

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GENIUS SPORTS LTD.,
Petitioner,

v.

SPORTSCASTR INC.
(d/b/a PANDA Interactive),
Patent Owner.

IPR2025-00252

U.S. Patent No. 11,871,088

PATENT OWNER PRELIMINARY RESPONSE

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Patent Trial and Appeal Board
U.S. Patent & Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

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EXHIBIT LIST

Exhibit	Description
EX-2001	Declaration of Aviel Rubin, Ph.D.
EX-2002	<i>Curriculum vitae</i> of Aviel Rubin, Ph.D.
EX-2003	Joint Claim Construction Statement, Dkt. 69
EX-2004	Declaration of Dr. Stephen Wicker, September 13, 2024
EX-2005	Institution Decisions for IPR2024-1305, IPR2024-1307, IPR2024-1308, IPR2024-1309, IPR2024-13010, IPR2024-1311
EX-2006	<i>SB IP Holdings, LLC v. Vivint, Inc.</i> , No. 4:21-cv-00912 (E.D. Tex. Apr. 6, 2023) Order Denying Stay
EX-2007	<i>Portsmouth Network Corp. v. Cisco Systems, Inc.</i> , No. 2:23-CV-00441 (E.D. Tex. Oct. 21, 2024) Order Denying Stay
EX-2008	First Amended Docket Control Order
EX-2009	EDTX Median Time-to-Trial
EX-2010	Motion to Amend First Amended Docket Control Order
EX-2011	Proposed Second Amended Docket Control Order
EX-2012	Genius Sports’ Second Supplemental Invalidity Contentions
EX-2013	Sportradar’s Amended Invalidity Contentions
EX-2014	Guidance on USPTO’s rescission of “Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation”
EX-2015	Memo on Interim Processes for PTAB Workload Management
EX-2016	USPTO rescinds memorandum addressing discretionary denial procedures https://www.uspto.gov/about-us/news-updates/uspto-rescinds-memorandum-addressing-discretionary-denial-procedures
EX-2017	2025-02-25 PUBLIC Panda (Genius) Third Amended Complaint
EX-2018	https://www.opensourceforu.com/2015/03/a-guide-to-using-raw-sockets
EX-2019	https://learn.microsoft.com/en-us/windows/win32/winsock/tcp-ip-raw-sockets-2
EX-2020	Oracle documentation in 2011: Anatomy of the Client/Server Model. https://docs.oracle.com/cd/E13203_01/tuxedo/tux80/atmi/intbas3.htm
EX-2021	Peng, Gang. “CDN: Content distribution network.” arXiv preprint cs/0411069 (2004) https://arxiv.org/pdf/cs/0411069
EX-2022	The History of Streaming Media.

Exhibit	Description
	https://boyetblog.s3.amazonaws.com/PCPlus/324.Streaming.pdf
EX-2023	RFC 2326: Real Time Streaming Protocol (RTSP) https://www.ietf.org/rfc/rfc2326.txt
EX-2024	Adobe's Real Time Messaging Protocol https://rtmp.veriskope.com/pdf/rtmp_specification_1.0.pdf
EX-2025	WebRTC 1.0: Real-time Communication Between Browsers https://www.w3.org/TR/2011/WD-webrtc-20111027/
EX-2026	HTTP Live Streaming: draft-pantos-http-live-streaming-01 https://datatracker.ietf.org/doc/html/draft-pantos-http-live-streaming-01
EX-2027	Microsoft To Add Smooth Streaming in IIS7 https://virtualizationreview.com/articles/2008/11/04/microsoft-to-add-smooth-streaming-in-iis7.aspx
EX-2028	HTTP Dynamic Streaming. (Archived May 14, 2010) https://web.archive.org/web/20100514170442/http://www.adobe.com/products/httpdynamicstreaming/
EX-2029	MPEG ratifies its draft standard for DASH. (Archived December 14, 2011) https://web.archive.org/web/20111214104626/http://mpeg.chiariglione.org/meetings/geneva11-1/geneva_press.htm
EX-2030	Mogulus Rebrands With A Killer Domain: Livestream.com https://techcrunch.com/2009/05/18/mogulus-gets-a-killer-domain-for-rebranding-livestreamcom/
EX-2031	How to watch Obama's inauguration (and the parties) online https://www.cnet.com/tech/tech-industry/how-to-watch-obamas-inauguration-and-the-parties-online/
EX-2032	Twitch is 4 th in Peak US Internet Traffic https://blog.twitch.tv/en/2014/02/05/twitch-is-4th-in-peak-us-internet-traffic-90b1295af358/
EX-2033	Twitch Engineering: An Introduction and Overview https://blog.twitch.tv/en/2015/12/18/twitch-engineering-an-introduction-and-overview-a23917b71a25/
EX-2034	<i>Proceedings of the 25th ACM workshop on network and operating systems support for digital audio and video</i> , pp. 55-60, 2015 https://arxiv.org/pdf/1502.04666
EX-2035	Reserved
EX-2036	Reserved
EX-2037	Reserved

Exhibit	Description
EX-2038	Reserved
EX-2039	Reserved
EX-2040	PANDA Interactive - Patents
EX-2041	SportsCastr- About for Publishers
EX-2042	Genius Sports 02-24-18 Email
EX-2043	Genius Sports 05-07-18 Email
EX-2044	Order Granting-In-Part Motion to Amend First Amended DCO

SportsCastr Inc. (d/b/a PANDA Interactive) (“Patent Owner” or “PANDA”) submits this Preliminary Response (“POPR”) to the Petition of Genius Sports, Ltd. (“Petitioner” or “Genius Sports”) seeking inter partes review of U.S. Patent No. 11,871,088 (“the ’088 patent”).

I. INTRODUCTION

The ’088 patent discloses and claims a novel one-to-many socket architecture that supplies multiple client devices real-time, actionable event information, which may be paired with a digital content stream, e.g., a video stream. (EX-1012, 3:46-64, 5:7-55, 55:1-29; 56:1-31; EX-2001, ¶¶78-84.) This novel architecture reduces latency among client devices receiving these updates, which plagued prior art systems.

Nevertheless, the Board instituted *inter partes* review proceedings in six IPRs (concerning US 10,425,697; US 10,805,687; US 11,0392,218) that relate to similar technology, and that involve similar prior art (the “Instituted Matters”). (EX-2005.) Patent Owner respectfully submits that the Board’s institution decisions in the Instituted Matters should not be viewed as controlling here, for at least three reasons:

1. Discretionary denial under *Fintiv* is appropriate because the ’088 patent is part of parallel litigation that is scheduled for trial more than five months before a final written decision;

2. The Petition is not reasonably likely to succeed on the merits because Petitioner fails to demonstrate that the prior art rendered obvious the claimed

orchestrator-type webserver functionality; and

3. Petitioner does not demonstrate that the prior art's "topic queues" correspond to the claimed "socket."

The USPTO rescinded the Vidal Memo; all Six *Fintiv* factors favor denial

First, the issue of discretionary denial under *Fintiv* was not before the Board in the Instituted Matters. Patent Owner's *Fintiv* arguments were not available before the February 28, 2025 rescission of the 2022 Vidal Memorandum, as it precluded *Fintiv* denial where a petitioner submitted a *Sotera* stipulation. After the rescission, denial under Section 314(a) is appropriate here because the '088 patent is asserted against two defendants in parallel litigations that are scheduled for *trial more than five months before the Board's final written decision*.

All six *Fintiv* factors favor denial in this proceeding: (1) the district court has not granted and is unlikely to grant a stay; (2) the scheduled district court trial precedes the Board's final written decision by more than five months; (3) significant resources have already been invested by the district court and parties, including forthcoming completion of claim construction, fact discovery, and expert reports; (4) there is complete overlap of prior art and issues between the proceedings; (5) the parties before the Board are identical to those in district court litigation; and (6) the petition does not present compelling evidence of unpatentability. Instituting IPR here would only increase costs and create unnecessary risk of conflicting decisions.

Moreover, additional factors, such as Petitioner’s heavy reliance on expert testimony and Petitioner’s anti-competitive behaviors favor discretionary denial. (EX-2015, 2.)

A relay-type webserver cannot provide the required orchestration

Second, the challenged claims in the ’088 patent recite additional architectural functionality that orchestrates connections between components in the system, including providing instructions for connecting to sockets and rendering event information—that was not considered by the Board in the Instituted Matters. Petitioner points to nothing in any of the primary references showing the claimed *orchestrator* functionality. Instead, Petitioner relies on generic relay-type servers (which shuttle data along a series or relay of servers) and argues that servers “facilitate” streaming connections between components.

But a generic relay-type server does not provide the required orchestration, socket management, or event rendering capabilities needed by the claims. The claimed functionality actively facilitates real-time connections and data synchronization, which is fundamentally different from a simple relay that merely forwards information. Petitioner fails to address the claimed orchestrator functionality and the specific functions it supports, and instead uses improper hindsight to recreate the claimed invention.

Topic queues are not sockets under Petitioner's own definition

Third, in its institution decisions, the Board overlooked key differentiating features of the claimed socket architecture over prior art reference Spivey: (i) Spivey's "topic queues" do not disclose or suggest a "socket" because those topic queues are not "uniquely addressable communication endpoints;" and (ii) Spivey does not disclose or suggest that its Message Queue Servers ("MQS") / topic queues are capable of handling communication to individual client devices. Either one of the above findings is sufficient to deny Institution here.

According to Petitioner's expert, a "socket" is a "uniquely addressable communication endpoint." (EX-1001, ¶163.) Spivey's topic queues are neither "uniquely addressable" nor "communication endpoints." (EX-2001, ¶¶205-206.)

Yet the Board did not credit Patent Owner's expert testimony, of Dr. Rubin, which firmly established that Spivey's topic queues are not uniquely addressable communication endpoints, because he had not "address[ed] sufficiently Spivey's teachings as a whole." (EX-2005, 37, 98, 171, 236, 298, 355.) But Dr. Rubin did in fact explain that a POSITA would not consider Spivey's message queues to be "uniquely addressable communication endpoints" because they lack an address through which they can communicate at all. Dr. Rubin also explained that Spivey describes only its live data access server as being uniquely addressable.

In response, the Board found Spivey's disclosure that an "address may

resemble a uniform resource locator (URL)” and that a user interface 900 “allow[s] an operator 108 of a client device to view and select...topics available from a message queue server” supports a finding that Dr. Rubin’s testimony “is limited to addressing live data access server 130.” (EX-2005, 37, 98, 171, 236, 298, 355.)

But Spivey’s user interfaces 800, 900, 1000 (FIGS. 8-10) *all pertain to accessing the live data access server* via a client mobile application. (EX-2001, ¶¶207-209; EX-1017, ¶¶81-84.) Spivey’s message queue servers immediately push data to the live data access server, and individual client devices subscribe to the live data access server to receive such data. Spivey’s user interfaces merely depict graphical displays viewable by individual clients for accessing data via the live data access server. While the live data access server provides a communication endpoint for individual client devices, Spivey does not describe, nor would a POSITA understand, Spivey’s message queue servers and associated topic queues to be uniquely addressable communication endpoints. Dr. Rubin further elaborates on these points in his declaration submitted herewith. In view of this clarification, there is no reasonable likelihood that Petitioner can prove invalidity of any challenged claim.

For these reasons, and those discussed below, the Board should deny institution.

II. THE BOARD SHOULD EXERCISE ITS DISCRETION TO DENY INSTITUTION UNDER 35 U.S.C. § 314(a)

The Board should decline to institute IPR of the '088 patent because an IPR here would be neither quicker than, nor an alternative to, ongoing district court litigation.

The '088 patent is one of four patents asserted in claims against two different parties in the Eastern District of Texas (“EDTX”). A hearing to construe the claims will be held on May 9, 2025—all but ensuring that the district court will issue a claim construction order before the Board’s institution decision is due. Furthermore, the district court is on track to adjudicate the same invalidity arguments raised in the petition by January 21, 2026, more than five months before the Board issues a final written decision. Instituting a parallel IPR proceeding would needlessly increase the cost of resolving the underlying dispute.

In addition, as outlined in the March 26, 2025 Memorandum on PTAB Workload Management, additional factors in this case, such as “[t]he extent of the petition’s reliance on expert testimony” and “compelling economic [interests]” weigh in favor of discretionary denial. (EX-2015, 2.) First, the institution decisions were decided on the basis that “[the Board] give Dr. Rubin’s [Patent Owner’s expert] testimony less weight than Dr. Wicker’s [Petitioner’s expert] testimony at this preliminary stage.” (EX-2005, 37). Second, compelling economic interests favor discretionary denial because of Petitioner’s anti-competitive conduct that deprive

consumers of a free market. (EX-2017, ¶¶18-31.)

Under these circumstances and in light of the abrogation of the 2022 Vidal Memo (EX-2016) and guidance outlined in the March 26, 2025 Memorandum (EX-2015), the Board should exercise its discretionary authority to deny institution under 35 U.S.C. § 314(a).

A. Factor 1: The District Court Has Not Granted A Stay

The first *Fintiv* factor asks “whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted.” *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 at 6 (PTAB Mar. 20, 2020) (precedential). Here, the undisputed answer to both questions is *no*.

To date, no stay in the district court has been granted or requested. (Petition, 88.) Further, the district court does not have a track record of granting stays before institution. *See, e.g., SB IP Holdings, LLC v. Vivint, Inc.*, No. 4:21-cv-00912, slip op. at 2 (E.D. Tex. Apr. 6, 2023) (“When a motion to stay is filed before the PTAB institutes post-grant review, courts in this district typically refrain from ruling on the motion pending action by the PTAB or deny the motion without prejudice to refiling in the event that the PTAB institutes a proceeding.”) (EX-2006); *Portsmouth Network Corp. v. Cisco Systems, Inc.*, No. 2:23-CV-00441, slip op. at 2 (E.D. Tex. Oct. 21, 2024) (“[T]his Court has a consistent practice of denying motions to stay when the PTAB has yet to institute post-grant proceedings.”) (EX-2007).

The Board has found Factor 1 to favor discretionary denial where “Petitioner present[ed] no evidence that it has requested a stay [] or that a stay is likely.” *Luxshare Precision Industry v. Amphenol Corp.*, IPR2022-00132, Paper 10 at 9 (PTAB May 3, 2022). Factor 1 favors discretionary denial.

B. Factor 2: A District Court Trial Is Expected After The Statutory Deadline

Factor 2—the implications of the district court and IPR schedules—also weighs for denial. *Fintiv*, IPR2020-00019, Paper 15 at 11-12, 17 (PTAB May 13, 2020) (*informative*).

Trial on the ’088 patent will likely occur in January 2026—more than five months before the Board’s final written decision is expected.¹ (EX-2008, 1; EX-2044, 2.) The median time-to-trial for patent cases in EDTX is 721 days (i.e., roughly 24 months). (EX-2009, 1.) Therefore, the new trial date in January 2026 will likely stick, since the median time-to-trial would have put the trial date at October 5, 2025.

Accordingly, factor two favors discretionary denial.

