

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CISCO SYSTEMS, INC.,

Petitioner,

v.

VIDEO SOLUTIONS PTE. LTD.,

Patent Owner.

IPR2024-00695

U.S. Patent No. 8,649,426

**PATENT OWNER VIDEO SOLUTIONS PTE. LTD.
PRELIMINARY RESPONSE TO PETITION**

Table of Contents

I.	INTRODUCTION	1
II.	OVERVIEW OF THE TECHNOLOGY AND OF THE ’426 PATENT	4
III.	OVERVIEW OF THE ASSERTED REFERENCES	12
	A. PERLMAN (Ex. 1006).....	12
	B. OGUZ (Ex. 1008).....	15
IV.	PERSON OF ORDINARY SKILL IN THE ART	15
V.	CLAIM CONSTRUCTION	15
VI.	THE BOARD SHOULD DENY INSTITUTION BECAUSE THE PETITION FAILS TO ESTABLISH THAT THE CHALLENGED CLAIMS ARE UNPATENTABLE	16
	A. “Transmitting the parallel encoded data streams independently” limitations 18	
	B. “I-frame segment instances and P-frame segment instances transmitted” limitations	25
VII.	THE BOARD SHOULD DENY INSTITUTION UNDER § 314(a)	27
	A. Factor 1 - Whether evidence exists that a stay may be granted if a proceeding is instituted.....	29
	B. Factor 2 - Proximity of the court’s trial date to the board’s projected statutory deadline for a final written decision.	33
	C. Factor 3 - Investment in the parallel proceeding by the court and the parties.....	34
	D. Factor 4 - Overlap between issues raised in the petition and in the parallel proceeding.....	36
	E. Factor 5 - Whether the petitioner is the defendant.....	41

F. Factor 6 - Other circumstances that impact the Board’s exercise of discretion, including the merits.	41
VIII. CONCLUSION.....	42

TABLE OF AUTHORITIES

	Page(s)
Cases	
<i>Apple Inc. v. Fintiv, Inc.</i> , IPR2020-00019, Paper 11 (March 20, 2020) (designated precedential May 5, 2020) <i>passim</i>	
<i>BMW of North America, LLC v. NorthStar Systems LLC</i> , IPR2023-01017, Paper No. 12 (P.T.A.B. Dec. 8, 2023)	38
<i>California Inst. of Tech. v. Broadcom Ltd.</i> , 25 F.4th 976 (2022) <i>cert. denied sub nom. Apple Inc. v. California Inst. of Tech.</i> , 143 S. Ct. 2658, 216 L. Ed. 2d 1236 (2023).....	36, 38
<i>Carella v. Starlight Archery & Pro Line Co.</i> , 804 F.2d 135 (Fed. Cir. 1986)	21, 24, 26
<i>Cisco Systems, Inc. v. Oyster Optics, LLC</i> , IPR2021-00238, Paper 10 (P.T.A.B. June 1, 2021)	32
<i>Cisco Systems, Inc. v. Ramot at Teel Aviv Univ. Ltd.</i> , IPR2020-001233, Paper 14 at 7-8 (P.T.A.B. May 15, 2020)	32
<i>Commscope Tech., LLC v. Dali Wireless, Inc.</i> , IPR2022-01242, Paper 23 (P.T.A.B. Feb. 27, 2023).....	41
<i>Hulu, LLC v. Sound View Innovations, LLC</i> , IPR2018-01039, Paper 29 (PTAB Dec. 20, 2019)	16
<i>Intel Corp. v. VLSI Tech. LLC</i> , IPR2019-01192, Paper 15 (P.T.A.B. Jan. 9, 2020)	29
<i>Intelligent BioSys., Inc., v. Illumina Cambridge Ltd.</i> , 821 F.3d 1359 (Fed. Cir. 2016)	16
<i>Kiosoft Tech., LLC v. Payrange, Inc.</i> , IPR2021-00086, Paper 12 (P.T.A.B. Mar. 2021)	33

IPR2024-00695 (Patent 8,649,426)
Patent Owner’s Preliminary Response

<i>Magellan Midstream Partners L.P. v. Sunoco Partners Marketing & Terminals L.P.</i> , IPR2019-01445, Paper 12 (P.T.A.B. Jan. 22, 2020)	29
<i>NHK Spring Co., Ltd. v. Intrix-Plex Techs., Inc.</i> , IPR2018-00752, Paper 8 (Sept. 12, 2018) (designated precedential May 7, 2019).....	28, 29
<i>Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co. Ltd.</i> , 868 F. 3d 1013 (Fed. Cir. 2017)	15
<i>PeakLogic, Inc. v. Wave Neuroscience, Inc.</i> , IPR2022-01527, Paper 13 (P.T.A.B. May 18, 2023)	16
<i>Roku, Inc. v. IOENGINE, LLC</i> , IPR2022-01551, Paper 11 (May 5, 2023).....	37
<i>Solas OLED Ltd. v. Samsung Display Co.</i> , No. 2:19-CV-00152-JRG, 2020 WL 4040716 (E.D. Tex. July 17, 2020)	32
<i>Sotera Wireless, Inc. v. Masimo Corp.</i> , IPR2020-01019, Paper 12 (P.T.A.B. Dec. 1, 2020).....	36, 38
<i>Upjohn Co. v. Mova Pharm. Corp.</i> , 225 F.3d 1306 (Fed. Cir. 2000)	21, 24, 26
<i>Video Solutions Pte. Ltd. v. Cisco Systems, Inc.</i> , No. 2:23-cv-00222 (E.D. Tex. May 19, 2023) (Gilstrap, J.)	4, 27, 43, 45
<i>Xerox Corp. v. Bytemark, Inc.</i> , IPR2022-00624, Paper 9 (P.T.A.B. Aug. 24, 2022).....	21, 24, 26
Statutes	
35 U.S.C. § 312(a)(3).....	16
35 U.S.C. § 314(a)	3, 16, 27, 28

Other Authorities

37 C.F.R. § 42.6(e).....	45
37 C.F.R. § 42.24(d)	44
37 C.F.R. § 42.107	1

PATENT OWNER'S EXHIBIT LIST

Ex. #	Description
Ex. 2003	Docket Control Order, <i>Video Solutions PTE. LTD. v. Cisco Systems, Inc.</i> , 2:23-cv-00222-JRG, Doc. 56 (E.D. Tex. Aug. 18, 2023)
Ex. 2004	Memo on Interim Procedure For Discretionary Denials In AAI Post Grant Proceedings With Parallel District Court Litigation (June 21, 2022)
Ex. 2005	Defendant's Second Amended Invalidity Contentions, <i>Video Solutions PTE. LTD. v. Cisco Systems, Inc.</i> , 2:23-cv-00222-JRG (E.D. Tex. Feb. 29, 2024)
Ex. 2006	E-15 Perlman Invalidity Chart (from Second Contentions)
Ex. 2007	E-12 Oguz Invalidity Chart (from Second Contentions)
Ex. 2008	Defendant's Third Amended Invalidity Contentions, <i>Video Solutions PTE. LTD. v. Cisco Systems, Inc.</i> , 2:23-cv-00222-JRG (E.D. Tex. May 6, 2024)
Ex. 2009	E-15 Perlman Invalidity Chart (from Third Contentions)
Ex. 2010	E-12 Oguz Invalidity Chart (from Third Contentions)
Ex. 2011	J. Gilstrap's Stay Pending IPR stats from Lex Machina
Ex. 2012	IPR2024-00194 (US Patent No. 9,204, 099) Petition
Ex. 2013	Docket as of June 27, 2024, <i>Video Solutions PTE. LTD. v. Cisco Systems, Inc.</i> , 2:23-cv-00222-JRG (E.D. Tex. May 19 2023)
Ex. 2014	Declaration of Dr. Zixiang Xiong
Ex. 2015	Third Amended Docket Control Order, <i>Video Solutions PTE. LTD. v. Cisco Systems, Inc.</i> , 2:23-cv-00222-JRG, Doc. 56 (E.D. Tex. May 3, 2024)

