transmitted real-time video streams have different frame rates,*
10 *resolutions, or both*”.

11 54. As described above, Zoom’s video architecture accommodates various
12 device and network capabilities which include frame rates, resolutions and encoding.
13 According to a document entitled “*Zoom connection problems: Video bandwidth*”,
14 located at [https://canvas.stanford.edu/courses/73606/pages/zoom-connection-](https://canvas.stanford.edu/courses/73606/pages/zoom-connection-problems-video-bandwidth)
15 [problems-video-bandwidth](https://canvas.stanford.edu/courses/73606/pages/zoom-connection-problems-video-bandwidth) (emphasis added): “*Zoom automatically adjusts the*
16 *streaming resolution to match what each participant’s internet can handle. Below*
17 *720p, it may shift to 640 or 360. Also, the way Zoom works is that bandwidth*
18 *requirements do not increase as more people join. Each individual user sends in their*
19 *video feed, Zoom then takes all the feeds essentially merges all the feeds into a 720*
20 *video that is sent to all the participants.*” Thus, the MMR receives video streams from
21 the host and participants, merges the video streams and then transmits the video
22 streams concurrently to the host and participants. The MMR is able to selectively
23 transmit audio streams and video streams to the host and/or is able to selectively
24 transmit audio streams and video streams to the participants.

25 55. Claim 1 further recites “*receiving input from a presenter at a real-time*
26 *interface, the input indicating a configuration of real-time audio streams and real-*
27 *time video streams, the configuration including: a selection of at least one real-time*
28 *audio stream and at least one real-time video stream to be transmitted to each of the*

1 *plurality of participants, a selection of at least one real-time audio stream and at least*
 2 *one real-time video stream that is to be transmitted to each of the plurality of*
 3 *participants upon detection of at least one condition, and the at least one condition”.*

4 56. The Zoom “focus mode” feature allows the host (i.e., presenter) to restrict
 5 the participants from seeing each other so they are not distracted by the other
 6 participants. Once the focus mode feature has been activated by the host, a participant
 7 will only see the host’s video, the videos of any participants “spotlighted” by the host,
 8 and the participant’s own video. The focus mode feature is described in a “Zoom
 9 Support” document entitled “*Using focus mode*”, dated November 9, 2023, located at
 10 https://support.zoom.com/hc/en/article?id=zm_kb&sysparm_article=KB0063004.

11 The document provides the following example of the participant view when one
 12 participant is spotlighted:



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 21 57. The Zoom “spotlighting” feature is described in a “Zoom Support”
 22 document entitled “*Spotlighting participants’ videos*”, dated November 9, 2023, at
 23 https://support.zoom.com/hc/en/article?id=zm_kb&sysparm_article=KB0066300
 24 (“*Spotlight video puts up to 9 participants as the primary active speakers for all*
 25 *participants, and participants will only see these speakers. Spotlighting can also be*
 26 *done during screen sharing. This feature is often used to spotlight a keynote*
 27 *speaker.*”) Instructions as to how to spotlight a participant are provided as follows:
 28

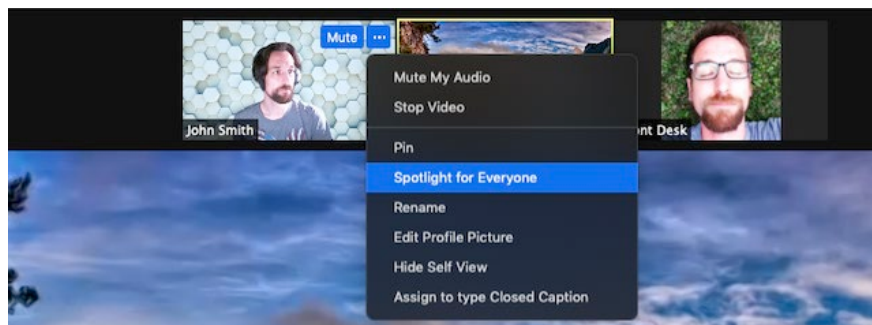
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How to spotlight participants