C. Factor 3: The Parties Will Have Invested Significant Resources In The Parallel Proceedings

¹ On March 7, 2025, Petitioner filed a motion to amend the current docket control order in view of newly asserted antitrust claims. (EX-2010; EX-2011.) On March 28, 2025, the district court denied Petitioner’s request for a 7-month extension, granting only a 75-day extension to the current trial date of November 7, 2025 and denying Petitioner’s request to extend patent-related deadlines, including those for claim construction. (EX-2044.)

Factor 3—the resources invested in parallel proceedings—favors denial if, at the time of the institution decision June 30, 2025, the district court has issued substantive orders related to the patent, such as “claim construction orders.” *Fintiv* at 9-10, n.17 (collecting cases).

Both the parties and the district court have invested significant resources in the two parallel proceedings for nearly 18 months since the filing of the complaints on October 5, 2023. The parties have already completed claim construction disclosures and discovery, and Patent Owner submitted its claim construction brief addressing 40 disputed terms on March 21, 2025. A hearing to construe the claims in both cases involving the '088 patent will be held May 9, 2025—ensuring that the district court’s claim construction order will be issued before the Board’s institution decision. (EX-2008, 5.) Additionally, the parties will have completed fact discovery and served opening invalidity expert reports by June 20, 2025 — ten days before the Board’s institution decision is due. (EX-2008, 4, 5.) On March 28, 2025, the district court denied Petitioner’s request to extend these deadlines, stating that “[t]he Court further does not find that proportional extensions of patent-related deadlines are appropriate.” (EX-2044, 2.)

Accordingly, while Petitioner proffers a *Sotera* stipulation, by the time of the Board’s institution decision, the parties will have already expended resources to litigate validity of the challenged patent through expert report.

In light of the overlapping schedules here and the redundant resources that will be wasted should IPR be instituted, this factor favors discretionary denial. *Fintiv* at 6; *NXP USA, Inc. v. Impinj, Inc.*, PGR2022-00005, Paper 20 at 7 (PTAB Aug. 25, 2022) (Board should consider “the duplicative efforts that will occur during the [] duration of [IPR]”); *Regeneron Pharmas. Inc. v. Novartis Pharma AG*, IPR2020-01317, Paper 15 at 17 (PTAB Jan. 15, 2021).

D. Factor 4: The Issues Overlap

Factor 4—the degree of overlap between the issues in the petition and those before the district court—also supports denial. “[C]oncerns of inefficiency and the possibility of conflicting decisions [are] particularly strong” where “the Board [is] presented with substantially identical prior art arguments.” *Fintiv*, IPR2020-00019, Paper 11 at 12.

There is complete overlap between the petitioned grounds and both parallel litigations:

Petitioned Prior Art Reference	Petitioner’s Invalidity Contentions	Sportradar’s Invalidity Contentions
Ellis	Yes. (EX-2012, 26.)	Yes. (EX-2013, 14.)
Spivey	Yes. (EX-2012, 26.)	Yes. (EX-2013, 14.)
Herzog	Yes. (EX-2012, 26.)	Yes. (EX-2013, 14.)
Abulikemu	Yes. (EX-2012, 26.)	Yes. (EX-2013, 14.)

While Petitioner has submitted a *Sotera* stipulation, Petitioner’s stipulation should carry no weight here because the parties will have already expended

resources to litigate the same prior art through the completion of opening invalidity expert report before the Board's institution decision. In view of these parallel tracks, instituting IPR will multiply the burden on Patent Owner and create the possibility of inconsistent decisions between the district court and the Board.

Furthermore, on March 25, 2025, Chief Judge Boalick issued guidance stating that a "*Sotera* stipulation... will not be dispositive by itself. Instead, the Board will consider such a stipulation as part of its holistic analysis under *Fintiv*." (EX-2014, 2-3). Because Petitioner's stipulation does not "mitigate[] any concerns of duplicative efforts between the district court and the Board," or "of potentially conflicting decisions," Factor 4 weighs heavily in favor of discretionary denial. *Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 at 19 (PTAB Dec. 1, 2020).

E. Factor 5: Both Parties Are Parties In The Parallel Litigation

Factor 5 weighs in favor of denial because Petitioner is a defendant in the parallel litigation and will have a full, fair opportunity to litigate its invalidity contentions. *See Vizio, Inc. v. Maxell, Ltd.*, IPR2022-01459, Paper 7 at 21-22 (PTAB Apr. 11, 2023).

F. Factor 6: The Petition Does Not Present Compelling Evidence Of Unpatentability.

Factor 6—the merits of the petition—also weighs against institution because, as detailed below, the petition fails to show even a "reasonable likelihood" that

Petitioner would prevail on any challenged claim. *See* Section V, *infra*. The petition certainly does not pass the higher threshold of a “compelling” unpatentability challenge, which requires a determination that Petitioner is “highly likely” to succeed on the merits. *Commscope Techs. v. Dali Wireless, Inc.*, IPR 2022-01242, Paper 23, 3-4 (PTAB Feb. 27, 2023). Furthermore, even if the unpatentability challenge is compelling, the recent March 25, 2025 Board guidance states that “compelling merits alone is not dispositive in making the assessment [for discretionary denial].” (EX-2014, 3).

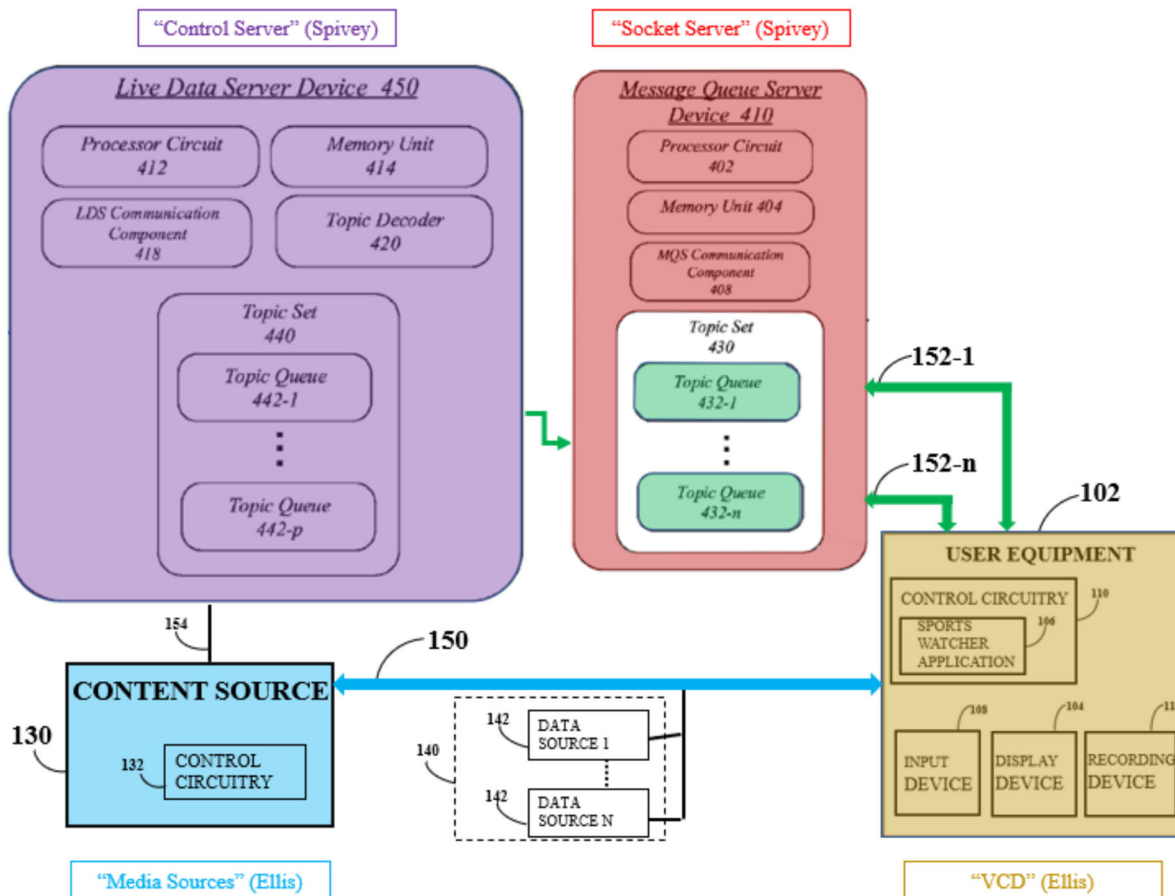
G. Additional Factor 1: The Petition and the Instituted Matters Relied Heavily on Petitioner’s Expert Testimony

In accordance with USPTO’s March 26, 2025 Memo, the Board should also consider “[t]he extent of the petition’s reliance on expert testimony” as a factor for discretionary denial. (EX-2015, 2.) In the Instituted Matters, the Board relied heavily on Petitioner’s expert testimony. (EX-2005, 34-37)

For example, the Board “agree[d] with Petitioner (Pet. 37 n.6) that Spivey suggests the intermediary live data access server is optional” based solely on a footnote citing Petitioner’s expert declaration. (EX-2005, 34.) The Board also concluded that “Spivey at least suggests a direct connection between the message queue server device and client devices” again based on the same footnote stating, “these passages better support Petitioner’s and Dr. Wicker’s assertions at this stage.” (EX-2005, 34.) Furthermore, the Board “also credit preliminarily Petitioner’s reason

to omit the live data access server” based on expert testimony, rather than relying on specific disclosures from the prior art itself. (EX-2005, 34.)

Another example of Petitioner’s dependence on extrinsic testimony is its reliance on an entirely expert-created figure. As shown below, this figure depicts an amalgamation of disparate prior art systems and fabricated components, purporting to represent a make-believe combined system that allegedly invalidates the claimed invention.



(Petition, 24.) The Board adopted this “illustration of [Petitioner’s] conception of the combined system” in deciding the Instituted Matters. (EX-2005, 17.) However,

as explained in detail in Section V.A. *infra* and clearly illustrated in the figure, the “151-1” and “151-2” connections are entirely fictional creations by the Petitioner’s expert and do not originate from intrinsic evidence (Petition, 28.)

Therefore, the Petitioner’s heavy reliance on expert testimony weighs in favor of discretionary denial. (EX-2015, 2.)

H. Additional Factor 2: Compelling Economic Interests Favor Discretionary Denial Because of Petitioner’s Anti-Competitive Conduct

The Patent Office’s March 26, 2025 Memo states that “[c]ompelling economic [interests]” should be considered as a factor for discretionary denial. (EX-2015, 2.)

On February 25, 2025, Patent Owner filed an amended complaint, with evidence that Petitioner not only copied Patent Owner’s patented technology but also coerced Patent Owner’s potential customers into using Petitioner’s infringing products through anticompetitive means. (EX-2017, ¶1.) Petitioner’s coercion involved conditioning access to essential data—exclusively controlled by Petitioner—on the use of it infringing products, in violation of antitrust laws. (EX-2017, ¶¶1, 18-31, 361-382.)

Patent Owner developed technology for delivering broadcasts enriched with synchronized, contextually matched, and actionable live data and content, using technology claimed in the ’088 patent. The ’088 patent is embodied in Patent

Owner's "SocketVision technology," which is incorporated in Patent Owner's consumer-focused "patented streaming platform" SportsCastr, as well as in the B2B "sports betting platform" PANDA Studio. (EX-2040; EX-2041.)

Petitioner learned of Patent Owner's products under the guise of exploring partnerships, but in reality, Petitioner was developing its own products by copying Patent Owner's patented technology.

On Feb 24, 2018, 3:10 PM -0500, Ben Turner <ben.turner@geniussports.com>, wrote:

Hey Kevin,

Thanks for your time yesterday. It is great to see what you guys are doing with SportsCastr. Let's organise a follow up call for when I am back in Australia and I will have a think about some potential intro's that might be of interest.

(EX-2042 (annotated).)

On Mon, 7 May 2018 at 7:15 am, Ben Turner <ben.turner@geniussports.com> wrote:

Hi Kevin, Andrew and Luke,

I wanted to introduce you all to each other. As I travel around I find many great companies working in the sports digital/tech space and like to make introductions where synergies may exist. So...

Kevin April (CEO) and Andrew Schupak (CFO) founded Sportscastr - <https://sportscastr.com/> - they are based in NY and doing amazing work around sports broadcast with social commentators, graphics and real time chat.

(EX-2043 (annotated).)

Petitioner then tied its own inferior content delivery products to the

distribution of official, live professional sports data, which Petitioner obtained through long-term exclusive licenses with major sports leagues. (EX-2017, ¶¶20-23.) Customers have told Patent Owner that they could not adopt Patent Owner's products because they would lose access to official sports league data unless they used Petitioner's products. (EX-2017, ¶25.)

Furthermore, Petitioner has coordinated with Sportradar (co-defendant and joinder petitioner in the Instituted Matters) to divvy up relevant United States markets. (EX-2017, ¶28.) For example, Petitioner monopolizes the NFL, NCAA, and Premier League data markets, while Sportradar monopolizes the NBA, MLB and NHL data markets. (EX-2017, ¶28.)

Petitioner's anticompetitive conduct not only harms Patent Owner, but also negatively impact consumers by hindering development of a competitive market, thereby preventing lower prices, higher quality products, and increased innovation. Therefore, compelling economic interests support discretionary denial.

* * *

As all six *Fintiv* factors plus two additional factors weigh for discretionary denial, Patent Owner respectfully requests that the Board exercise its discretion to deny institution.

III. THE '088 PATENT

A. Inadequacy of the Prior Art

Synchronized data and video streams are cornerstone technologies that

support the exploding real-time interactive online broadcasting market. Interactive features alongside germane video content may allow, and even encourage, viewers to engage and interact—all without the viewer leaving an immersive viewing experience. (EX-2001, §§III-IV.)

However, despite years and countless investments in streaming technology, conventional systems continue to suffer from persistent latency and synchronization failures, preventing reliable real-time engagement and high-quality content delivery. (EX-1012, 2:22-47; EX-2001, §III.C.) While any video streaming technology may seek to reduce latency, the inventors of the '088 patent sought to address specific problems related to latency. (EX-1012, 24:42-25:15.) For example, conventional techniques made it challenging to provide “relatively low latency copies of live video streams with relatively high quality (e.g., high definition HD and high bit rate).” (EX-1012, 2:37-40; EX-2001, §III.C.)

Even slight delays between a live video feed and its corresponding event data (e.g., statistics, betting odds) can confuse viewers and disrupt engagement. In industries like sports betting, where real-time decision-making is crucial, stale or unsynchronized data can lead to missed wagering opportunities and loss of user confidence. (EX-2001, §III.C.) The inability to deliver real-time, synchronized event data at scale has long been a critical technical challenge in live-streaming environments. (EX-2001, §III.C.) The '088 patent directly addresses these

shortcomings, and others, by introducing a real-time, socket-based system that ensures seamless pairing of video and event information.