REPRESENTATIVE INDEPENDENT CLAIM 1

Claim #	Claim Language
1.0	A method of encoding in real time a video signal that is associated with a videoconference or telepresence session, the method comprising:
1.1	capturing a stream of video data comprising a series of sequential video frames;
1.2	separating the video frames into a plurality of frame segments, wherein each frame segment represents a part of a complete video frame;
1.3	encoding each frame segment independently and in parallel to generate parallel encoded data streams, one for each of the plurality of frame segments,
1.4	each encoded data stream containing a sequence of frame segment instances each corresponding to a particular frame segment in the video frames, and
1.5	each encoded data stream containing I-frame segment instances that carry complete information about a particular frame segment and P-frame segment instances that carry partial information about the particular frame segment, the partial information representing information that has changed relative to a previous frame segment instance in that encoded data stream, and
1.6	wherein the encoding of the frame segments for each frame is performed such that when an instance of one of the frame segments within a particular frame is an I-frame segment instance, at least one of the other frame segment instances in that particular frame is a P-frame segment instance,
1.7	whereby in the respective parallel encoded data streams in any period of time when an I-frame segment instance is present in one of the parallel encoded data streams, a P-frame segment instance is present in at least one of the other parallel encoded data streams;
1.8	transmitting the parallel encoded data streams independently over a network to a receiver to permit the receiver to decode each frame segment and recombine the decoded frame segments from the different encoded data streams to reproduce an image;
1.9	wherein during transmission of I-frame segment instances of one of the frame segments, P-frame segment instances of all other frame segments are transmitted.

REPRESENTATIVE INDEPENDENT CLAIM 12

Claim #	Claim Language
12.0	A video encoding system for encoding in real time a video signal that is associated with one of a videoconference and a telepresence session, the system comprising:
12.1	a port for receiving a stream of video data comprising a series of sequential video frames;
12.2	a divider for dividing the stream of video data into a series of substreams of data corresponding to frame segments, wherein each frame segment represents a part of a complete video frame;
12.3	plurality of video encoders arranged in parallel for independently encoding the respective frame segments to generate parallel encoded data streams, one for each of the plurality of frame segments,
12.4	each encoded data stream containing I-frame segment instances that carry complete information about a particular frame segment and P-frame segment instances that carry partial information about a particular frame segment, the partial information representing information that has changed relative to a previous frame segment instance in that encoded data stream, and
12.5	the video encoders being arranged to encode each frame segment such that when an instance of one of the frame segments within a particular frame is an I-frame segment instance, at least one of the other frame segment instances in that particular frame is a P-frame segment instance,
12.6	whereby in the respective parallel encoded data streams in any period of time when an I-frame segment instance is present in one of the parallel encoded data streams, a P-frame segment instance is present in at least one of the other parallel encoded data streams;
12.7	and a transceiver for transmitting the parallel encoded data streams independently over a network to a receiver to permit the receiver to decode each frame segment and recombine the decoded frame segments to reproduce an image;
12.8	wherein during transmission of I-frame segment instances of one of the frame segments, P-frame segment instances of all other frame segments are transmitted.

Under 37 C.F.R. § 42.107, Video Solutions Pte. Ltd. (“Video Solutions” or “Patent Owner”), files this preliminary response to the Petition for *inter partes* review of U.S. Patent 8,649,426 (the “’426 patent”), setting forth the reasons why *inter partes* review should ***not*** be instituted.

I. INTRODUCTION

The Board should deny institution of the Petition in IPR2024-00695 (“the ’695 IPR”). ***First***, the Board should deny the Petition because US 2009/0118017 (Ex. 1006 (“Perlman”)), which is the single reference relied on for 12 of the 13 challenged claims (including all independent claims), fails to teach or render obvious at least the transmission-related limitations of both independent claims (1 and 12) of the ’426 patent. Specifically, limitations [1.8] and [1.9] relate to ***transmission***:

- [1.8] “***transmitting the parallel encoded data streams independently over a network to a receiver*** to permit the receiver to decode each frame segment and recombine the decoded frame segments from the different encoded data streams to reproduce an image;” and

- [1.9] “wherein *during transmission* of I-frame segment instances of one of the frame segments, P-frame segment instances of all other frame segments are transmitted.”¹

But the portions of Perlman relied on by Petitioner and its expert as allegedly disclosing these limitations relate to encoding and compression, *not* transmission. Petitioner, in fact, wholly fails to appreciate the transmission-related limitations, and fails to provide any teaching from Perlman (the only reference relied on) that discloses or render obvious the above-identified transmission-related limitations.

Pearlman, in fact, teaches away from using its low-latency compression logic solution for videoconferencing (*see, e.g.*, Ex. 1006, at [1063, 0167]), noting that

¹ Similarly, claim 12's limitations [12.7] and [12.8] also relate to *transmission*:

- [12.7] “a transceiver for *transmitting the parallel encoded data streams independently over a network* to a receiver to permit the receiver to decode each frame segment and recombine the decoded frame segments to reproduce an image;” and
- [12.8] “wherein *during transmission* of I-frame segment instances of one of the frame segments, P-frame segment instances of all other frame segments are transmitted.”

Constant Bit Rate (CBR) approach produces acceptable results for compressed video where there is little motion change expected such as video teleconferencing), which is the general subject matter of the '426 patent. This is not surprising because Perlman is focused on providing improvements for online fast action or “twitch” video games to address issues relating to latency, which Perlman describes as “the time it takes for a signal to travel to and from the game server, which is typically located in an operator’s ‘head-end’.” Ex. 1006 at [0057]. The Board, therefore, should deny the Petition on the merits.

Second, the Board should discretionarily deny institution under 35 U.S.C. § 314(a) and the *Fintiv* factors because it would be a waste of resources by the parties, the district court, and the Board to proceed with this IPR given the advanced stage of the district court litigation and the unlikelihood that such litigation will be stayed. Five of the six *Fintiv* factors favor and/or strongly favor denial, and the sixth factor is neutral. For example, Petitioner’s proffered, narrow grounds-based stipulation does nothing to alleviate the substantial overlap between the art raised in this IPR and the art raised in the district court case. Pet. at 19. Likewise, Petitioner has not moved for a stay, and the trial is scheduled to occur in about 7 months (February 2025)—which is ***seven months before*** the projected statutory deadline date for the final written decision (assuming an institution date near the § 314(b)(1)

date). *See* Ex. 2013 (copy of docket for *Video Solutions Pte. Ltd. v. Cisco Systems, Inc.* showing absence of a Motion to Stay). Nor is it likely Petitioner will move for a stay given that Petitioner obtained institution on March 28, 2024 in IPR2024-00194, which challenged another patent asserted in the corresponding district court litigation (U.S. Patent No. 9,204,099 (“the ’099 patent”)), and has yet to move for a stay. Furthermore, *Fintiv*’s sixth factor (other circumstances impacting discretion) also favors denial because, as discussed above, Petitioner failed to establish that the prior art taught or rendered obvious at least two of the limitations present in both independent claims—limitations [1.8] and [1.9], as well as limitations [12.7], and [12.8].