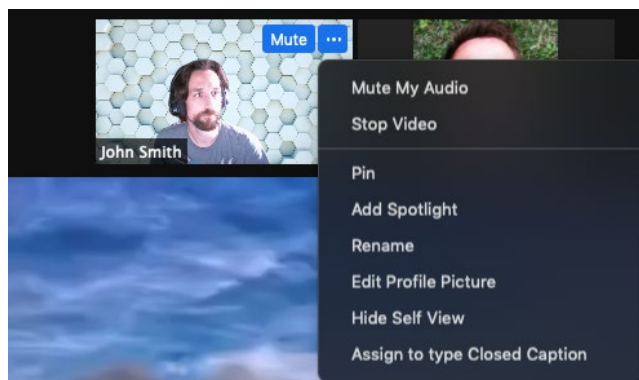
[Windows | macOS](#)

1. Start a meeting or webinar as the host, or join and be assigned co-host.
2. Hover over the video of the participant you want to spotlight and click the ellipsis icon **⋮**.
Additional options for that participant are displayed.

Click **Spotlight for Everyone**.



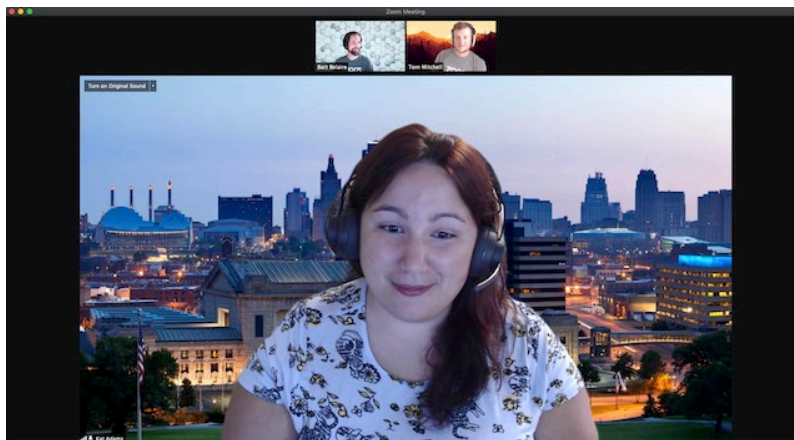
3. (Optional) To spotlight additional participants (up to 9 total), follow steps 2 and 3 again as needed, clicking on Add Spotlight instead.



58. Claim 1 further recites “*providing audio-video coordination using audio effects on at least one real-time audio stream transmitted to the video classroom presentation location to indicate a real-time video stream corresponding to the real-time audio stream*”.

59. When “Speaker view” or “Gallery view” is enabled, the MMR identifies a presently existing audio stream, identifies the presently existing video stream associated with the audio stream, and then makes the video stream larger (if in Speaker mode) or moves and highlights the video stream (if in Gallery view), to help

1 the host identify who is speaking. This is described in the “Zoom Support” document
2 entitled “*Adjusting your video layout during a virtual meeting*”, dated April 24, 2024,
3 at https://support.zoom.com/hc/en/article?id=zm_kb&sysparm_article=KB0063672
4 (“*Speaker view will switch the large video window between who is speaking with 3 or*
5 *more participants in the meeting . . . When in Gallery view and a participant begins*
6 *speaking, that active speaker is relocated to the current page you are viewing and*
7 *highlighted, making it easier to recognize who is speaking.*”). An example of Speaker
8 view, where the speaker is in the large video window, is provided below:



17 60. An example of Gallery view, wherein the speaker in row 2, column 3 is
18 highlighted, is provided below:



1 61. Claim 1 further recites “*wherein the frame rate, resolution, and encoding*
2 *of each real-time video stream is determined, adjusted, or converted in real-time*
3 *before and during transmission of each real-time video stream depending on the*
4 *subject matter of the real-time video stream and the number of real-time audio*
5 *streams and real-time video streams received from participants in order to provide a*
6 *determined service or quality of service*”.