B. Innovations of the '088 Patent

The '088 patent discloses systems and processes related to delivering video with contextual-matched event information. (EX-1012, Title, 4:41-5:6; EX-2001, §IV(A).) The claimed inventions implement a novel, technologically improved, one-to-many socket architecture. (EX-1012, 19:45-59, 21:18-33, 21:55-22:20; EX-2001, ¶¶78-79.) This socket architecture allows multiple client devices to establish an event information channel with a “socket,” which may supply real-time, actionable event information to each client device that is contextually matched with a delivered video stream. (EX-1012, 21:18-33, 22:55-22:20; EX-2001, ¶77.) The '088 patent discloses and claims transmitting such event information to the client device via a communication channel. (EX-1012, 21:34-54; EX-2001, ¶¶84-86.)

Among the innovations of the '088 patent is a novel architecture with a dedicated channel to transmit event information, separate from a communication channel for video streaming, to facilitate pairing of real-time, actionable information with related video content. (EX-1012, 21:18-33, 26:54-27:9; EX-2001, ¶87.) By transmitting video signals to the viewer device separate from event information, the '088 patent facilitates the inclusion of real-time, contextually matched data alongside the video stream. (EX-1012, 21:18-33, 26:54-27:9; EX-2001, ¶97.) For

example, all event viewers (regardless of the video stream they receive) may receive synchronized information from the same event socket dedicated to that event. (EX-1012, 26:32-53, FIGS. 2-4; EX-2001, ¶¶82-83.) All live streams, across multiple viewer client devices, may therefore similarly receive synchronized event information, received in real-time via the “event information Internet communications channel.” (EX-1012, 21:34-54, 26:32-53; EX-2001, ¶¶80-81.)

The '088 patent discloses a specialized webserver that actively orchestrates synchronization between real-time event data and video streams, ensuring that interactive content remains dynamically aligned with the video feed. (EX-1012, 21:34-54, FIG. 29.) For example, the webserver may support client device “access to media servers, [] access to view other broadcasters' live streams via one of multiple different media sources, [and] recei[pt of] event information associated with broadcasters' live streams,” among other functions. (EX-1012, 13:26-54.)

The architecture described in the '088 patent represents a significant improvement over the prior art not found in the references cited by Petitioner. (EX-2001, ¶97.) The '088 patent solves a technical challenge of providing the same event information in a synchronized manner to all viewers of such broadcast (e.g., via the socket architecture and paired video stream). (EX-1012, 24:42-25:15, 26:54-27:9.) Because all viewers of the broadcast may receive the same synchronized information via the same event socket, each viewer client device may be capable of receiving the

same information, at generally the same time, in real-time, regardless of video transmission protocol. (EX-1012, 26:32-53; EX-2001, ¶90.)

The claimed inventions facilitate enhanced online sports offerings because each viewer may interact with (and, more generally, make decisions based on) the same information as other viewers, all while watching the same video content, including video content of user's commentary of the same live event. (EX-1012, 26:32-53; EX-2001, ¶91.) Using this novel socket architecture and paired video stream enables the claimed invention to leverage real-time communication protocols in a distributed network to deliver high-quality, low-latency copies of a video stream to multiple viewers, each of whom are receiving synchronized event information. (EX-1012, 26:32-53; EX-2001, ¶¶78, 81, 97.)

C. Claim Construction

Petitioner takes conflicting claim construction positions in two proceedings. Here, Petitioner contends the Board need not construe any claim terms. (Petition, 8-9.) But, in co-pending district court litigation, Petitioner has proposed construction of three claim terms. (EX-2003.) Except for the “socket” term for which Patent Owner applies Petitioner's construction as discussed below, for purposes of this preliminary response, Patent Owner agrees that no terms require construction and construes all other terms consistent with their plain and ordinary meaning.

D. Level of Ordinary Skill in the Art

A person of ordinary skill in the art would have a bachelor's degree in

electrical engineering, computer engineering, computer science, or equivalent degree and, in addition, approximately two years of work experience with Internet video streaming, Internet communication, and related protocols. (EX-2001, §IV.C.)

IV. PRIOR ART OVERVIEW

A. Ellis

Ellis recognized that media guidance applications (e.g., television program guides) were typically generalized applications that failed to leverage the increased capabilities of television equipment, such as having multiple tuners. (EX-1016, ¶¶3-7; EX-2001, §V.A.) Specifically, television viewers were “unable to efficiently switch” between programs of interest. (EX-1016, ¶7; EX-2001, ¶113-114.)

Accordingly, Ellis discloses systems and methods directed to an “intelligent tuning module” that facilitates a user (e.g., of a television) rapidly switching between programs. (EX-1016, Abstract; EX-2001, ¶¶100-101.) For example, using the system Ellis describes, a viewer may tune into a first television program while concurrently tuning into a second television program. (EX-1016, ¶¶5, 49; FIG. 2A.) Because the television is tuned to both (or more) programs simultaneously, the user may switch between the sporting events quickly. (EX-1016, ¶¶5, 137, 176, 178.)

For example, the user’s equipment may include control circuitry, having multiple “tuners” (e.g., Tuners 202, 204, 206, 208)—the first being tuned to a primary event and a second tuned to a second event. (EX-1016, ¶¶57-59; FIG. 2A; EX-2001, ¶¶109-110.) The systems and methods described in Ellis allow for ranking

and prioritization of content streamed into the tuners. (EX-1016, ¶¶64, 73, 164; EX-2001, ¶¶109-110.)

Ellis further describes a graphical user interface (e.g., “display screen 300”) to facilitate switching from the primary sporting event to the second sporting event, as shown in Ellis FIG. 3 (below). (EX-1016, ¶¶68, 69; EX-2001, ¶¶116-117.) For example, an interactive scoreboard 302 may be overlaid in a main window. The interactive scoreboard may include scoreboard entries 304, 306 with information indicative of the currently tuned events. (EX-1016, ¶68.)

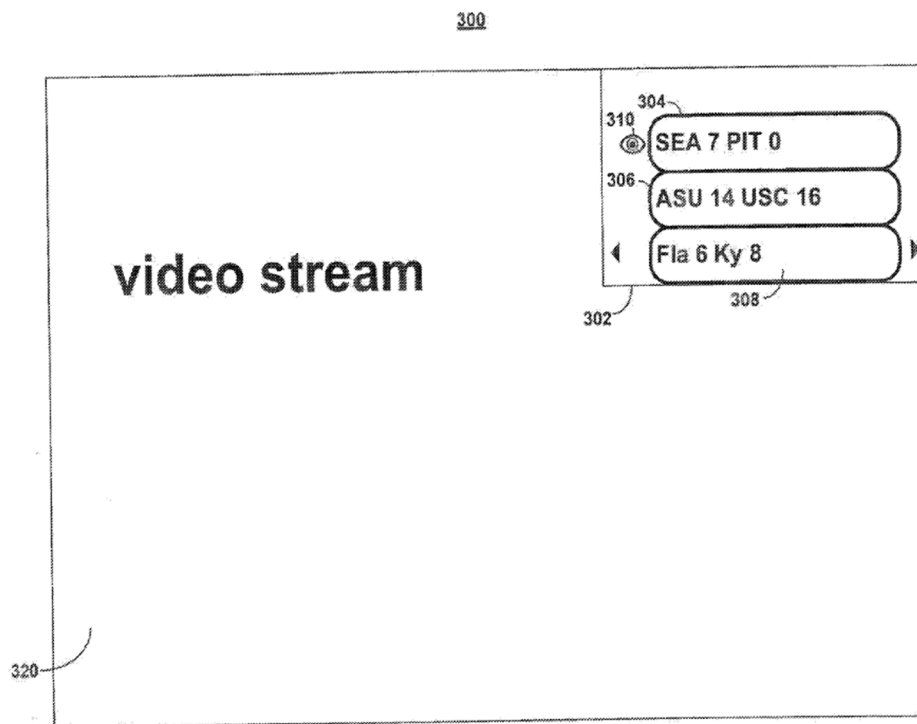
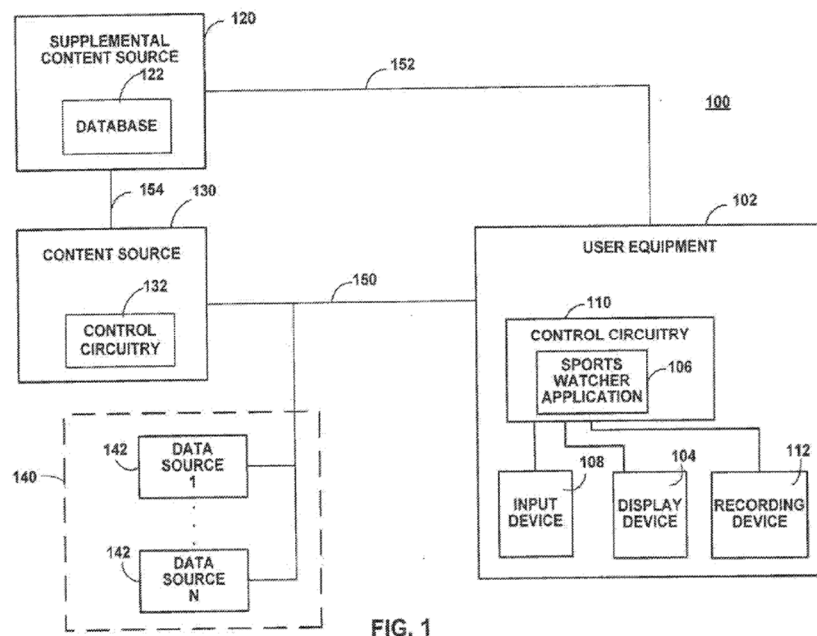


FIG. 3

(EX-1016, FIG. 3.)

Ellis describes a generic two-track architecture whereby the user’s equipment “receives content in the form of signals from content source 130 and/or supplemental

content source 120 over communications paths 150 and 152, respectively,” for example, as shown in FIG. 1 (below). (EX-1016, ¶39; FIG. 1; EX-2001, ¶¶116-117.) The viewer may view content from content source 130 via communication path 150, while also receiving data from supplemental content source 120 via communication path 152 (e.g., data used to update the scoreboard). (EX-1016, ¶¶39-41, 70-71; FIG. 1.)



(EX-1016, FIG. 1.)

Petitioner’s own expert, Dr. Wicker, conceded the lack of specificity in Ellis’s data delivery, noting that “Ellis does not explicitly disclose the backend architecture/process flows for delivering the supplemental content data.” (EX-1001, ¶117.)

Ellis differs from the inventions of the ’088 patent in multiple ways. As

acknowledged by Petitioner's own expert, Dr. Wicker, Ellis discloses only a generic computer architecture, with no discussion of a socket server of any type. (EX-1016, ¶¶39-42; EX-1001, ¶117; EX-2001, ¶¶123-125.) Further, Ellis discloses using the equipment of each viewer, individually, and is irrelevant to the problem, addressed by the '088 patent, of delivering data to multiple users in a synchronized manner.

B. Spivey

Spivey discloses an apparatus directed to rapidly distributing live event data to users in “real-time” utilizing a message queue server (MQS). (EX-1017, Abstract; EX-2001, §V.B.) According to Spivey, content providers experience obstacles providing real-time event data to mobile devices. (EX-1017, ¶2, 27-28.)

Spivey therefore discloses a “message queue server” that operates to receive, sort, and transmit data payloads “immediately,” without the need for interim storage in a database. (EX-1017, ¶¶51, 46, 128, 131; EX-2001, ¶¶127-129, 142.) For example, as shown in FIG. 1 (below), Spivey discloses data topic entries (which include both a topic label and data payload) transmitted from live data sources (e.g., data feeds generated by computers at a live event) to a message queue server. (EX-1017, ¶37; EX-2001, ¶138-140.) The message queue server sorts the data payload into a designated queue based on the topic label, and then sends the data payload from the data queue to a live access server. (EX-1017, ¶¶47, 67; EX-2001, ¶¶141-143.) Notably, in the example of FIG. 1, the message queue server 120 (which may

sit “behind a firewall”) pushes the payload to live data access server 130, and “is not accessible to clients over the network directly.” (EX-1017, ¶36; FIG. 1; EX-2001, ¶¶131-136.)

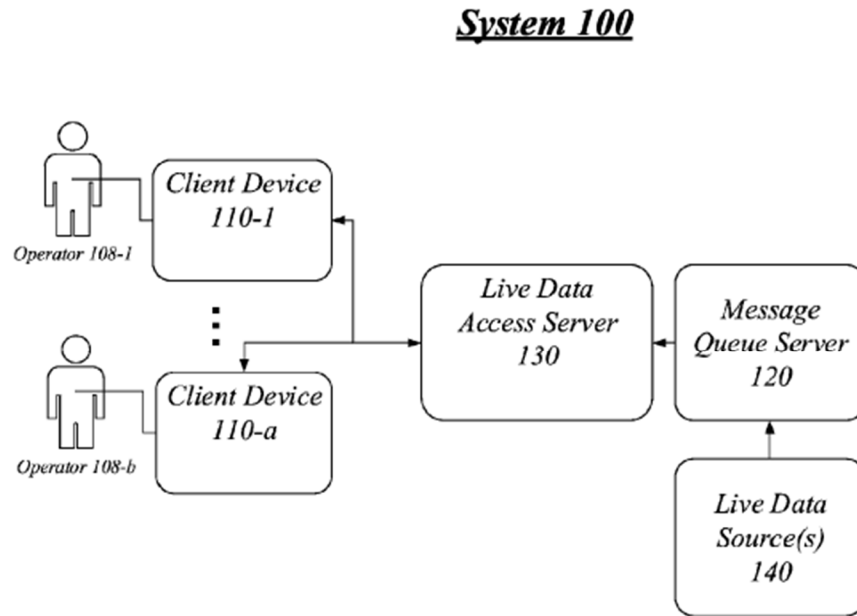


FIG. 1

(EX-1017, FIG. 1.)

Live data access server 130 serves as a “public interface” for the message queue server 120 and various client devices. (EX-1017, ¶38; EX-2001, ¶¶136-137.) At the live data access server, client devices may select topics related to a given event to which they want to subscribe. (EX-1017, ¶38.)

The message queue server 120 may be implemented by message queue server device 410 and live data server device 450. (EX-1017, ¶53.) The live data server device includes topic decoder 420, which sorts a topic entry into one or more appropriate queues (e.g., topic queue 442-1, 442-2, etc.) before sending the data

payload to the message queue server device. (EX-1017, ¶¶49, 56; EX-2001, ¶¶141-142.) The message queue server device may in turn operate as a “message broker” to facilitate receiving published messages from the live data server device and sending such messages to subscribers (e.g., the “aggregator component” and/or “live data access server”) via MQS communication component 408. (EX-1017, ¶¶57, 128, 131; EX-2001, ¶142.)