II. OVERVIEW OF THE TECHNOLOGY AND OF THE ’426 PATENT

A. Video Encoding and the Prior Art

A videoconference is “a set of interactive telecommunications technologies which allow two or more locations to interact via two-way simultaneous video and audio transmissions.” Ex. 1001 at 1:41-44. A core technology used in a videoconference system is digital compression of audio and video streams in real time. *Id.* at 1:44-46. This compression can be understood in the context of the three major frame types found in prior art: Intra frames (I-frames), Predictive frames (P-

frames), and Bi-predictive frames (B-frames). *See generally id.* at 2:54-3:11. An I-frame (or keyframe) is a single frame of data that has all of the data needed to display that entire frame, independent of frame or frames that preceded it. *Id.* at 2:62-65. P-frames follow I-frames and have only the data that have changed from the preceding I-frame. *Id.* at 3:2-8. Typically, for real-time video compression only the I-frames and P-frames are considered. *Id.* at 2:57-59; *see also* Declaration of Zixiang Xiong (“Xiong Decl.”) (Ex. 2014 at ¶ 35).

Generally in the prior art, the quality of the video increased when more I-frames were transmitted. Ex. 1001 at 2:66-3:1. But this quality came at a cost. First, because the I-frames include data for an entire video frame, encoding I-frames required significantly more time, thus increasing latency. Second, transmitting the I-frame would increase the network traffic load and create high peak/average data bursts on the network, leading to choppy video and/or packet loss due to delays in receiving the I-frame data, ultimately degrading video quality. Ex. 1001 at 3:29-36. Such bursts are depicted in Figure 2 below by the “No Segments” spikes of 60 kB. *Id.*; Ex. 2014 at ¶ 36.

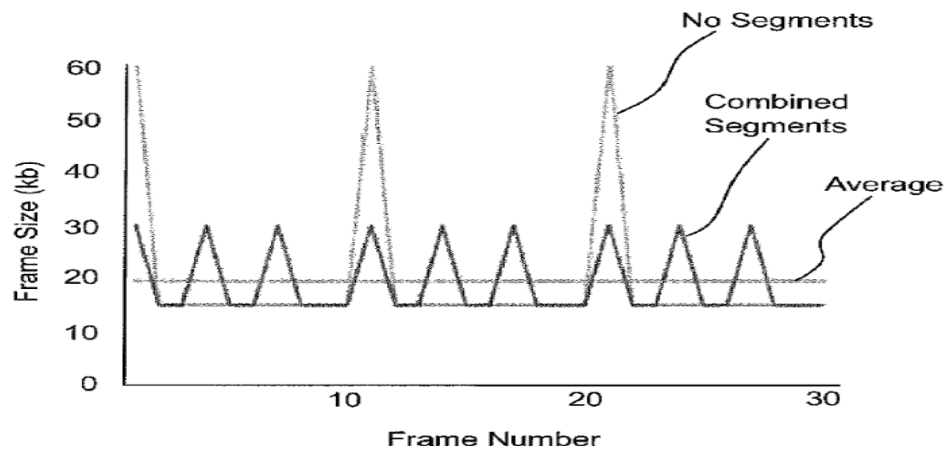


Figure 2

PRIOR ART

The need to transmit large amounts of video data consistently and in real time proved a major obstacle to the widespread adoption of videoconferencing and telepresence.² Ex. 1001 at 2:33-36; Ex. 2014 at ¶¶ 37, 38.

Many prior art encoding techniques were developed to overcome these obstacles. Encoding techniques were developed that reduced the amount of video data being transmitted. Ex. 1001 at 2:36-38. Such techniques included MPEG and H.264. MPEG, for example, achieved a high compression rate by representing only

² “Telepresence” is a “set of technologies which allow a person to feel as if they were present, to give the appearance that they were present, or to have an effect, as a location other than their true location.” Ex. 1001 at 2:20-23.

the changes from one frame to another, instead of the entire frame, and then encoding the video information using Discrete Cosine Transfer (DCT). Ex. 1001 at 2:40-44. Similarly, H.264, also called Advanced Video Encoding, relies on similarities between frames and uses those similarities to reduce the amount of data needing to be stored and transmitted. Both MPEG and H.264 are called “lossy compression” because some data is removed, but the effect is generally not perceived by the human eye. *See* Ex. 1001 at 51-54; Ex. 2014 at ¶¶ 39, 40.

These techniques proved suitable for one-way (*i.e.*, single direction) applications such as broadcast, video on demand, and DVD video storage applications. Ex. 1001 at 5:31-35. In these applications, encoding is typically performed ahead of time such that processing equipment/time does not significantly contribute to latency. *Id.* at 5:35-37. Also, in these applications, the video data is often buffered before playback so as to alleviate problems relating to high peak data bursts. *Id.* at 5:31-49; Ex. 2014 at ¶ 41.

The prior art encoding techniques available at the time of the invention could achieve compression ratios of 200:1 or even 500:1, but were very expensive computationally such that PC-based videoconferencing system did not have enough processing capabilities to handle video encoding operations in real time. (Ex. 1001 at 3:12-23. Also, as noted above, the prior art encoding techniques resulted in

“bursty” data, resulting in choppy video and/or packet loss due to delays in receiving the I-frame data. Ex. 1001 at 3:29-36; Ex. 2014 at ¶ 42.

B. The Inventors Discovered a Better Way – The '426 Patent

The innovations claimed in the '426 patent relate to an improvement for videoconference video data which utilizes video encoding that reduces latency and enhances resolution. The '426 patent discloses methods that divide the video signal into segments that are *encoded independently and transmitted independently* to reduce the high peak/average data bursts associated with I-frames. Ex. 1001 at Abstract, 3:29-38; 5:59-62; 7:55-8:27; 8:59-10:12. After the independent transmission, each segment is then decoded and the decoded segments are recombined. Ex. 1001 at 3:63-65; Ex. 2014 at ¶¶ 30, 43-46.

Figure 3 depicts an embodiment which captures a stream of video data made up of a series of frames. *Id.* at 5:50-53.