7 62. Again, Zoom’s video architecture accommodates various device and
8 network capabilities which include frame rates, resolutions and encoding. On page 3
9 of the Zoom Architecture Document, Zoom’s “Multi Bitrate Encoding” is contrasted
10 with traditional rate transcoding as follows: “*The Distributed Conference Layer*
11 *utilizes subscription information for switch technology with no transcoding or mixing.*
12 *Traditional conferencing services always transcode the streams and mix them*
13 *together. Zoom’s switching method uses less CPU and memory, giving our system a*
14 *massive scalability difference.*” Based on the foregoing, the MMR can encode video
15 streams together irrespective of the bitrate of each video stream. Thus, the frame rate,
16 resolution and encoding of each real-time video stream can be determined, adjusted
17 or converted in real-time by the MMR before and during transmission.

18 63. On information and belief, Zoom has directly infringed and continues to
19 directly infringe one or more claims of the ‘940 patent by using (both commercially
20 and in testing) the Zoom Accused Products and Services in the United States in
21 violation of 35 U.S.C. § 271(a).

22 64. On information and belief, Zoom has directly infringed and continues to
23 directly infringe one or more claims of the ‘940 patent by using, jointly with users of
24 the Zoom Accused Products and Services, Zoom’s systems and services, in violation
25 of 35 U.S.C. § 271(a).

26 65. On information and belief, Zoom also has induced and continues to induce
27 the infringement of the ‘940 patent by others, including by providing the Zoom
28 Accused Products and Services to users who pay for subscriptions to Zoom Accused

1 Products and Services, or users who receive free Zoom Accused Products and
2 Services, instructing them to use the Zoom Accused Products and Services in an
3 infringing manner, and knowing that such use of the Zoom Accused Products and
4 Services constitutes infringement of one or more claims of the ‘940 patent, in
5 violation of 35 U.S.C. § 271(b).

6 66. On information and belief, Zoom also has contributed and continues to
7 contribute to the infringement of the ‘940 patent by others, including by providing the
8 Zoom Accused Products and Services to users, knowing that the Zoom Accused
9 Products and Services are especially made for use in infringing one or more claims of
10 the ‘940 patent, and are without substantial non-infringing uses, in violation of 35
11 U.S.C. § 271(c).

12 67. On information and belief, before the filing of the Complaint and no later
13 than that date, Zoom was aware of the existence of the ‘940 patent, at least through
14 its communications with Interum. By letter dated January 6, 2023, Interim brought
15 the ‘940 patent to the attention of Zoom and suggested that Zoom should consider
16 taking a license from Interum. Zoom did not provide any response to that letter.
17 Moreover, the ‘940 patent was cited as prior art in respect of patent application
18 17/589,156, entitled “*Motion-Based Frame Rate Adjustment for In-Person*
19 *Conference Participants*”, filed on January 31, 2022, which issued as United States
20 Patent No. 11,563,790 on January 24, 2023, to Zoom as the assignee. Zoom therefore
21 has knowledge of the ‘940 patent and that its activities infringe the ‘940 patent.

22 68. Zoom’s deliberate and willful infringement has damaged and continues to
23 damage, Interum in an amount yet to be determined, of at least a reasonable royalty
24 and/or lost profits that Interum would have made but for Zoom’s acts of infringement.

25 **JURY DEMAND**

26 69. Interum demands a jury trial as to all issues that are triable by a jury in this
27 action.

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PRAYER FOR RELIEF

WHEREFORE, Interum respectfully prays for relief against Zoom as follows:

- (a) Judgment and declaration that Zoom has infringed and continues to infringe one or more claims of the ‘940 patent under 35 U.S.C. § 271(a), (b), and/or (c);
- (b) An accounting of all damages sustained by Interum as a result of Zoom’s infringing activities;
- (c) An award of damages pursuant to 35 U.S.C. § 284 in an amount according to proof, and in any event no less than a reasonable royalty;
- (d) An award of costs and expenses pursuant to 35 U.S.C. § 284 or as otherwise permitted by law;
- (e) An award of treble damages pursuant to 35 U.S.C. § 284, including on the basis that Zoom aware of the ‘940 patent;
- (f) An award of reasonable attorneys’ fees pursuant to 35 U.S.C. § 285;
- (g) An award of prejudgment interest on all damages awarded to Interum;
- (h) An award of post-judgment interest on all amounts awarded to Interum from the date of the judgment; and
- (i) Any and all other relief that the Court deems just and proper.

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Dated: June 25, 2024

Respectfully Submitted,
PENNINGTON OLIAK PLLC

/s/ Beth A. Oliak

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