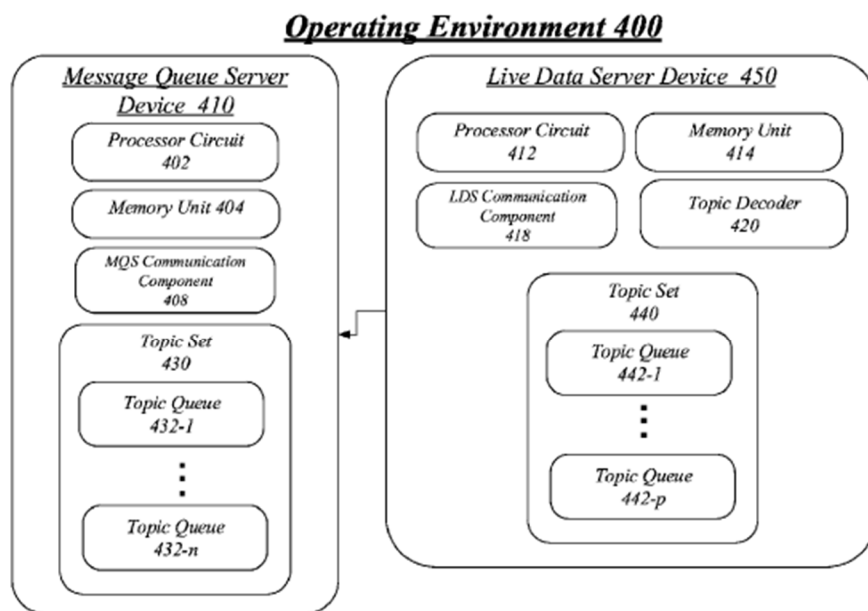


FIG. 4

(EX-1017, FIG. 4.)

Spivey differs from the inventions of the '088 patent in multiple ways. For example, Spivey does not address video delivery. Indeed, the Spivey's illustrative use case is a mobile device user trying to access real-time statistics of the latest professional sporting event on the go. (EX-1017, ¶¶2, 27.) Spivey attempts to solve the user's dilemma with a messaging server for quick sending of message payloads.

C. Herzog

Herzog discloses methods and software applications for separately transmitting video and data streams from a live event and then assembling them together by matching their timestamps. (EX-1015, Abstract, ¶¶18, 53-60; EX-2001, §V.C.) Herzog's operative use case is an "Indy race" in which audio/video streams (e.g., of a racecar driver in a racecar) and associated telemetry data (e.g., data pertaining to said racecar) are collected during an event and subsequently transmitted from the event as separate streams at different physical locations "up to a mile apart within the same venue." (EX-1015, Abstract, ¶54.) Audio/video streams may be transmitted from the venue via satellite truck 51 separate and apart from telemetry data ERP gen server 49, which may transmit the associated metadata from the venue. (EX-1015, Abstract, ¶¶47, 54.)

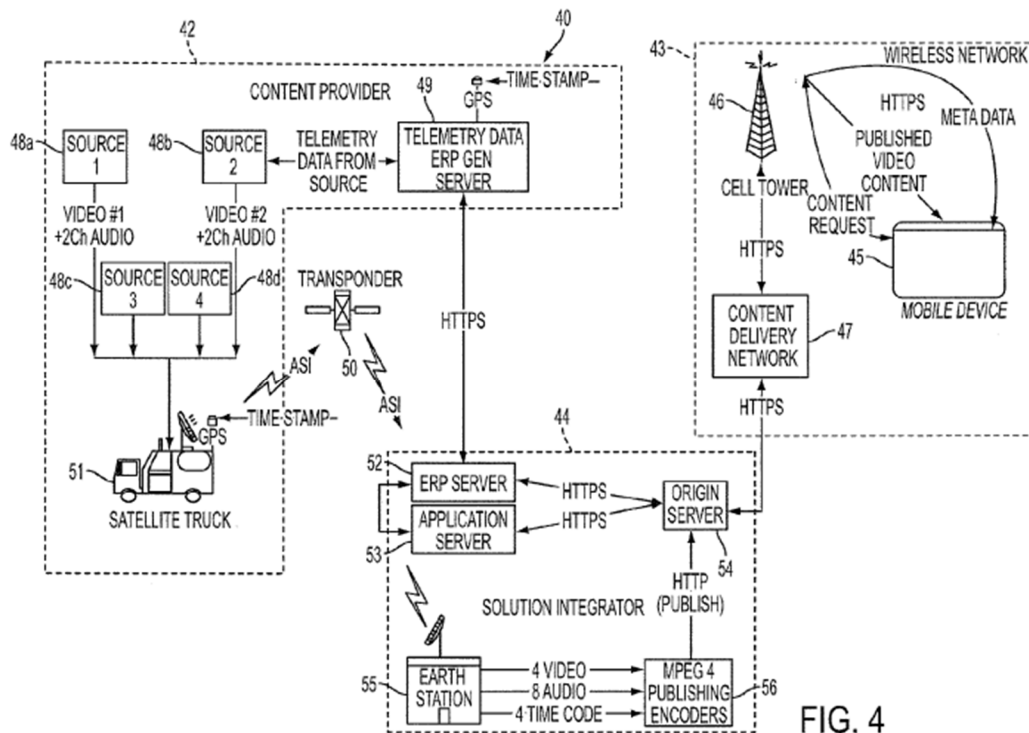


FIG. 4

(EX-1015, FIG. 4.)

Herzog discloses timestamping the audio/video stream and metadata stream using GPS protocols at both satellite truck 51 and telemetry data ERP gen server 49. (EX-1015, ¶¶17, 18; EX-2001, ¶¶146-153.) As described in Herzog, “[t]wo time stamps now exist in the system”—one associated with the video, and one associated with the metadata. (EX-1015, ¶56.) In order to address latency between the audio/video stream and metadata stream, the audio/video stream “is deemed to be the master time for synchronization” with the now timestamped metadata “slaved to the master time generate by the VITC [audio/video] time code.” (EX-1015, ¶¶54, 58.)

FIG. 6 (below) shows that while latency associated with a “live time stamped video” may be greater than 24 seconds, latency associated with a “live time stamped

meta data” may be less than 1 second. (EX-1015, ¶56; EX-2001, ¶160.) Herzog’s system implements a process for “listening” for the video stream, determining a timestamp or code of said video stream, and then retrieving the metadata with the corresponding time stamp. (EX-1015, ¶¶70-77; EX-2001, ¶¶161-163.)

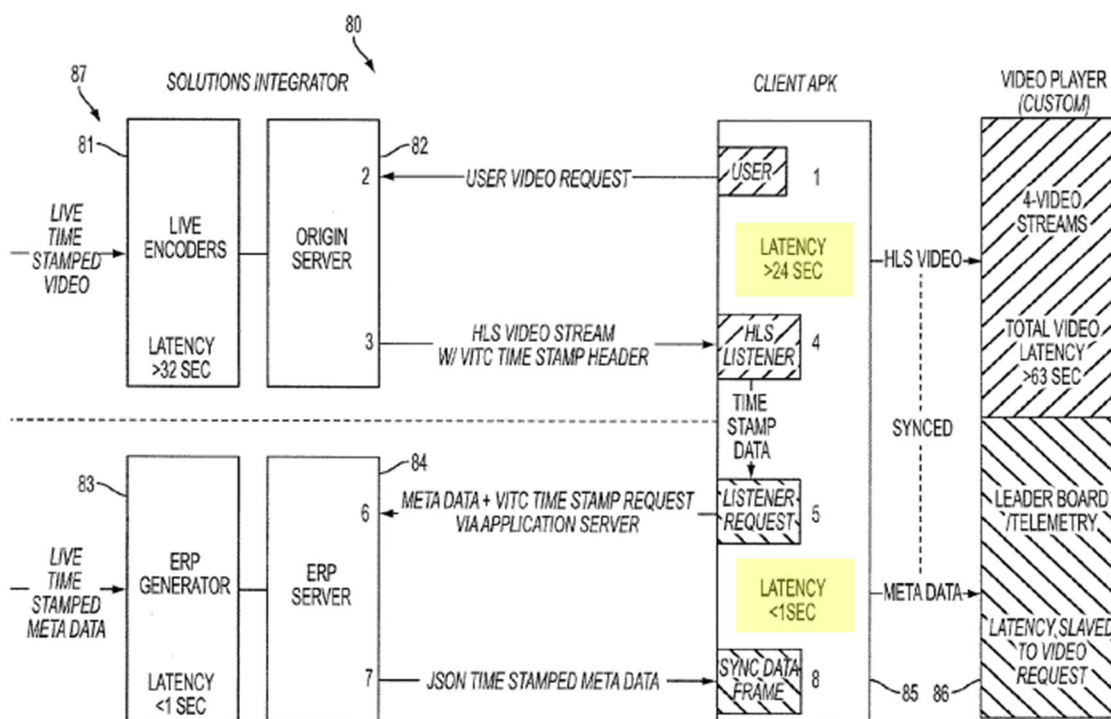


FIG. 6

(EX-1015, FIG. 6 (annotated).)

Herzog differs from the inventions of the '088 patent in multiple ways. For example, as Dr. Wicker concedes, Herzog does not disclose the claimed socket server. (EX-1001, ¶141.) Further, Herzog does not address the technical problem addressed by the '088 patent—synchronization of real-time, contextually matched

and actionable event information across multiple client devices with an associated video stream. (EX-2001, ¶164-165.) Instead, Herzog teaches an individual user watching a timestamp-matched (if delayed) audio/video stream and metadata stream (EX-1015, ¶¶56, 58), but timestamp matching at a mobile device does not ensure or even allow for numerous other users to have the *same* synchronized, low-latency experience.

D. Abulikemu

Abulikemu acknowledges that a process in which a single broadcast company provides live video from an event does not allow for viewer participation, including “filming, editing, or any other part of broadcasting the event.” (EX-1050, ¶2.) Specifically, broadcast viewers were unable to incorporate, and stream to other viewers, “user-generated content” about the live event. (EX-1050, ¶¶2-3.)

Accordingly, Abulikemu provides a high-level discussion of systems and methods for streaming crowdsourced commentary to users over the Internet. (EX-1050, ¶¶3, 10; EX-2001, ¶166.) The crowdsourced commentary may be streamed to a viewer along with the live event video and audio to provide a customized feed of the live event. (EX-1050, ¶10; EX-2001, ¶166.)

Abulikemu includes a high-level generic description of a methodology for providing viewers the optionality of viewing a live event with user-commentary. (EX-1050, ¶¶20-25; FIG. 2.) The user videos and user commentaries are merely

“compiled” (step 204), for which Abulikemu provides scant detail on how to accomplish, beyond “pair[ing]” and “generating new video.” (EX-1050, ¶¶21; EX-2001, ¶172.) Regardless, Abulikemu describes streaming the compiled video to multiple viewers. (EX-1050, ¶22.)

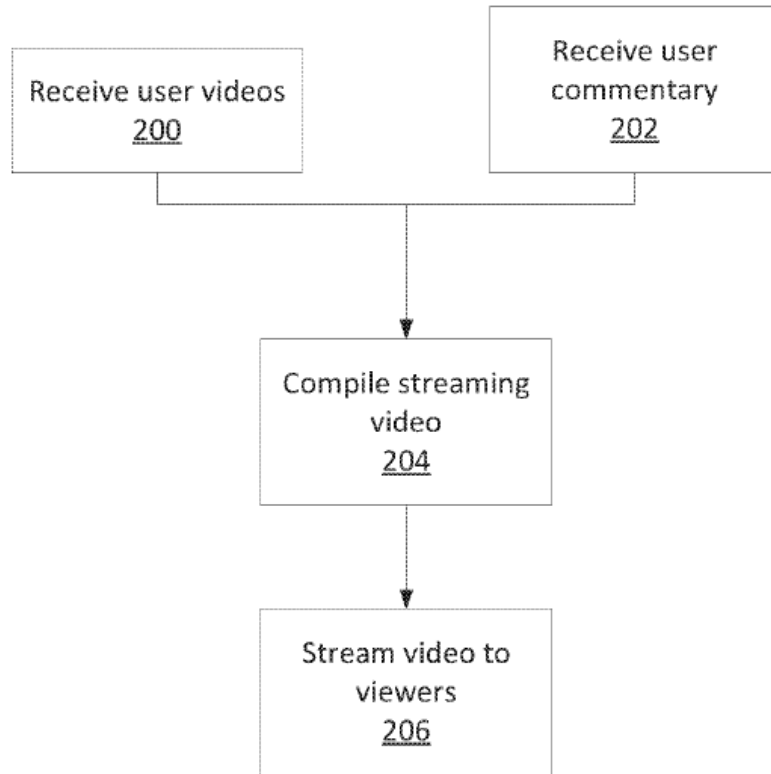


FIG. 2

(EX-1050, FIG. 2.)

Abulikemu differs from the '088 patent in multiple ways. Abulikemu’s approach fails to address latency considerations across client viewer devices. (EX-2001, ¶175.) Further, Abulikemu triggers the “compiling” of video and commentary “based on a receiving a viewer selection,” which does not support the coordinated

synchronization of compiled content to multiple users, as addressed by the '088 patent. (EX-1050, ¶21; EX-2001, ¶¶172, 175.)

V. THE CHALLENGED CLAIMS ARE PATENTABLE

The Board should deny institution because Petitioner fails to show it is reasonably likely to prevail on any claim.

“In an *inter partes* review, the burden of persuasion is on the Petitioners.... Failure to prove the matter as required by the applicable standard means that the party with the burden of persuasion loses on that point—thus, if the fact trier of the issue is left uncertain, the party with the burden loses.” *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378-79 (Fed. Cir. 2015); *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (noting petitioners have the “burden from the onset to show with particularity why the patent it challenges is unpatentable”).

Petitioner identifies four grounds challenging claims 8-23 of the '088 patent:

Ground	Claims	Argument
1A	8, 11, 12	§103: Obvious over Ellis in view of Spivey
1B	9, 10, 13-23	§103: Obvious over Ellis in view of Spivey and Abulikemu
2A	8,11,12	§103: Obvious over Herzog in view of Spivey and Ellis

Ground	Claims	Argument
2B	9, 10, 13-23	§103: Obvious over Herzog in view of Spivey and Abulikemu

A. Ground 1A: Petitioner Fails to Establish that Ellis in View of Spivey Renders Obvious Every Limitation of the Challenged Claims.

Petitioner fails to show a reasonable likelihood of success as to any challenged claim because: (1) the cited prior art does not render obvious a “socket”; (2) the cited prior art does not render obvious a “transmitting first instructions to a first client device,” as recited in Limitations 8.3-8.5; and (3) a POSITA would not have been motivated to combine Ellis with Spivey.

1. Petitioner’s combination does not render obvious the claimed “socket.”

In sum, according to Petitioner’s expert, a “socket” is a “uniquely addressable communication endpoint.” (EX-1001, ¶163.) The Petition relies *only* on Spivey’s topic queues as the claimed “socket”—not the MQSD server or any other component of any server. But Spivey’s “topic queues” are neither “uniquely addressable” nor “communication endpoints.” (EX-2001, ¶¶205-206.) In the Instituted Matters, the Board did not address the fact that it is Spivey’s topic queues themselves that must be both “uniquely addressable” and “communication endpoints” according to the Petition. For the reasons described below, they are not. Accordingly, Petitioner’s argument that Spivey’s topic queues disclose the claimed “sockets” must fail.