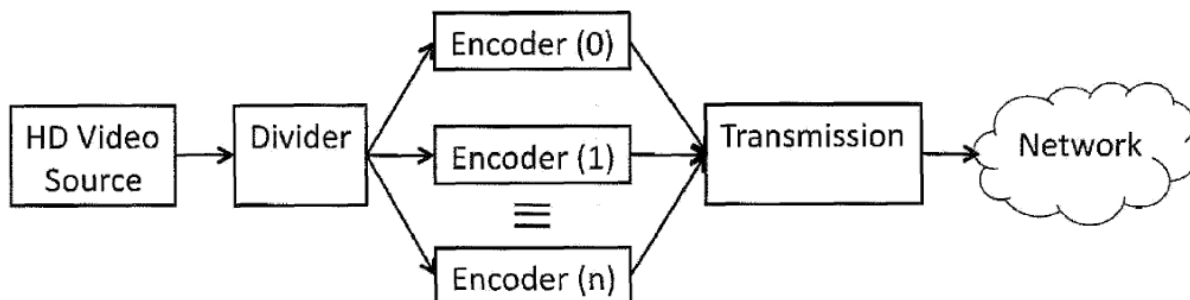


Figure 3

It then separates the frames into frame segments and encodes the frame segments independently and in parallel to create frame segment instances, which, after encoding, are transmitted independently over a network to a receiver such that during transmission of I-frame segment instances of one of the frame segments, P-frame segment instances of all other frame segments are transmitted. *Id.* at 5:53-6:2; 6:17-20; 7:55-8:26; 8:59-10:12; Ex. 2014 at ¶ 31. In this way, the technology disclosed in the '426 patent decreases latency and reduces the overall data peak to average data burst onto the network, thus maintaining high resolution by reducing packet loss. *Id.* at Figs. 3 and 4; 5:50-6:2; 6:6:8-20; Ex. 2014 at ¶ 34.

The invention's focus on videoconferencing allows the use of an I-frame and one or more P-frames to exploit the fact that large areas of each frame will not change frame to frame. Ex. 1001 at 6:66-7:10 ("Thus, the video encoder does not

need to determine this fact in an analytical manner for each and every frame, at a rate of 24 to 60 frames per second. Rather, it is necessary only for the video encoder to process the image to determine the regions of movement.”). “Optionally, the rate at which I-frames are sent out is reduced relative to that of general purpose video encoding. This is because, unlike movies and broadcast television, there is a low probability in videoconferencing that the video signal will include a scene change, panning motion, or other type of change that requires a new I-frame to be sent.” Ex. 1001 at 7:3-11. Also, by transmitting the parallel encoded data streams independently and by transmitting P-frame segment instances of all other frame segments during the transmission of I-frame segment instances for one of the frame segments, the patent supports independent reconstruction of the segments at the distant end. Ex. 2014 at ¶¶ 44-45.

The effect of the separate encoding and independent transmission is shown in Figure 4.

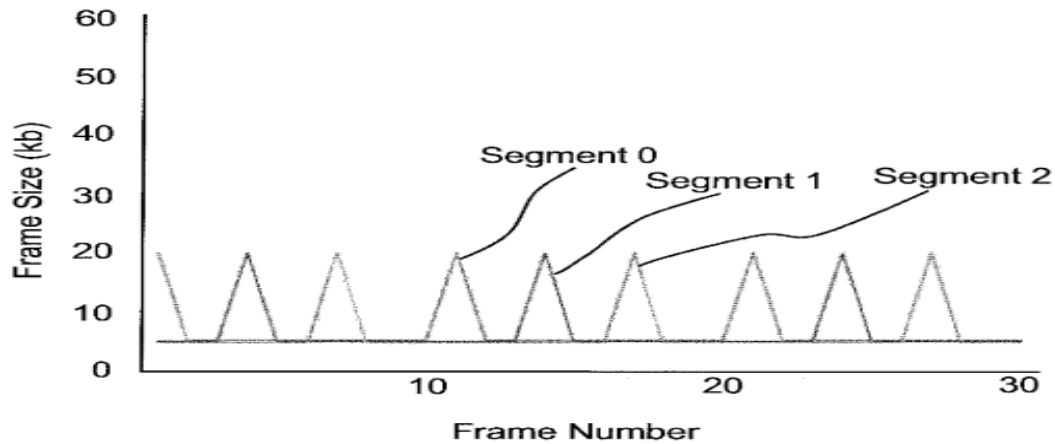


Figure 4

Referring to Figure 4, the I-frames for segments (0), (1), and (2) are shown offset from one another. Ex. 1001 at 6:12-14. Each signal has a P-frame size of ~5kB and an I-frame size of ~20kB. For the three segments (0, 1, and 2), 10kB of P-frame data is sent for each frame and 20kB of I-frame data is sent for the same frame resulting in 30kB of frame data, which is shown in the Figure 2 “Combined Segments” graph below.

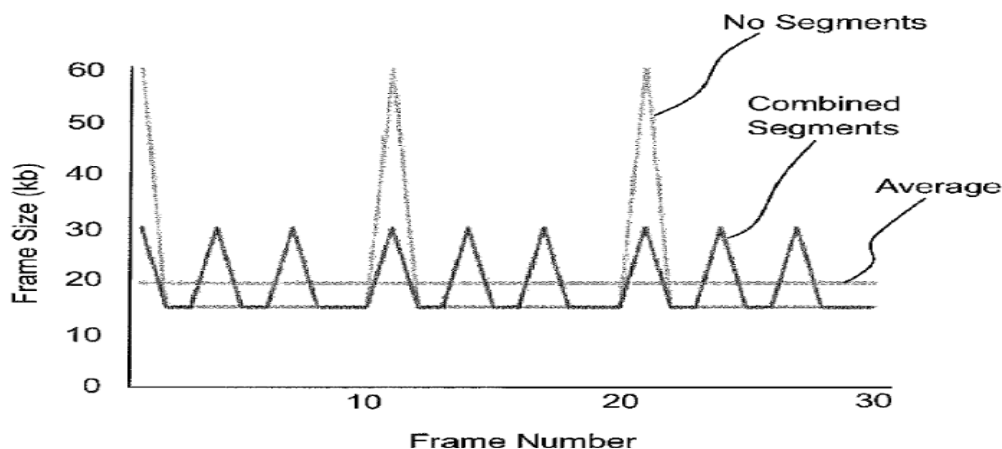


Figure 2

PRIOR ART

The invention of the '426 patent, therefore, reduces the burst data bit rate (compare prior art “No Segments” peaks with the invention’s “Combined Segments” peaks on the Figure 2 graphs) while maintaining a similar average data rate and a similar video transmission encoding quality. Ex. 1001 at 6:20-23; Ex. 2014 at ¶¶ 47-49.

III. OVERVIEW OF THE ASSERTED REFERENCES

A. PERLMAN (Ex. 1006)

Perlman relates to methods of broadcasting a live game tournament in the form of streaming interactive video from a hosting service to a plurality of viewers. Ex. 1006; Abstract. Perlman identifies many obstacles in the context of on-line gaming, including that the game logic may take shorter or longer than one frame time to compute the graphics displayed for the next frame, depending upon the

complexity of the scene (*id.* at ¶ [0036]); and making live video feeds available to the television channel's video distribution and processing equipment in real-time, particularly in a tournament situation. *Id.* at ¶ [0040]; Ex. 2014 at ¶ 50.

Perlman describes multiple approaches to addressing these and other obstacles. One approach is to host the gaming program code and data on a server and deliver the data to client machines on demand as compressed video and audio streamed over a digital broadband network. *Id.* at ¶ [0057]. This approach, however, has a major drawback, *i.e.*, latency (the time it takes for a signal to travel to and from the game server). *Id.* Latency is particularly a problem in so-called fast-action or “twitch” video games. *Id.* Perlman identifies multiple sources of latency, including: round-trip latency between the user's home and the general Internet, routing delays, data rate capacity, and the time necessary to compress and decompress the video. (*Id.* at ¶¶ [0059, 0060, 0061]; Ex. 2014 at ¶ 51.