Specifically, Petitioner relies on the “topic queues” of Spivey’s message queue server device 410 (“MQSD”) as allegedly disclosing, e.g., “connect[ing] to a

first socket of a socket server to receive, on a second communication channel between the first socket and the first client device, first digital content corresponding to the first event information” and other functionality recited in claim 1 of the ’088 patent. (Petition, 30-32, 37-38 (Limitations 8.5, 8.9.) Petitioner’s argument fails because Spivey does not describe or suggest the MQSD (nor its “topic queues”) as being capable of: (i) handling communication to individual client devices, or (ii) functioning as uniquely addressable communication endpoints.

But in the Instituted Matters, the Board agreed with Petitioner’s position that Spivey at least suggests a direct, websocket, connection between the MQSD and individual client devices. (EX-2005, 44-45, 105-106.) Patent Owner respectfully submits that the explicit text of Spivey contradicts such finding. Rather, Spivey’s MQSD undoubtedly requires an intervening Live Data Access Server 130 (“LDAS”) to connect individual clients to the MQSD – only the LDAS has the necessary components (e.g., “subscription component 540,” “interface component 530”) to handle communication with numerous individual clients. (EX-2001, ¶187; EX-1017, ¶59, FIG. 5.) Because the MQSD requires the intervening LDAS, the MQSD is not capable satisfying Limitations 8.5 or 8.9.

Also in the Instituted Matters, the Board agreed with Petitioner’s position that Spivey’s text strings (e.g., topic labels) support uniquely addressable communication endpoints. (EX-2005, 36-37, 169-171, 297-298, 354-355.) Again,

Patent Owner respectfully submits that the explicit text of Spivey contradicts such finding. The very user interfaces Petitioner points to in FIGS. 8 and 9 of Spivey require an LDAS to access the MQSD. (EX-2001, 186-189; EX-1017, ¶¶63, 81-90.)

Spivey must be considered, *as a whole*; the text string topic labels of FIG. 9 represent one interface, in a series of interfaces, that visually depict individual clients ***accessing the LDAS***. (EX-2001, ¶¶186-189, 207-209; EX-1017, ¶¶63, 81-90.) Spivey simply does not support the notion that the topics queues are assigned publicly-accessible URLs or address, or that such topic queues are designed to handle real-time access from potentially a large number of individual client devices. Because the topic queues are not uniquely addressable communication endpoints, the topic queues are not capable of satisfying Limitations.

Patent Owner demonstrates that Petitioner's argument fails due to each of the foregoing deficiencies in Spivey, and due to Petitioner's failure to show that a POSITA would have been motivated to combine or modify the references. (EX-2001, §VI.A.3.)

a) Spivey's MQSD does not render obvious transmitting information between a "first socket" and a client device.

First, a POSITA would not understand Spivey's MQSD as transmitting information between a "socket" and a client device. Spivey does not describe the MQSD as capable of connecting with individual clients. (EX-2001, ¶186; EX-1017, ¶¶45, 53-54, 59-63.) Considering Spivey, *as a whole*, the MQSD requires an

intervening LDAS to facilitate connection with individual end user clients. (EX-2001, ¶187; EX-1017, ¶¶59, 64, FIG. 5.) Because the MQSD is not described as including components for connecting to multiple individual client devices, the MQSD does not transmit information between a “socket” and clients, and therefore, Petitioner has not met its burden for institution. (EX-2001, ¶¶186-194; EX-1017, ¶¶45, 53-54, 59-64.)

Petitioner’s argument rests on Spivey FIG. 4 (reproduced below), in which a Live Data Server Device (“LDSR”) and MQSD are shown as two servers, in a series, that essentially “plug in,” collectively, as the MQS shown in FIG. 1. (EX-2001, ¶188-193; EX-1017, ¶¶34, 53-58, FIG. 1, 4)

Spivey unequivocally states: “[a]s shown in FIG. 4, *message queue server 120* may be implemented with at least two separate devices: *a message queue server device 410* and *a live data server device 450*.” (EX-1017, ¶53 (emphasis added).)

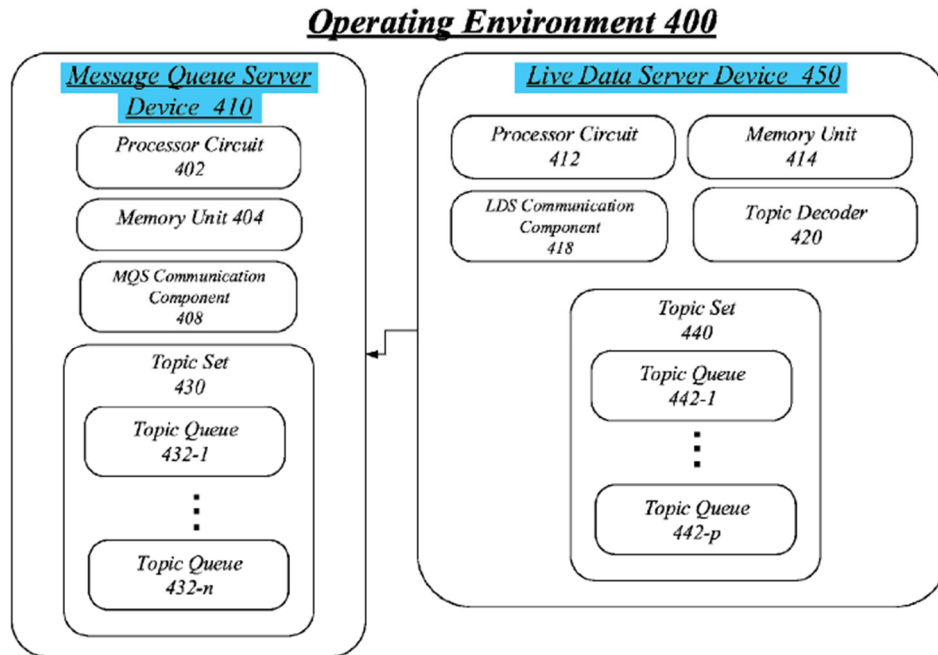


FIG. 4

(EX-1017, FIG. 4 (annotated).)

And FIG. 1 (reproduced below) clearly shows this MQS (or, the LDSR and MQSD, two-server variety) can only ferry or relay data to client devices using the LDAS. (EX-2001, ¶193; EX-1017, ¶¶38-39, 45, 53.)

System 100

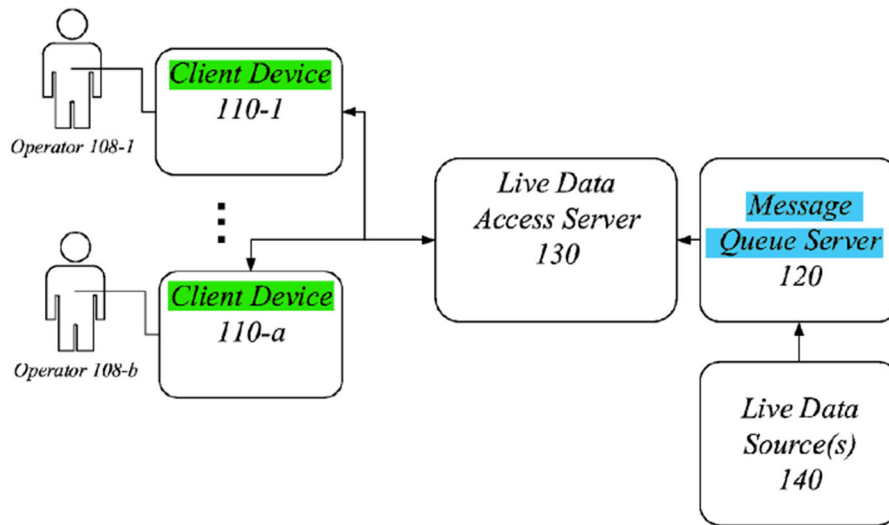


FIG. 1

(EX-1017, FIG. 1 (annotated).)

Petitioner’s expert states that “the message queue server 120 communicates directly with client devices (110-1...110-a) without the use of a live data access server,” citing Spivey at ¶¶36, 38 and 53 and FIG. 4. (EX-1001, ¶104 (“[t]his embodiment, ...shown as operating environment 400, in Figure 4.)) But Petitioner’s expert fails to consider Spivey, *as a whole*. See *In re Hedges*, 783 F.2d 1038, 1041 (Fed. Cir. 1986) (noting that when evaluating claims for obviousness, “the prior art as a whole must be considered”).

Operating environment 400 and FIG. 4 cannot be divorced from the teachings of Spivey, *as a whole*. As a threshold matter, the LDSD and MQSD of FIG. 4 are explicitly described as an implementation of the MQS of FIG. 1 – which Spivey

unambiguously depicts and describes as requiring an intervening LDAS to facilitating connection of multiple individual client devices. (EX-2001, §VI.A.1; EX-1017, ¶¶34-35, 53-58, FIG. 1, 4.)

Regardless, Spivey never discloses technology that would lead a POSITA to understand the MQSD (of FIG. 4) as a communication endpoint: (i) assigned with a publicly-accessible URL or address; (ii) designed to handle real-time *access* from a potentially large number of individual clients; or (iii) capable of pushing its data packets to multiple individual clients. (EX-2001, ¶193; EX-1017, ¶¶59-64.) Spivey never describes such technology because Spivey does not contemplate the MQSD as transmitting information to multiple individual clients. (EX-2001, ¶193; EX-1017, ¶¶45, 53, 59-64.)

Petitioner wrongly believes that Spivey ¶36 suggests a connection between the MQSD and individual clients because this paragraph uses the phrase “in some embodiments”: “*[i]n some embodiments*, message queue server 120 is not accessible to clients over the network directly.” (EX-2001, ¶196; EX-1017, ¶36 (emphasis added).) But it is a logical fallacy to assume that because one thing is true sometimes (MQSD not accessible by clients), that another thing (MQSD is accessible by clients) must be true the other times. For example, if on some days a commuter takes the train, that does not mean she takes the bus on others; indeed, she may work from home or enjoy the day off. In fact, Spivey’s ¶36 concerns whether

the MQSD is behind a firewall concerning Figure 1, an embodiment with the LDAS. Thus, a POSITA would have understood this simply means firewall or no firewall; it is not a disclosure of any “direct” connections with client devices.

Here, Petitioner’s proposal—the MQSD is accessible by individual clients—fails because it results in a contradictory or absurd result with the express technical disclosure of Spivey, again, *when considered as a whole*. Spivey’s “client devices” are only those client devices “subscribed” to “receive data via live data access sever 130.” (EX-2001, ¶¶2196-197; EX-1017, ¶39.) Rather than communicate with these subscribed client devices, the MQSD communicates only by operation of an “MQS Communication Component.” (EX-2001, ¶198; EX-1017, ¶54.) And the MQS Communication Component only “push[es] the data payload *from the topic queue to a live data access server* that has subscribed to the topic of the topic queue.” (EX-2001, ¶198; EX-1017, ¶49.) Petitioner’s attempt to imbue the MQSD with additional functionality (communication with multiple individual clients) is not consistent with evidence that Spivey does not disclose any functional component of the MQSD capable of communication with multiple individual clients. (EX-2001, ¶¶186-188; EX-1017, ¶49.)

Rather, only the Spivey LDAS has the necessary components (e.g., “subscription component 540,” “interface component 530”) to handle communication to individual clients. (EX-2001, ¶198; EX-1017, ¶¶49, 53.) Absent

the interface component (found only in the LDAS), a user would be unable to access the user interfaces of FIGS. 8-10, and without these interfaces, the user would have no mechanism for accessing any data whatsoever. (EX-2001, ¶¶189-191, 198; EX-1017, ¶49.) Petitioner's proposal therefore not only contradicts Spivey, but it also fails to establish any mechanism through which the MQSD can execute the functionality of communication to multiple client devices. (EX-2001, ¶¶196-197; EX-1017, ¶¶36, 39, 49.) Petitioner's incomplete MQSD-based proposal would not operate as intended because it would lack the functionality to communicate with multiple individual clients. (EX-2001, ¶¶196-198; EX-1017, ¶¶36, 39, 49.) Spivey simply does not include any technical discussion of a module, or any other component for deployment in the MQSD, that would be capable of permitting the MQSD to handle the interface and subscription functionality set forth in relation to the LDAS. (EX-2001, ¶¶196-198; EX-1017, ¶49.) Petitioner's arguments appear to be based on incorrect characterizations of Spivey, and as such, do not support Petitioner's burden of showing a reasonably likelihood of unpatentability of the challenged claims.

Accordingly, the factual record not only fails to support Petitioner's contention—the MQSD is accessible by individual clients—but it also demonstrates that if the Board were to accept Petitioner's contention, it would lead to an absurd result: the contradiction of Spivey's express teachings, including the functionality of

its required LDAS. (EX-2001, ¶¶196-198; EX-1017, ¶¶36, 39, 49.) That Spivey discloses the MQSD may be implemented as a “RABBITMQ” does not change this result; the RABBITMQ must be understood with the context of Spivey, *as a whole*. See *Hedges*, 783 F.2d at 1041. Spivey discusses RABBITMQ only within the context of subscriptions between the LDAS and MQS. (EX-1017, ¶58.) Thus, considering Spivey, *as a whole*, demonstrates that the MQSD requires a LDAS to operate, and therefore, Spivey cannot render obvious the recited “socket.”

b) Regardless of the MQSD’s transmission destination, Petitioner fails to show that Spivey’s topic queues are “sockets.”

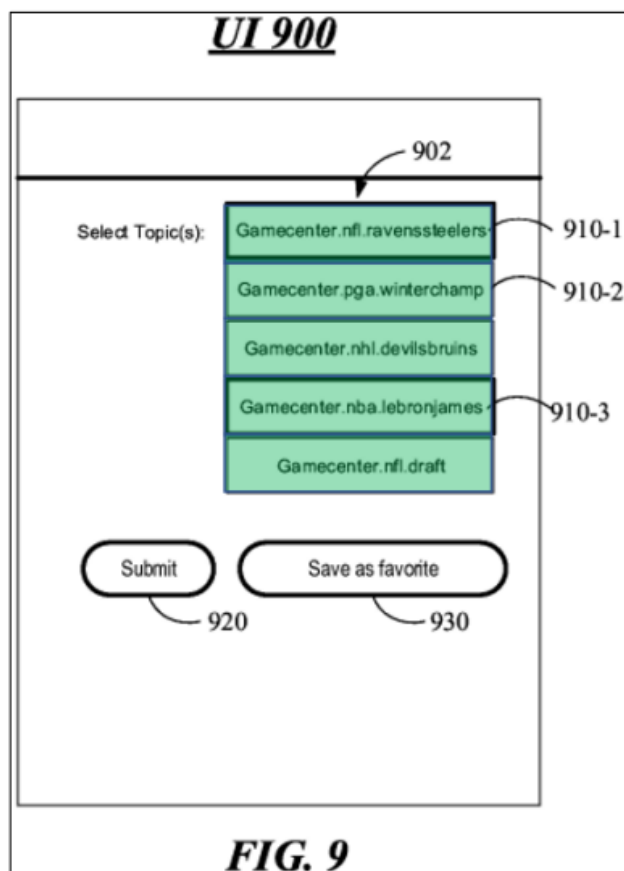
Second, Petitioner fails to show that Spivey’s topic queues are “sockets” under Petitioner’s (and its expert’s) implied definition, which requires them to be “uniquely addressable communication endpoint[s].”² (EX-1001, ¶190 (“it is my opinion that a POSA would have understood a ‘socket’ to be a uniquely addressable communication endpoint.”))

Spivey’s topic queues are merely an internal data structure within the MQSD.

² Although the parties dispute the meaning of “socket” and “event socket” in the district court, Petitioner does not address either party’s construction. And even if one were to apply Petitioner’s proposed district court constructions of those terms here, Petitioner would still not meet its burden for institution.

Petitioner does not identify any disclosure that would suggest to a POSITA that Spivey's topic queues are "uniquely addressable communication endpoints." To the contrary, Spivey's disclosures would have suggested the opposite to a POSITA. (EX-2001, §VI.A.1) Therefore, Petitioner has failed to show that Spivey's MQSD satisfies the limitations of claim 1 of the '088 patent, regardless of whether it communicates with any client devices. (EX-2001, ¶¶205-215.)

Petitioner's argument rests on Spivey FIG. 9 (reproduced below), in which a UI 900 is shown as including text string "topic labels" that when selected "cause the live data app 210 to send the selected topic(s) to *live data access server 130*." (EX-1017, ¶87 (emphasis added); FIG. 9.)



(Petition, 32.)

As a threshold matter, UI 900 must be considered within the context of Spivey *as a whole*. See *Hedges*, 783 F.2d at 1041. UI 900 is one UI in a three-part series (e.g., UIs 800, 900, 1000 of FIGS. 8-10) that collectively depict an interface for accessing the topic MQSD topic queues *via the LDAS via the LDAS's interface component 530*. (EX-2001, ¶¶207-209; EX-1017, ¶63 (“Interface component 530 may provide user interface elements...examples of user interfaces are discussed with respect to FIGS. 8-10.”)) Petitioner’s very reliance on these UIs undercuts its central argument that the MQSD is capable of connecting to numerous individual end client

devices. (*Infra.*)

FIG. 8 of Spivey shows an initial log-in screen for a client device that allows said client device to access topic queues via the “*Live Data Access Server Address.*” (EX-2001, ¶208; EX-1017, ¶81, FIG. 8 (element “830”). The fact that the LDAS Address “resemble[s] a uniform resource locator (URL)” is immaterial; the LDAS Address is used to access the LDAS, not individual topic queues of the MQSD. (EX-2001, ¶208.). In other words, the LDAS Address is not evidence of the MQSD topic queues being uniquely addressable communication end points; the LDAS Address demonstrates only the ability of the client device to subscribe to and interface with the LDAS. (EX-2001, ¶208; EX-1017, ¶¶55, 82.)

FIG. 9 of Spivey then shows texts strings of data topics available to the client device, again, using the LDAS. (EX-2001, ¶209; EX-1017, ¶84). But the text strings shown in FIG. 9 are not URLs themselves, nor are they used in URLs (or any other address in Spivey). (EX-2001, ¶209; EX-1017, ¶84-86.) A “topic label” is merely that; a label, such as that used to identify data in an internal data structure. (EX-2001, ¶209.) Accordingly, a POSITA would have understood that Spivey’s “topic queue” is merely an organization of data, such as a database table, that includes information about a particular topic. (EX-2001, ¶¶205, 206, 215.) And without more, a POSITA would not consider such a database, message queue, or other internal data structure by itself to be a “uniquely addressable communication endpoint” because as

disclosed by Spivey, the queues themselves lack any address at all through which they communicate. (EX-2001, ¶206.)

Contrary to the teachings of Spivey, Petitioner and its expert, Dr. Wicker, only argue that the client devices disclosed in Spivey “use topic label text strings to connect and subscribe to MQSD’s topic queues” (EX-1001, ¶192; Petition, 31). But this is incorrect—Spivey does not disclose that the text strings are used to “connect” to the MQD’s topic queues. To support this incorrect statement, Petitioner and Dr. Wicker must erroneously state that the client devices “request a live data connection” with the MQSD by “selecting or entering address or connection information to a particular MQSD,” citing paragraphs 81-82 of Spivey. (EX-1001, ¶192.) But those paragraphs of Spivey are explicit that the client devices request a live data connection with the *live data access* server, *not* the message queue server (and not the topic queues within the MQS). (EX-1017, ¶¶81-82; EX-2001, ¶¶238-239.)

Accordingly, Petitioner fails to show that Spivey’s topic queues are “*uniquely addressable communication endpoint[s]*” on a server where first event information is provided to a VCD,” which it contends is required for the “socket” limitation. (EX-1017, ¶¶46-49; EX-2001, ¶¶213-214; Petition, 30-32.) Indeed, Spivey discloses that its topic queues are internal to its MQS, and Spivey nowhere discloses or suggests that the topic queues are “uniquely addressable” or “communication endpoints.” (EX-2001, ¶¶25-215.)

Indeed, the only potential “communication endpoint” Spivey discloses as being “uniquely addressable” is its live data access server, not any of the topic queues within the message queue servers. (EX-1017, ¶¶38-39; EX-2001, ¶212.) Petitioner relies on the following portion of the ’088 patent specification for its definition of “sockets”: “The first event socket has a corresponding EventID that the VCD ‘uses...to connect to the...socket,’ e.g., by using a ‘*URL including the...EventID in a path of the URL.*’” (Petition, 30-31 (citing EX-1012, 21:34-22:19) (emphasis added).) But the only URL that Spivey’s clients are provided is for the live data access server, not the message queue server, and certainly not the topic queues therein: “UI 800 may also include an address UI element 830 to allow the operator to select or enter the address or connection information to a particular live data access server.” EX-1017, ¶82; *see also id.* Nowhere does Spivey disclose or suggest any topic queue with its own “unique” URL—and neither Petitioner nor Dr. Wicker argues otherwise.

This is fundamental to how Spivey operates: the client connects to the live data access server and selects the topics they subscribe to; the live data access server then subscribes to those topics on the MQS for the client. (EX-1017, ¶¶49, 128, 131; 71-78, Figure 7; EX-2001, ¶¶135-137, 247-248.) When there is an update for a topic queue, the live data access server must receive that update, determine which of the clients are subscribed to that topic, and then push that data to the client. (EX-1017,

¶¶38, 46, 49; 79-80.) There is no disclosure of any connection for the client to anything other than the live data access server, and certainly no disclosure that each topic queue is a “uniquely addressable communication endpoint.” (*See generally* EX-1017; EX-2001, §VI.A, ¶¶245-247.)

But even if one were to accept Petitioner’s argument that requires a “socket” to be a “uniquely addressable communication endpoint on a server where first event information is provided to a viewer client device” (Petition, 34), the fact that each “topic queue” has a text identifier does not mean that topic queues are either endpoints or uniquely “addressable.” (EX-2001, ¶216.) Indeed, the MQSD is only capable of communicating via an MQS Communication Component, its topic queues are not described as having any functionality themselves to communication, much less be individually addressable. (EX-2001, ¶¶212-213.) As such, Spivey does not disclose that any URL in its system includes a topic text identifier or that a URL corresponds to any of the topic queues. (*See generally* EX-1017.) The only Spivey components that have public addresses (corresponding to the URL in Spivey) are the live data access servers (not the message queue server) themselves, not the topic queues within the message queue server. (EX-1017, ¶¶81-82.)

Petitioner relies entirely on Spivey’s topic queues as allegedly disclosing the claimed “sockets,” which Petitioner combines with Ellis. (Petition, 30-32) Accordingly, Petitioner fails to establish that Spivey, alone or in combination with

the other references, teaches or renders obvious the claimed “sockets.”

c) Petitioner fails to articulate sufficient motivation to combine and modify the prior art.

Regarding Limitations 8.5 and 8.9, Petitioner argues that a POSITA “would have understood that Spivey’s topic queues disclose first event sockets corresponding to the first event information” without even attempting to show how the systems in Spivey and Ellis are compatible with one another (Petition, 32, 37-38.) As discussed below in V.A.2, *infra*, Petitioner’s combination fails to account for critical distinctions between Ellis’s and Spivey’s teachings, such as the lack of an *orchestrator-type* webserver, explain the modifications necessary to combine such teachings, or articulate why a POSITA would have been motivated to make the necessary modifications and proposed combination. (*Infra*, V.A.2.) Again, Petitioner’s lack of specific motivation to combine the prior art teachings demonstrates its impermissible reliance on hindsight bias. KSR, 550 U.S. at 418; Bolt, 64 EMORY LAW J. at 1158.

2. Petitioner’s combination does not render obvious the claimed “transmitting first instructions to a first client device” as recited in Limitations 8.3-8.5.

Petitioner relies on a “known webserver” as alleging disclosing, e.g., “transmitting first instructions to a first client device that includes at least one first display to enable the at least one first display of the first client device to render a first video relating to the live event and render first event information relating to the

live event.” (Petition, 28-29; Limitation 8.3.) Petitioner further relies on this “known webserver” in support of Petitioner’s argument that its Ellis/Spivey combination allegedly discloses “connect to the first media server endpoint of the at least one media source to receive, on a first communication channel between the first media server endpoint and the first client device, the first copy of the audio/video feed of the live event” (Petition, 30; Limitation 8.4), and “connect to a first socket of a socket server to receive, on a second communication channel between the first socket and the first client device, first digital content corresponding to the first event information” (Petition, 32; Limitation 8.5.)

Petitioner’s argument fails because Ellis and Spivey operate under a *relay-type* architecture, in which data is shuttled from one server to the next, whereas claim 8 of ’088 patent recites methods that operate under an *orchestrator-type* architecture, in support of facilitating communication between client devices and socket server, and client devices and media sources. (EX-2001, ¶¶218, 222-223, 226-230.) By the nature of the ’088 patent’s orchestrator-type server, the client needs to maintain two separate connections, one to the media server, referred to as the “first communication channel,” and one to the socket server, referred to as the “second communication channel.” (EX-2001, §VI.A.2.) Petitioner’s proposed use of the relay-type architecture of Ellis/Spivey is a radical deviation from the orchestrator-type architecture supported by claim 8. (*Id.*) The relay-type server allows the client device

to operate with only a single connection to the origin server. Messages sent to the origin server by the client device can be relayed to the appropriate second server. (EX-2001, ¶¶223, 227.) The relay-type architecture is not inherently capable of performing orchestrator-type functions, nor has Petitioner explained how Ellis/Spivey could be modified to achieve this end. (EX-2001, §VI.A.2.)

Attempting to paper over these deficiencies, Petitioner proclaims that “a *POSA would have known that these communication channels would have been established using a known webserver*, which transmits instructions to the VCD to establish the connections and allow for the flow of data in the claimed manner.” (Petition 28-29.)

Petitioner’s argument is fundamentally flawed. It not only fails to address the specific, orchestrator-type operation recited in claim 8, but it also fails to explain *why* a POSITA would have allegedly understood that a “known webserver”—e.g., a webserver that facilitates communication between client devices and socket server, and client devices and media sources—would be necessary to its Ellis/Spivey combination. Accordingly, Petitioner’s argument cannot succeed. *Roland Corp. v. InMusic Brands, Inc.*, IPR2018-00335, Paper 14 at 17 (PTAB July 2, 2018) (quoting *Rosco, Inc. v. Mirror Lite Co.*, 304 F.3d 1373, 1380 (Fed. Cir. 2002) (declining to institute where petitioner failed to support its inherency argument with adequate explanation); *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999) (“Inherency...may

not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.”).

Petitioner’s expert merely repeats, verbatim, the conclusory statement found in the petition: “[i]n my opinion, a POSA would have known that these communication channels would have been established using a known webserver, which transmits instructions to the viewer client device to establish the connections and allow for the flow of data in the claimed manner.” (EX-1001, ¶185.) But Dr. Wicker does not explain why his conclusion follows *from Spivey’s teachings*, or the purported relationship between the contradictory uses of *relay-type* architecture of Ellis/Spivey and the *orchestrator-type* architecture mapped to by Petitioner. (EX-1001, ¶185; EX-2001, ¶223.) As such, Dr. Wicker’s testimony is insufficient to fulfill Petitioner’s burden for institution. *Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9 at 15 (PTAB Aug. 24, 2022) (precedential) (finding an expert’s declaration that “merely repeats” conclusory assertions without additional supporting evidence or any technical reasoning is “entitled to little weight,” particularly where the testimony is offered to supply a limitation missing from the prior art); 37 C.F.R. § 42.65(a).

Here, the method recited in claim 8—e.g., which facilitates communication between client devices and socket server, and client deices and media sources—would not necessarily flow from any server component of Petitioner’s Ellis/Spivey

combination. (EX-2001, ¶¶218, 223-231.) Indeed, Ellis and Spivey each operate on the basis of a different, relay-type architecture. (EX-2001, ¶¶228-231.) Therefore, Ellis/Spivey does not inherently disclose said webserver.