Perlman focuses on improving latency in online video games. Perlman distinguishes between compression from so-called “tame” video streams that do not change very much (*e.g.*, as would “be common in video teleconferencing where the cameras are in a fixed position and have little motion, and the objects, in the scene, *e.g.*, seated people talking, show very little motion”), and twitch video games. *Id.* at ¶¶ [0163, 0164]; *compare* Figs. 6*b* and 6*c*; *see also* [0167] (arguing that prior art

Constant Bit Rate (CBR) encoding is sufficient for videoconferencing applications, but not well-suited for high-complexity, rapidly changing scenes such as those in twitch video games). Ex. 2014 at ¶ 52.

Perlman proposes a variety of solutions to reduce latency in the video game context. And while Perlman does discuss reducing so-called I-frame peaks (*see* Ex. 1006 at Fig. 6*b*; Pet. at 23-24) by dividing frames into tiles consisting of I-frame tiles and P-frame tiles (*see* Fig. 7*a*), Perlman does not disclose or even consider the transmission aspects of the '426 patent's invention. In fact, none of the figures and text from Perlman relied on by Petitioner as allegedly teaching limitations [1.8] and [1.9] (and [12.7] and [12.8]) relate to transmission, let alone independent transmission. *Compare* Petition, at 47-55 (discussing Figs. 7*a*, 10*b*, and 12) with Perlman [0083] – Figs. 7*a-b* illustrate video *compression* techniques, [0086] – Figs. 10*a-b* illustrate efficiently *pack[ing]* image tiles within packets, [0088] – Fig. 12 – multi-core processing units for *compression*. Perlman, therefore, at most discloses the concept of dividing a frame into segments or tiles, but that is only a portion of the features recited in the claims of the '426 patent. Perlman does not teach, and Petitioner fails to demonstrate, that Perlman discloses and/or that a POSITA would find obvious, the '426 patent's *transmission* limitations as discussed in detail below. Ex. 2014 at ¶ 53.

B. OGUZ (Ex. 1008)

Oguz relates to techniques for content adaptive video frame slicing and non-uniform access unit coding for improved coding efficiency.” Ex. 1008, Abstract. Petitioner does not argue, and Oguz does not teach, the ’426 patent’s transmission limitations. Ex. 2014 at ¶ 54.

IV. PERSON OF ORDINARY SKILL IN THE ART

Patent owner agrees to use Petitioner’s definition for a POSITA for the purposes of this IPR. Ex. 2014 at ¶ 55.

V. CLAIM CONSTRUCTION

Patent owner agrees with Petitioner that, for this proceeding and the grounds presented by Petitioner, no claim term requires construction. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co. Ltd.*, 868 F. 3d 1013, 1017 (Fed. Cir. 2017) (noting that “we need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy”).

If trial is instituted, and to the extent any claims are in dispute, Patent Owner reserves the right to propose constructions at that time.

VI. THE BOARD SHOULD DENY INSTITUTION BECAUSE THE PETITION FAILS TO ESTABLISH THAT THE CHALLENGED CLAIMS ARE UNPATENTABLE

The Petitioner has failed to carry its burden to “show[] that there is a reasonable likelihood that the petitioner would prevail regarding at least 1 of the claims in the challenged petition.” 35 U.S.C. § 314(a). “[A] petitioner *must* make its case-in-chief in the petition” and the petition must “identify ‘with particularity’ the ‘evidence that supports the ground for the challenge to each claim.’ 35 U.S.C. § 312(a)(3).” *PeakLogic, Inc. v. Wave Neuroscience, Inc.*, IPR2022-01527, Paper 13 at 4-5 (P.T.A.B. May 18, 2023); *Intelligent BioSys., Inc., v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369–70 (Fed. Cir. 2016); *see also Hulu, LLC v. Sound View Innovations, LLC*, IPR2018-01039, Paper 29 at 6–7 (P.T.A.B. Dec. 20, 2019) (precedential) (discussing § 312(a)); Consolidated Trial Practice Guide November 20192 at 74–75 (“It is also improper for a reply to present new evidence (including new expert testimony) that could have been presented in a prior filing, for example newly cited prior art references intended to ‘gap-fill’ by teaching a claim element that was not present in the prior art presented with the petition.”). As discussed below, the evidence presented by the Petition is deficient and fails to establish that the one asserted prior art reference, Perlman, discloses or renders obvious several claim limitations in the independent claims. These failures of proof in the Petition

go to the Petitioner's case-in-chief and cannot be remedied at a later stage in this proceeding. Accordingly, the challenges raised in the Petition are deficient and the Board should deny institution.

Contrary to the Petitioner's allegations (Pet. at 47-54 and 75-76), Perlman does not disclose or suggest claim elements [1.8] or [1.9] or [12.7] or [12.8] in independent claims 1 and 12. Ex. 2014 at ¶ 61. These elements relate to “*transmitting* the parallel encoded data streams *independently* over a network ... [1.8]” and “wherein during *transmission* of I-frame segment instances of one of the frame segments, P-frame segment instances of all frame segments are *transmitted* [1.9].”³ Ex. 1001 at 8:19-27. Perlman does not teach either limitation and, in fact, the parts of Perlman relied on by Petitioner relate to encoding/compression and tile packing, not transmission, as addressed below. *See, e.g.*, Pet. 47-54 (referring to Perlman (Ex. 1006) Figs. 7a, 10b, and 12 and paragraphs [0169, 0170, 0198]). Thus, Petitioner fails to establish that independent claim 1 is unpatentable over Perlman as applied in Ground 1, and because Ground 2 relies on the analysis of independent claim 1, it is deficient as well. Ex. 2014 at ¶¶ 61, 32-33.

³ Claim 12, limitations [12.7] and [12.8] are similar. Ex. 1001, at 8:59-10:12.

A. “Transmitting the parallel encoded data streams independently” limitations

Claim [1.8]: “transmitting the parallel encoded data streams independently over a network to a receiver to permit the receiver to decode each frame segment and recombine the decoded frame segments from the different encoded data streams to reproduce an image;”

Claim [12.7]: a transceiver for transmitting the parallel encoded data streams independently over a network to a receiver to permit the receiver to decode each frame segment and recombine the decoded frame segments to reproduce an image;”