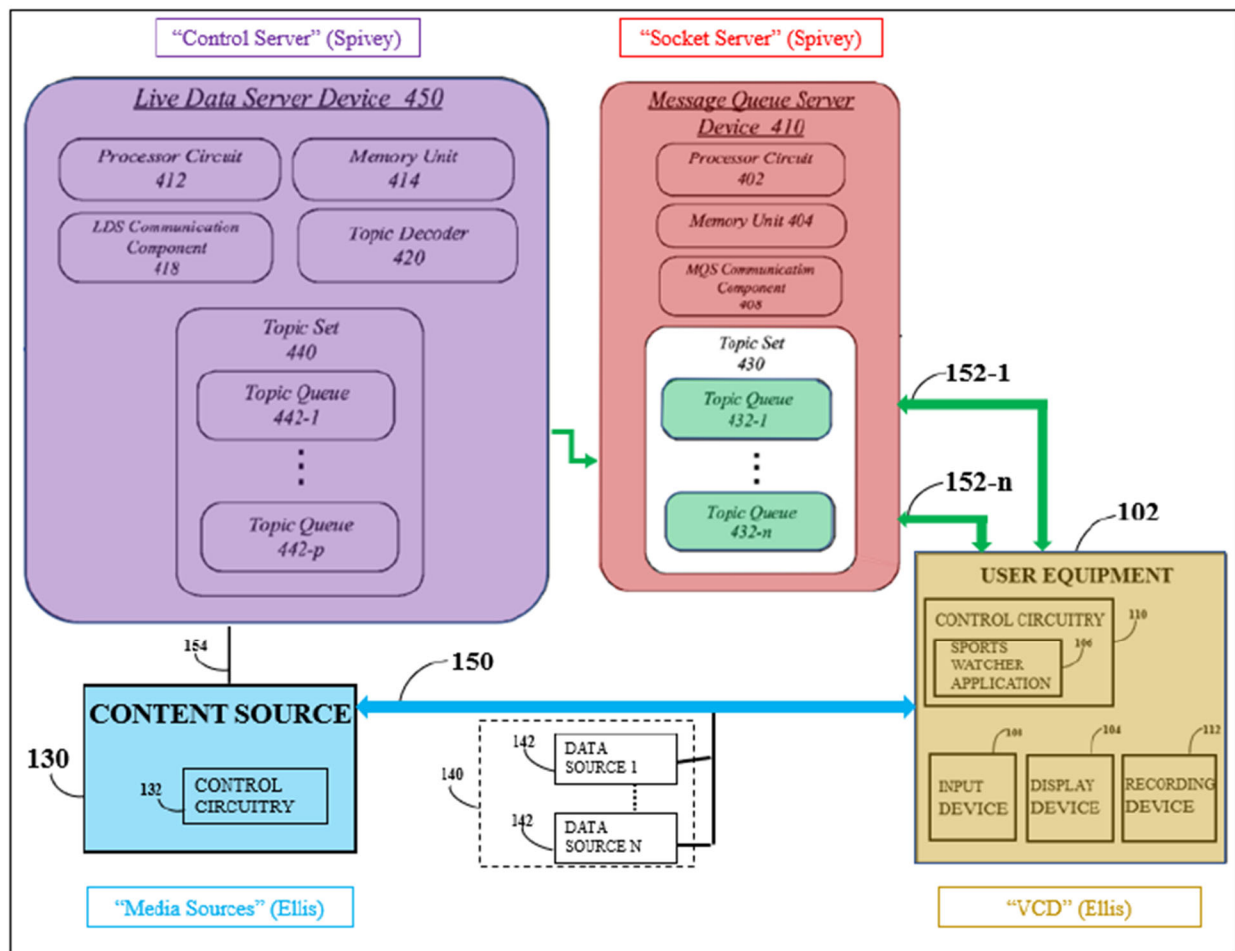
For example, Ellis’s content source does not describe a server component that facilitates connections, as recited in claim 8. (EX-2001, ¶229; *see generally* EX-1016.) Moreover, attempting to redesign the Ellis architecture with orchestrator-type server components and functionality would indeed run counter to the operation of Ellis. (EX-2001, ¶¶229, 231, 232; *see generally* EX-1016.) Further, Spivey also does not operate using a *facilitator*- or *orchestrator*-type architecture. (EX-2001, ¶¶230-231, 233; *see generally* EX-1017.) Rather than facilitate a connection, to the extent Spivey discloses a webserver at all, Spivey’s immediate-data-push architecture functions as a data relay, with data flowing from one server to the next, with the Spivey LDAS acting as a critical relay point that allows individual client devices to receive data. (§III.B, *supra*.) In summary, an orchestrator-type architecture does not necessarily flow from Ellis or Spivey because Ellis’s/Spivey’s architecture functions under a different, relay-type architecture. (EX-2001, ¶¶222, 229, 230; §III.A, *supra*; §III.B, *supra*.) And the purported implicit suggestion to reconfigure Ellis/Spivey to include such functionality contradicts the teachings of Ellis/Spivey, and as such, it cannot be considered an inherently “necessary” component.

3. Petitioner fails to show that a POSITA would have been motivated to combine Ellis with Spivey

Contrary to the Instituted Matters, the Board did not consider the inoperability of Petitioner's Ellis/Spivey combination caused by the lack of any server component that would transmit data between the MQSD (from Spivey) and the user equipment (from Ellis). Further, Petitioner fails to show that a POSITA would have been motivated to combine Ellis with Spivey. (EX-2001, §VI.A.3.) Petitioner's proposed reduction in latency would not occur because Petitioner proposal disrupts the very message flow in Spivey that allegedly reduces latency. (EX-2001, ¶¶240, 255, 282-283.) Rather, Petitioner's rationale to combine the prior art rests on impermissible hindsight.

a) Petitioner's proposed combination is fundamentally inoperable and departs from the express teachings of the prior art.

In an attempt to recreate the claimed architecture of the '088 patent, Petitioner cobbles together elements of Ellis's media system with Spivey's "second operating environment" in order to create the following concept:



(Petition, 24.)

Petitioner replaces the Ellis supplemental content source 120 and database 122 with Spivey’s message queue server device 410 and the live data server device 450, all in an effort to somehow “upgrade the data delivery system” of Ellis. (Petition, 19; EX-1017, ¶53; EX-2001, ¶¶169-171, 176.) But a POSITA would not have been motivated to implement Spivey’s database-less system in the Ellis architecture because such formulation would be fundamentally inoperable. (See EX-2001, §VI.A.3, ¶¶237, 254-256, 259-263.)

Petitioner’s Ellis/Spivey diagram would be fundamentally inoperable for at

least because there is no server component that functions to relay data between the MQSD and the user equipment. (EX-2001, ¶260.) Even if a POSTA were to pluck the two-component MQSD and LDSO of Spivey FIG. 4 and insert it into Ellis's architecture (which a POSITA would not do), Spivey never discusses or contemplates the MQSD and/or the MDSD operating in isolation, without any intervening LDAS. (EX-2001, §VI.A.1; *see generally* EX-1017.) And Spivey never describes or contemplates the MQSD as having a uniquely addressable communication endpoint or other publicly available address by which individual end clients could communicate with the MQSD. (EX-2001, §VI.A.1; *see generally* EX-1017.) As such, Petitioner's insertion of the MQSD/LDSO into Ellis's architecture has in fact disrupted any flow of data to the user equipment, thereby rendering the proposed combination inoperable. (EX-2001, ¶¶259-263.) To the extent that the user equipment in Petitioner's Ellis/Spivey combination is now incapable of receiving any data, a POSITA would not be motivated to make such combination.

Petitioner's Ellis/Spivey diagram does not include the LDAS. (Petition, 24.) Nor does Petitioner's diagram show literally any other mechanism by which to transmit data from the MQSD other than the "MQS Communication Component." (*Id.*) Therefore, Petitioner's Ellis/Spivey combination would not operate for the straightforward reason that there is no component or mechanism for the use equipment to receive data. (EX-2001, ¶¶260-261.)

The POSITA, when faced with Ellis, would not have found the replacement of the supplemental content source with the LDS/MQSD of Spivey to complement Ellis’s operation nor constituted a “simple substitution,” but rather would have seen it as hindering the operation of a fundamental principle of operation of Ellis (namely, providing at least some data to the user equipment), and therefore, the POSITA would not have attempted such combination. (EX-2001, ¶270.)

b) Petitioner’s proposed motivations to combine Ellis and Spivey do not withstand scrutiny.

Petitioner’s proposed rationales fail to satisfy the Federal Circuit’s obviousness rubric – obviousness turns on “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) (emphasis added).

As one example, Petitioner alleges that a POSITA would seek to integrate Spivey’s servers in Ellis’s system “to reduce latency.” (Petition, 23.) However, as previously explained, Petitioner’s modifications to Spivey’s teachings radically alter the solution Spivey purportedly taught for reducing latency (§V.A.1.b, *supra*; EX-2001, §VI.A.3.a), and a POSITA would not have a reasonable expectation that any beneficial reductions in latency would be achieved in the resulting combination. (EX-2001, ¶¶259-260, 274-279.) Petitioner’s bare assertion that a POSITA would look to improve Ellis’s “latency issues” (which Ellis does not identify as a problem)

ignores that the proposed combination inoperable, and as such, a POSITA would have no reasonable expectation of success. (See §V.A.3.a, *supra*; EX-2001, §VI.A.3.)

Despite this, Petitioner relies on Spivey’s promise of reducing latency to a time period “at least two orders of magnitude shorter than conventional time periods of legacy devices.” (Petition, 23.) And in the Instituted Matters, the Board agreed with Petitioner’s position that Spivey would offer such latency reduction to the Ellis system. (EX-2005, 20, 81.)

However, Patent Owner respectfully submits that Spivey’s promise of “two orders of magnitude reduction” is only achievable (if at all) by implementation the message flow Spivey discloses—i.e., by allowing the live data access server to “push the data payload to client device 110, and to any other connected client devices that also requested that topic.” (EX-1017, ¶96.) And Petitioner completely ignores this mission critical component in its Ellis/Spivey combination.

As another example, Petitioner alleges that implementing “certain portions” of the Spivey disclosure into Ellis’s disclosed architecture would “have been obvious because doing so would have required only the simple substitution of known elements for another to obtain predictable results.” (Petition, 25.) However, to establish a *prima facie* case of obviousness there must be a reasonable expectation of success. *In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986); *see, also*, KSR,

550 U.S. 398 at 418. The immediate “push” provision of data taught by Spivey is not compatible with the enhanced viewing and tuning techniques of Ellis, and a POSITA would not have a reasonable expectation of success. (EX-2001, ¶¶277-279.) Petitioner’s Ellis/Spivey combination is not a matter of a simple substitution because neither Spivey nor Ellis disclose how to integrate Spivey’s immediate “push” data delivery and Ellis’s video delivery. (EX-2001, ¶¶277-279.)

As another example, Petitioner alleges that because Ellis purportedly lacks “backend architecture/process flows for delivering the supplemental content data,” that “a POSA would have found it obvious to implement Ellis’s SCS as a websocket server ... to achieve full-duplex communications between a client and a remote host with low latency.” (Petition, 22.) Petitioner’s argument appears to rest on the notion that because Ellis does not specify the backend architecture of the supplement content source 120, that literally any architecture could be slotted into the Ellis interactive media system 100. (EX-2001, ¶¶278-279.)

However, absent an articulated reason why a POSITA would specially choose Spivey’s architecture (among a universe of options), the Petitioner’s rational is merely conclusory, and therefore insufficient to demonstrate a motivation to combine Ellis with Spivey.

c) Petitioner relies on impermissible hindsight bias.

Absent a clearly articulated reason to combine Ellis, Spivey, and POSA’s

knowledge, *Petitioner relies exclusively on impermissible hindsight* to stitch together unrelated elements of the prior art in a misguided attempt to reconstruct the invention addressed by the '088 patent. Petitioner attempts to *integrate* Spivey's "push" data techniques with Ellis's television techniques, despite neither reference disclosing such integration. (EX-2001, ¶¶282-289.)

As set forth by the Federal Circuit, "[t]he invention must be viewed not with the blueprint drawn by the inventor, but in the state of the art that existed at the time." *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1138 (Fed. Cir. 1985). Petitioner must put forward some "explanation as to how or why the references would be combined to arrive at the claimed invention...[otherwise] hindsight bias [becomes] the thread that stitches together prior art patches into something that is the claimed invention." *Metalcraft of Mayville, Inc. v. The Toro Co.*, 848 F.3d 1358, 1367 (Fed. Cir. 2017) (citation omitted).

As one example of Petitioner's reliance on hindsight, Petitioner uses the claims of the '088 patent as a guidepost to fill in certain missing details of the Ellis supplemental content source delivery architecture. As Dr. Wicker concedes, "Ellis does not explicitly disclose the backend architecture/process flows for delivering the supplemental content data." (EX-1001, ¶117.)

But a POSITA would not create the backend architecture proposed by Petitioner without knowledge of the '088 patent claims (*see* EX-2001, §VI.A.3). For

example, claimed invention addresses, among other things, the technical challenge of providing the same event information in a synchronized manner to all viewers of a broadcast (e.g., via the claimed socket architecture and paired video stream). But ***synchronization*** of contextual-matched event information with video streaming is taught only in the specification of the '088 patent, which is unavailable to Petitioner as a basis for formulating a rationale to combine Ellis and Spivey.

Moreover, absent reference to the '088 patent, there was no reason for implementing Spivey's non-video-related teachings into Ellis's system, which necessarily requires video delivery. Spivey does not teach or suggest how to implement either MQSD or the LDSO with video streaming. Again, ***synchronization*** of contextual-matched event information with video streaming is taught only in the specification of the '088 patent, which is unavailable to Petitioner as a basis for formulating a rationale to combine Ellis and Spivey.

* * *

In sum, Petitioner fails to articulate a sufficient rationale to combine Ellis and Spivey, and therefore, Petitioner has not met its burden in showing a reasonable likelihood of success. Petitioner's hindsight-based reconstruction of Ellis and Spivey cannot be used to institute an *inter partes* review, and Patent Owner respectfully requests the Board deny institution of the Petition.

B. Ground 1B: Petitioner Fails to Establish that Ellis in View of Spivey and Abulikemu Renders Obvious Every Limitation of the Challenged Claims

Ground 1B relies on its arguments under Ground 1A as allegedly disclosing certain limitations of independent claim 13; namely, the “transmitting first instructions” (Limitation 13.5), “socket server” and “socket” (Limitation 13.8) and motivation to combine. (Petition, 40, 46-47, 53.) Because Ground 1A fails, Ground 1B fails for the same reasons.

C. Ground 2A: Petitioner Fails to Establish that Herzog in View of Spivey Renders Obvious Every Limitation of the Challenged Claims

Petitioner fails to show a reasonable likelihood of success as to any challenged claim because: (1) the cited prior art does not render obvious a “socket”; (2) the cited prior art does not render obvious a “transmitting first instructions to a first client device,” as recited in Limitations 8.3-8.5; and (3) a POSITA would not have been motivated to combine Herzog with Spivey.

1. Petitioner’s combination does not render obvious the claimed “socket.”

Ground 2A—just like Ground 1A—relies on Spivey as allegedly disclosing a “socket” and associated functionality. (Petition, 52-55.) For the reasons stated above, Spivey—alone or in combination with the other prior art—does not teach or render obvious the claimed “event socket.” (§V.A.2, *supra*.)

Accordingly, Petitioner fails to show a reasonable likelihood of success under

Ground 2A.

2. Petitioner’s combination does not render obvious the claimed “transmitting first instructions to a first client device” as recited in Limitations 8.3-8.5.

Petitioner relies on Herzog’s “application server 53” as alleged disclosing, e.g., “transmitting first instructions to a first client device that includes at least one first display to enable the at least one first display of the first client device to render a first video relating to the live event and render first event information relating to the live event.” (Petition, 59-62; Limitation 8.3.) Petitioner further relies on this application server in support of Petitioner’s argument that its Herzog/Spivey combination allegedly discloses “connect to the first media server endpoint of the at least one media source to receive, on a first communication channel between the first media server endpoint and the first client device, the first copy of the audio/video feed of the live event” (Petition, 62; Limitation 8.4), and “connect to a first socket of a socket server to receive, on a second communication channel between the first socket and the first client device, first digital content corresponding to the first event information” (Petition, 69; Limitation 8.5.)

Petitioner’s argument fails because Herzog’s application server 53 is not described as being capable of performing the *orchestrator-type* functionalities recited in claim 8 of the ’088 patent. Herzog is explicit that the application server serves no role in facilitating a connection among, e.g., “client devices and socket servers, and client devices and media sources.” (EX-2001, ¶¶306-308; Petition, 26.)

Whereas the method steps recited in claim 8 facilitate communication among, e.g., media sources, a socket server, and client devices, Herzog's application server is tucked away from the end client devices, as one component in a *relay-type* chain of communication components that bears little resemblance to the functionality of the challenged claims. (*Compare* EX-1012, FIG. 2 *with* Petition, 59 (showing an annotation of EX-1015, FIG. 4).)

The application server 53 fundamentally uses the origin server 54 (and an array of other intermediate components) to reach the mobile device. (EX-2001, ¶¶306, 308-313.) As such, the application server does not, and cannot, “*transmit[] first instructions to a first client device...to enable the at least one first display of the first client device to render a first video relating to the live event and render first event information relating to the live event*”; nor does the application server 53 facilitate a client device's “*connect[] to the first media server endpoint*” and/or “*connect[] to a first socket of a socket server.*”

Herzog's application server is not described as having the recited in claim 8 and Petitioner has not demonstrated otherwise.