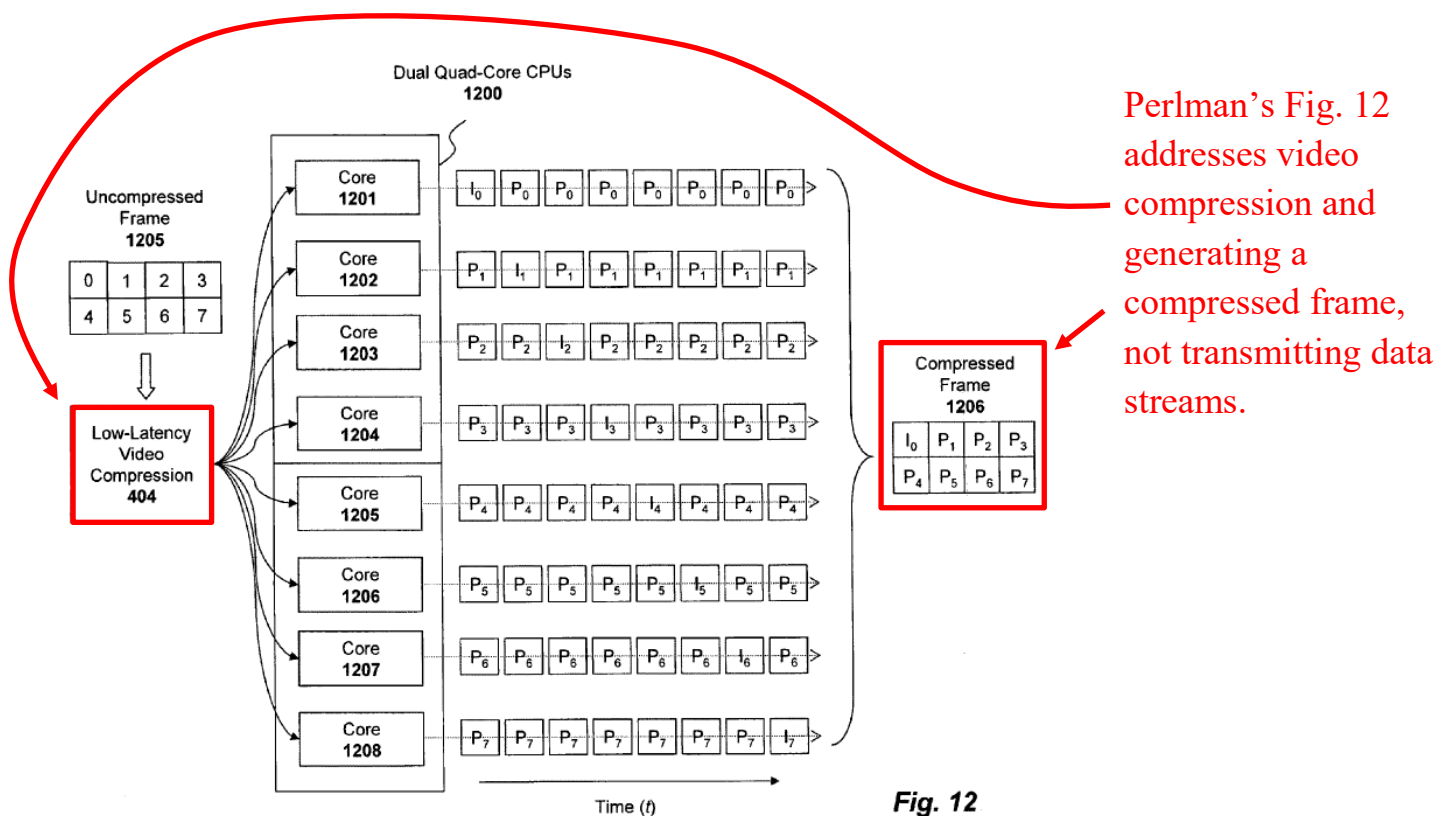
Petitioner makes *three* arguments that Perlman discloses element [1.8]. *See* Pet. at 47-52; Ex. 2014 at ¶ 62.⁴ None of these arguments have merit.

First, Petitioner cites to paragraphs [0214] and [0117] for the general proposition that Perlman's compressed tiles are transmitted to a destination without any mention of the specific manner in which transmission occurs. Pet. at 48. For example, these paragraphs do not teach or otherwise indicate “transmitting the parallel encoded data streams *independently*...” as required by the claims. And the

⁴ Petitioner makes these same arguments for element [12.7]. *See* Pet. at 75-76.

figures and text referred to in the paragraphs (Fig. 12 for paragraph [0214]⁵ and Figs. 4a, 2a, and 2b for paragraph [0117]) do not provide any further teaching. As reproduced below, Figure 12, for example, “illustrates one embodiment which uses multi-core processing units for *compression*.” Ex. 1006, at [0088]. Figures 2a and 2b are high level system architecture illustrations. *Id.* at [0071]. And figure 4a illustrates a hosting service and a client. *Id.* at [0073]. In short, none of the Petition’s cited evidence teach claim elements [1.8] or [12.7]. Ex. 2014 at ¶ 63.

⁵ Figure 12 is referred to in paragraph [0213] and paragraph [0214] refers to “techniques previously described.” Ex. 1006, at [0214].



Ex. 1006, Fig. 12 (annotations added).

Other than citations to Perlman, Petitioner's expert does not provide any additional support for this argument. *See* Ex. 1003 at ¶ 79.

Perhaps recognizing this shortcoming, Petitioner advances a second argument regarding the "independently" transmitted requirement of the claims, *i.e.*, that "Perlman's streams are '*independently*' transmitted because they have to be recombined on the receiving end." Pet. at 48-49. Citing Perlman paragraph [0170] discussing *decompression* of I frames and P frames (Ex. 1006 at [0170] "The video decompression logic 412 running on the client 415 ..."), Petitioner argues that

multiple instances of a video decompressor is known in the art. Petitioner also argues (without citation) that “the compressed tiles maintain their independence through transmission.” Pet. at 48. That the tiles are decompressed *after they are transmitted* says nothing about whether or not they were transmitted *independently*, as required by the claim. Ex. 2014 at ¶ 64. Again, because Petitioner's expert simply cites to Perlman with no meaningful analysis (Ex. 1003 at ¶¶ 80-81), his opinion should be given no weight. *Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9 at 15 (P.T.A.B. Aug. 24, 2022) (Precedential); *Upjohn Co. v. Mova Pharm. Corp.*, 225 F.3d 1306, 1311 (Fed. Cir. 2000); *Carella v. Starlight Archery & Pro Line Co.*, 804 F.2d 135, 138 (Fed. Cir. 1986).

A simple example illustrates the fault in Petitioner's logic. Suppose four people (each representative of a tile of a frame) were to travel (be transmitted) from Dallas (where encoding/compression occurred) to Washington, D.C., where decompression occurs. That the four people arrived in Washington, D.C. says nothing about how they traveled to Washington. They could have traveled in separate cars (packets) on separate roads, or in separate cars on the same road each behind the other. They could have traveled in pairs in two cars. Three could have traveled together and the fourth separately, or all four could have traveled in one car. They could have arrived simultaneously, or one could have arrived before the others

and waited (*e.g.*, been buffered/held) while the others arrived. In short, that Perlman decompresses each tile separately and reconstructs the video on the receiving end says nothing about the claims' required ***independent transmission*** limitation, which is a ***separate step from decompression***. Ex. 2014 at ¶ 65.

Petitioner advances yet another alternative argument for the independent transmission limitation—"Perlman's tiles are transmitted '*independently*' because different tiles—belonging to different data streams—are transmitted in separate packets." Pet. at 49-50. Petitioner cites to Figure 10*b* in support of this argument, arguing that because at least some of the tiles (*e.g.*, T7 and T2) are transmitted in separate packets "at least some of the encoded streams are transmitted "*independently*" from each other." Pet. at 50; Ex. 2014 at ¶ 66.