3. Petitioner fails to show that a POSITA would have been motivated to combine Herzog with Spivey

Petitioner argues that a POSITA would have implemented Spivey's MQSD at Herzog's “origin server” to decrease latency. (Petition, 52-53.) However, even if a POSITA made this modification (which it would not), the resulting combination

would not result in a meaningful (i.e., 1-2 orders of magnitude) reduction in latency. (EX-2001, ¶¶336-352.) The combination would not result in reduced latency because no matter how fast Spivey makes the data transmission, the overall Herzog latency is defined by the other, larger systemic sources of latency present within the video/audio feeds. As such, a POSITA would find the combination as having reduced functionality, and therefore, would not be motivated to attempt such modification. Rather, Petitioner's rationale to combine the prior art rests on impermissible hindsight. (EX-2001, §VI.C.3.)

a) Petitioner's proposed combination is fundamentally inoperable.

Petitioner admits that “Herzog does not specifically disclose some backend server architecture supporting the data distribution—the claimed socket server,” and instead proposes to supply such functionality by implementing Herzog's origin server as a “websocket server, as taught by Spivey.” (Petition, 53; EX-1015, FIG. 4.)

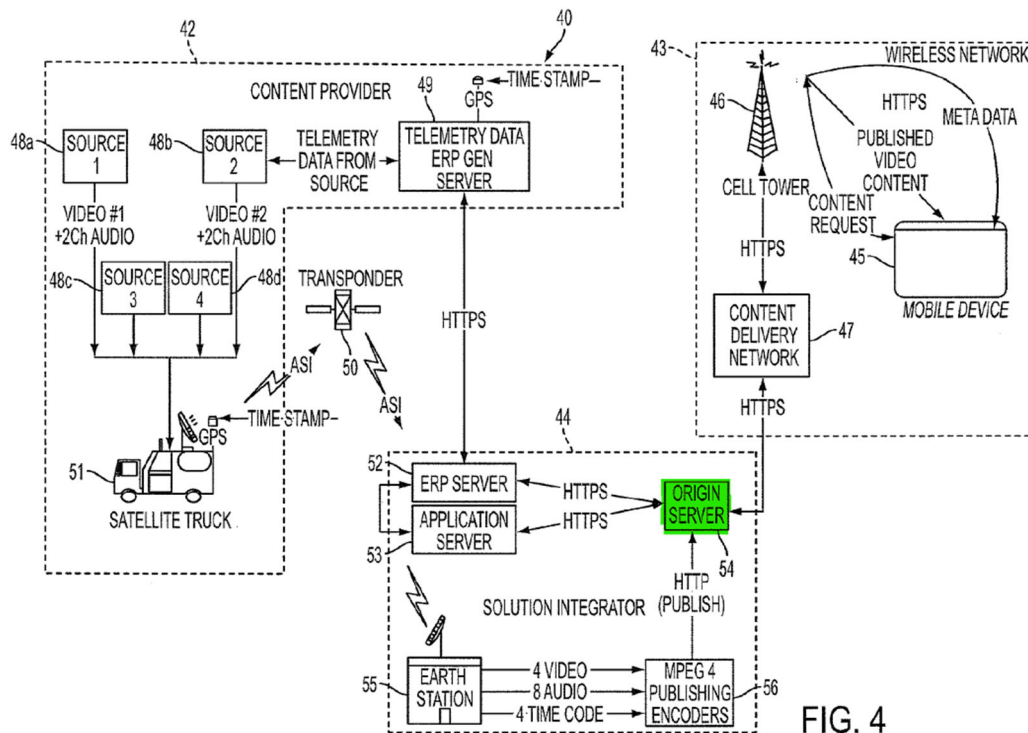


FIG. 4

(EX-1015, FIG. 4 (annotated).)

But Petitioner’s proposed revamp of the origin server to “improve Herzog’s latency issues,” (Petition, 54), ignores that Herzog’s system latency is ultimately defined by other components in the video/audio pipeline, not by the origin server. (EX-2001, ¶¶344-346; EX-1015, ¶¶58, 74.) Herzog’s stated goal is matching timestamped video/audio streams with timestamped meta-data streams at a mobile device. (See EX-1015, ¶¶56, 64, 74; EX- 2001, §VI.C.3, ¶¶144, 345, 355.) Herzog teaches a process performed within the latency period of video/audio delivery to synchronize different delays between video/audio streams and metadata streams. (EX-1015, ¶¶74, 82.) This process relies on the projected latency period to synchronize the video/audio stream with the metadata stream. (EX-1015, ¶¶74, 82;

EX-2001, ¶¶277-279.)

Petitioner's combination would be inoperable because, notwithstanding the absence of any reason to upgrade Herzog's data delivery system, unfettered provision of data by Spivey's architecture would not address the causes of latency with respect to the video/audio feed. (EX-2001, ¶¶344-345, 351.) Spivey does not address video delivery; it concerns the immediate push of data to a subscribed client device. (EX-2001, §V.B; EX-1017, ¶¶2, 27.) Spivey includes no technical discussion that would enable the faster provision of video. (EX-2001, §V.B, ¶¶127, 273, 275; EX-1017, ¶¶2, 27.) Therefore, at most, Spivey would only be capable of modifying the Herzog telemetry data.

However, the ultimate system latency in Herzog is defined by other aspects of the video/audio feed. (EX-1015, ¶74.) It is during this greater latency of the video/audio feed that timestamp synchronization occurs. (EX-2001, ¶¶345, 351-352; EX-1015, ¶¶51, 58, 74.) Therefore, it is not possible to meaningfully improve the latency of Herzog with the Spivey MQSD because no matter how fast the data is (i.e., no matter how much the "2 seconds" is reduced), Herzog cannot complete its timestamp synchronization technique without the video/audio feed, which has a greater latency, and which Petitioner agrees would be "maintained" in its hypothetical combination. (EX-2001, 344-345, 351-352; EX-1015, ¶¶51, 58, 74; Petition, 59.)

Absent a clear benefit, a POSITA would have found Petitioner's combination inoperable and would not have attempted it. (EX-2001, ¶¶343-348.) For instance, the meta data (which already transits the origin server described by Herzog) has up to 2 seconds of latency. Thus, at most the inclusion of Spivey could reduce the latency of data moving through the origin server by at most 2 seconds.

But Herzog's latency is ultimately driven by the substantially larger latency period of the audio / video data; 63 seconds. (EX-2001, ¶¶345, 351-352.) Petitioner does not even address the latency caused by Herzog's audio/video stream, nor does Petitioner acknowledge that any reduction in the latency of telemetry data would not permit the faster receipt of video data by the client. (EX-2001, ¶¶345, 351-352, Petition, 54.) The video data unambiguously has a latency of up to 63 seconds, as originally described by Herzog, and also transits the origin server. (*Id.*) Therefore, the rest of the video feed encoding, decoding, and transmission process must be responsible for the large majority of the 63 seconds of latency. (*Id.*) Thus, even if implementing Spivey's MQS in place of the origin server were to result in a reduction in the video feeds latency, the reduction would not reduce the latency by a meaningful amount. (EX-2001, ¶¶345, 351-352.) For example, if Spivey was able to reduce all of the latency found in the meta-data delivery process, which is physically impossible, it would reduce the latency of the system by only 2 seconds. We would expect to see a similar latency reduction in the video feed of 2 seconds,

resulting in a total video latency of 61 seconds, as opposed to 63 seconds. (*Id.*)

Moreover, Petitioner's combination detracts from, and even prevents, Herzog's synchronization between various video/audio streams and meta-data streams, which requires a robust latency period to perform. (*see* EX-1015, ¶¶74, 82; EX-2001, ¶¶343-345, 351.) Latency is a feature of Herzog, not a bug. According to Herzog, the video/audio stream enjoys a longer delay, and as such, the delayed time allows Herzog to retrieve corresponding meta-data with the same VITC time stamp as the audio/video stream.

Accordingly, providing faster data with Spivey (as Petitioner proposes) could only possibly result in such data waiting longer for the video/audio stream to arrive—an outcome that a POSITA would not view as an improvement and, thus, would not be attempted. (EX-2001, ¶¶343, 350.) This would not be viewed as an improvement because the Herzog system would be required to process, manage or otherwise store all of the additional, faster-arriving data, which would invariably require additional servers, database, and other components a POSITA would understand to consumer system resources and result in over unreliability (due to the increase in components and accompanying complexity). (EX-2001, ¶¶345-346.)

Rather, a POSITA would have understood Spivey's teachings of providing "immediate" data without the constraints of associated video feeds to render Herzog substantially inoperable. (EX- 2001, ¶¶343-345, 351.) That is, even if Spivey's

message-based architecture were somehow manipulated to replace Herzog's origin server 54 (which a POSITA would not do), the resulting combination would include unfettered provision of Spivey data payloads to the mobile device. A POSITA would not understand unfettered immediate delivery of data payloads to the Herzog mobile devices as necessary or even helpful to the mobile device user because Herzog still needs the projected latency period to perform synchronization between audio/video data and meta-data. (See EX-1015, ¶¶74, 82; EX-2001, ¶¶343-345, 351.)

Therefore, a POSITA would not have attempted Petitioner's proposed combination, because the POSITA would have understood that doing so would have decreased the functionality of the Ellis/Spivey system and rendered it inoperable. (EX-2001, ¶¶343, 350.)

b) Petitioner's proposed motivations to combine Herzog and Spivey do not withstand scrutiny

Petitioner attempts to resolve the fundamental inoperability of its Herzog/Spivey combination with various proposed rationales for making the combination. (Petition, 56-60.) But each proposed rationale fails. (See EX-2001, §§VI.C.3.a-VI.C.3.b.)

As one example, Petitioner alleges that a POSITA would have "look[ed] to improve Herzog's latency issues" and "upgrade the [Herzog] data delivery system to reduce latency." (Petition, 54) However, faster Herzog data (if that were even possible with Spivey's architecture) would not solve any video latency problem in

Herzog. Accordingly, a POSITA would not have been motivated to improve alleged data latency issues in Herzog, much less looked to Spivey for a solution. (EX-2001, ¶¶345, 351-352.)

As another example, Petitioner’s motivation to combine argument relies in part on the following statement its expert, Dr. Wicker: “[c]ombining certain portions of Herzog and Spivey would have been obvious because doing so would require only the simple substitution of known elements for another to obtain predictable results.” (Petition, 55; EX-1001, ¶146.) However, as demonstrated herein, the Spivey disclosure does not concern video delivery; it concerns the “immediate” push of data to a subscribed device. (§IV.B, *supra*.) Therefore, at a fundamental level, whatever server is plucked from Spivey’s disclosure to implement the Herzog origin server as, the resulting combination would not be operable to transmit an audio/video stream and meta-data stream in the manner contemplated by Herzog, because there is nothing in Spivey concerning how to implement the Spivey teachings with video content delivery. (EX-2001, §V.B, ¶¶127, 273, 275.)

c) Petitioner relies on impermissible hindsight bias.

Absent a clearly articulated reason to combine Herzog with, Petitioner appears to rely exclusively on impermissible hindsight to stitch together unrelated elements of the prior art in a misguided attempt to reconstruct the invention addressed by the ’088 patent. (EX-2001, ¶¶347-348.) In this regard, the Petitioner divorces prior art

elements from their disclosed context and uses the '088 patent as a guidepost for reconstructing the claimed invention.

As one example of Petitioner's reliance on hindsight rationale, the Petition uses the claims of the '088 patent as a guidepost for seeking to fill in certain missing details of Herzog "backend" architecture. Absent reference to the '088 patent, there would be no reason to improve the *data latency* of Herzog, where the total latency of the Herzog system is clearly defined by transmission and processing factors related to the video/audio feed, and which Herzog mitigates with its timestamp synchronization techniques. (EX-2001, ¶345.)

Petitioner fails to articulate a sufficient rationale to combine Herzog and Spivey, and therefore, Petitioner has not met its burden in showing a reasonable likelihood of success. (EX-2001, ¶¶359-362.)

D. Ground 2B: Petitioner Fails to Establish that Herzog in View of Spivey and Abulikemu Renders Obvious Every Limitation of the Challenged Claims

Ground 2B relies on its arguments under Ground 2A as allegedly disclosing certain limitations of independent claim 13; namely, "transmitting first instructions" (Limitation 13.5), "socket server" and "socket" (Limitation 13.8) and motivation to combine. (Petition, 75, 81-82.) Because Ground 2A fails, Ground 2B fails for the same reasons.

E. Petitioners' Grounds Fail to Render Obvious All Dependent Claims

Because Petitioner has failed to establish that any of its grounds render obvious all limitations of the independent claims, Petitioner cannot show that such grounds render obvious dependent claims 2-7 and 25-34.

F. Other Limitations Not Addressed

At this preliminary stage, Patent Owner addresses those deficiencies in the prior art which clearly show a lack of reasonable likelihood of the petition's success. Patent Owner's decision not to address certain limitations or secondary prior art references at this preliminary stage in no way reflects Patent Owner's agreement with the petition or lack of dispute as to additional limitations or prior art.

VI. CONCLUSION

For the foregoing reasons, the Board should decline to institute an IPR of the '088 patent.

Respectfully submitted,

Dated: March 28, 2025

/s/ Brian Eutermoser

Brian Eutermoser

Reg. No. 64,058

KING & SPALDING LLP

1401 Lawrence Street, Suite 1900

Denver, CO 80206

Telephone: (720) 535-2312

*Counsel for Patent Owner
SportsCastr Inc. (d/b/a PANDA
Interactive)*

CERTIFICATION OF WORD COUNT

The undersigned hereby certifies that the portions of the above-captioned **PATENT OWNER PRELIMINARY RESPONSE** specified in 37 C.F.R. § 42.24 have 13,998 words, in compliance with the 14,000 word limit set forth in 37 C.F.R. § 42.24. This word count was prepared using Microsoft 365 Word version 2202.

Date: March 28, 2025

Respectfully submitted,

KING & SPALDING LLP

/s/ *Brian Eutermoser*

Brian Eutermoser

Registration No. 64,058

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(P-TACTS) on March 28, 2025, in its entirety on the following:

W. Todd Baker (Reg. No. 45,265)
todd.baker@kirkland.com
KIRKLAND & ELLIS LLP
1301 Pennsylvania Ave., N.W.
Washington, D.C. 20004

Jeanne M. Heffernan
jheffernan@kirkland.com
Michael T. Dinnella (Reg. No. 82,580)
michael.dinnella@kirkland.com
KIRKLAND & ELLIS LLP
401 Congress Avenue
Austin, TX 78701

/s/ Brian Eutermoser
Brian Eutermoser
Reg. No. 64,058
KING & SPALDING LLP

Attorney for Patent Owner
SportsCastr Inc. (d/b/a PANDA
Interactive)

Date: March 28, 2025
1401 Lawrence Street, Suite 1900
Denver, CO 80202
Telephone: (720) 535-2312