Petitioner's argument ignores Perlman's actual teaching. Figure 10*b* and the tile packing logic described in [0198] demonstrate ***dependent transmission***, not "independent transmission" as required by the claims. Perlman explains that Fig. 10*b* illustrates tile packing logic for intelligently packing tiles within packets to reduce the effect of packet loss. Ex. 1006 at [0198]; *see also* [0199]. Tile packing logic 1010 aligns tiles with packet boundaries (*e.g.*, tiles T1, T3, T4, T7, and T2 are aligned with packet boundaries). *Id.* Then, based on the size of the tiles, T1 and T6 are combined in packet 1001, T3 and T5 are combined in packet 1002, and so on.

Id. This scheme (as illustrated below) is the opposite of independent transmission because certain tiles are transmitted together (dependent) in packets and the purpose of the tile packing logic is to best fit the tiles into packets based on assigned rules (*i.e.*, tile size and packet size). Ex. 2014 at ¶ 67.

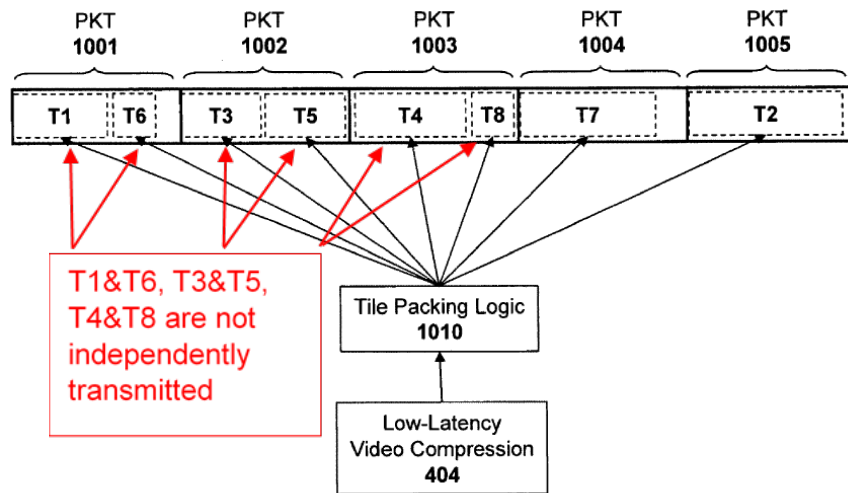


Fig. 10b

Annotated Fig. 10b, Ex. 1006; Ex. 2014 at ¶¶ 67-68. Thus, contrary to Petitioner, a POSITA reading Perlman would conclude that Perlman does not disclose and instead disfavors independent transmission. Ex. 2014 at ¶ 68.

Petitioner's expert, Dr. Freedman, acknowledges that many of the tiles are packaged together, but concludes that because some tiles are not packaged together a POSITA would have found it obvious to transmit all of the tiles in different packets. Ex. 1003 at ¶¶ 82-83. Not only is this opinion conclusory and thus entitled

to little weight (*see Xerox, Upjohn, and Carella* cases cited above), but his opinion ignores Perlman's teaching. Perlman characterizes as "inefficient[]" packing, *i.e.*, where a tile crosses a packet boundary (Fig. 10a), because the loss of a packet can result in a loss of multiple frames. Ex. 1006 at [0197]. Perlman, therefore, undermines the very argument Petitioner (and its expert) make in support of independent transmission. Ex. 2014 at ¶ 69.

Third, Petitioner again relies on Perlman [0170] ("video decompression logic 412 running on the client 415 decompresses each tile ...") to argue the last portion of claim element [1.8] is met and analogizes Perlman to Figure 3 of the '426 patent. Pet. at 51-52. But as discussed above, that the streams in Perlman are ultimately decompressed fails to provide any information regarding their transmission prior to the decompression step. Also, as discussed above, Perlman teaches tile packing logic, which occurs prior to transmission, and, assuming transmission occurs thereafter, would render such transmission dependent because the outputs of multiple streams would be transmitted together. Ex. 2014 at ¶ 70.

For these reasons, the Petition fails to teach limitations [1.8] and [12.7].

B. “I-frame segment instances and P-frame segment instances transmitted” limitations

Claim [1.9]: “wherein during transmission of I-frame segment instances of one of the frame segments, P-frame segment instances of all other frame segments are transmitted.”

Claim [12.8]: “wherein during transmission of I-frame segment instances of one of the frame segments, P-frame segment instances of all other frame segments are transmitted”

Petitioner relies on paragraph [0169] and Figs. 7*a* and 12 to argue that Perlman teaches this limitation. Pet. at 52-54.⁶ None of these citations relate to *transmission*. Ex. 2014 at ¶ 71. Each relate to encoding/compression, which is a different step in the process. *Id.*

Paragraph [0169], for example, teaches that “low-latency compression logic 404 divides up the video frame into a number of tiles...” These tiles are represented in Fig. 7*a*, which is reproduced below and illustrates “example video *compression* techniques.” Ex. 1006 at [0083].

⁶ The Petition makes the same arguments for claim limitation [12.8]. Pet. at 76.

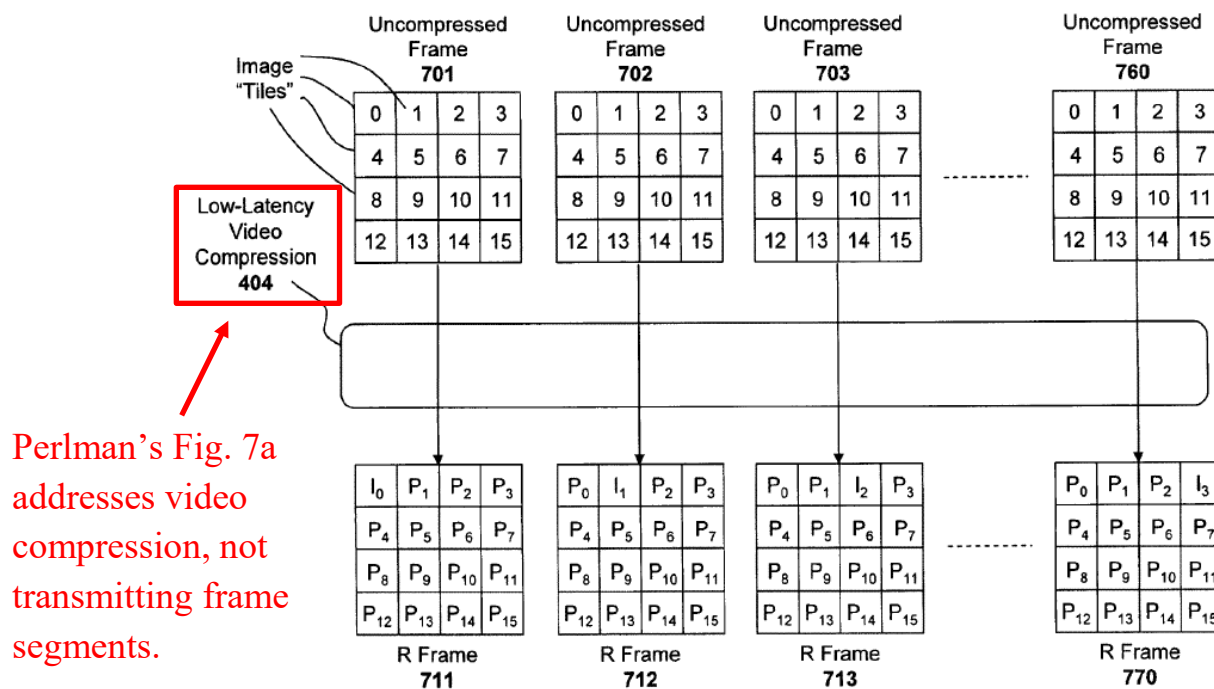


Fig. 7a

Figure 12, as reproduced above, similarly, “illustrates one embodiment which uses multi-core processing units for **compression.**” *Id.* at [0088]; *see also* [0212, 0213] (discussing compression). Petitioner’s **transmission-related** annotations are not present in either figures 7a or 12, and are not described in the text of Perlman. Ex. 2014 at ¶ 72. The cited portions in Dr. Freedman’s declaration (Ex. 1003 at ¶¶ 88-90), moreover, provide no additional insight as it simply parrots the Petition and/or reproduces paragraph [0169] of Perlman (*id.*) and thus is entitled to little to no weight. *See Xerox, Upjohn, and Carella* cases cited above

In sum, Petitioner offers no evidence that Perlman teaches this step or that a POSITA would find this limitation obvious. *Id.* Indeed, as discussed above, Perlman seemingly teaches away from this limitation by imposing tile packing logic rules based on tile size and available packet space. The Petition, therefore, fails to teach this limitation, or to establish that the limitation would have been obvious to a POSITA.

VII. THE BOARD SHOULD DENY INSTITUTION UNDER § 314(a)

Patent owner asserts the '426 patent (as well as three other patents) against Petitioner in the parallel district court proceeding, *Video Solutions Pte. Ltd. v. Cisco Systems, Inc.*, No. 2:23-cv-00222 (E.D. Tex. May 19, 2023) (Gilstrap, J.). That case has a February 10, 2025 trial date, *seven months before* the expected date of a final written decision in this IPR if instituted. The district court case is in its advanced stages. The parties exchanged multiple sets of invalidity and infringement contentions, numerous depositions have been taken, the claim construction hearing is scheduled for August 13, 2024, and fact discovery close on September 23, 2024. Also, despite the Board's instituting review on another patent in that case (the '099 patent) in March 2024, Petitioner did not move for a stay. Nor, as discussed in more detail below, did Petitioner drop the instituted prior art combinations relating to the

'099 patent in the district court case despite stipulating to do so in the IPR, improperly reserving multiple bites at the same invalidity apple.

The *Fintiv* factors (alone and in combination) support denying institution in view of the earlier trial date in the parallel proceeding. *Fintiv*, Paper 11 at 6. The *Fintiv* factors are:

1. whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted;
2. proximity of the court's trial date to the Board's projected statutory deadline for a final written decision;
3. investment in the parallel proceeding by the court and the parties;
4. overlap between issues raised in the petition and in the parallel proceeding;
5. whether the petitioner and the defendant in the parallel proceeding are the same party; and
6. other circumstances that impact the Board's exercise of discretion, including the merits.

As demonstrated below, five of these six factor weigh heavily in favor of denial and the remaining factor is neutral. The Board should deny institution under § 314(a). See *NHK Spring Co., Ltd. v. Intri-Plex Techs., Inc.*, IPR2018-00752, Paper 8 (Sept. 12, 2018) (designated precedential May 7, 2019) (“*NHK* applies to the situation where the district court has set a trial date to occur earlier than the Board's deadline to issue a final written decision in an instituted proceeding.”); *Apple Inc. v.*

Fintiv, Inc., IPR2020-00019, Paper 11 at 5 (March 20, 2020) (designated precedential May 5, 2020) (“[T]he Board’s cases addressing earlier trial dates as a basis for denial under *NHK* have sought to balance considerations such as system efficiency, fairness, and patent quality.”); *see also Magellan Midstream Partners L.P. v. Sunoco Partners Marketing & Terminals L.P.*, IPR2019-01445, Paper 12 at 10 (P.T.A.B. Jan. 22, 2020) (citing “unnecessary and counterproductive litigation costs” where district court would most likely have decided before the Board issues a final decision); *Intel Corp. v. VLSI Tech. LLC*, IPR2019-01192, Paper 15 at 11 (P.T.A.B. Jan. 9, 2020) (“When considering the impact of parallel litigation in a decision to institute, the Board seeks, among other things, to minimize the duplication of work by two tribunals to resolve the same issue.”).

A. Factor 1 - Whether evidence exists that a stay may be granted if a proceeding is instituted.

This factor strongly favors denying institution. Petitioner provides no sign that it will seek a stay in the district court proceeding. Petitioner indicates only that a stay motion has not been filed. Pet. at 17. But Petitioner makes no mention that it intends to move for a stay.

Nor is it likely that Petitioner will move for a stay given that it previously filed IPR2024-00194 (“the ’194 IPR involving the ’099 patent), which was instituted on

March 28, 2024, and has yet to seek a stay. There, like here, Petitioner provides no comment on whether it will seek a stay. But because Petitioner did not move for even a partial stay in the district court case regarding the '099 patent, and instead moved forward with claim construction and depositions, among other things, the Board can reasonably infer that Petitioner will not be moving for a stay of the litigation if this IPR is instituted.

Moreover, even if Petitioner were to move for a stay, it is unlikely the district court would grant such a motion. The Third Amended Docket Control Order (Ex. 2015)⁷ applies to all four asserted patents,⁸ including the patent-at-issue and U.S. Patent No. 8,446,452 (for which IPR is now time-barred). As the Board understands, the longer the case goes on, and the more the parties engage in the claim construction hearing, discovery, etc., and continue to spend more resources, the less likely a stay will be granted.

⁷ Compare to Ex. 2003; Trial date did not change.

⁸ The four patents-at-issue are U.S. Patent Nos. 8,446,452 (time barred); 9,204,099 (IPR instituted); 8,446,823 (IPR recently filed); and 8,649,426 (subject of present IPR).

District courts typically consider three factors when determining whether to grant a stay pending *inter partes* review: (1) whether the stay would unduly prejudice the nonmoving party, (2) whether the proceedings have reached an advanced stage, *e.g.*, with a trial date set or discovery being complete, and (3) whether the stay will probably result in simplifying the case before the court. Each of these factors weigh against the district court granting a stay at this stage of the case.

First, a stay would unduly prejudice Patent Owner. The parties exchanged multiple sets of infringement contentions and invalidity contentions. Patent Owner's experts have spent multiple weeks reviewing source code. Both parties produced numerous documents. The parties have taken several depositions, including inventor depositions. The parties are in the middle of claim construction proceedings and the claim construction hearing is scheduled for August 13, 2024. In short, a stay would severely prejudice Patent Owner, given the amount of resources already devoted to this case. Moreover, the '452 patent is IPR-time-barred and thus a stay would delay trial on that patent and/or force a separate trial on that patent, thus further increasing Video Solution's expenditure of resources.

Second, this case is in its advanced stages. The initial case has been pending for 13 months.⁹ The claim construction hearing is scheduled for August 13, 2024. Fact discovery closes on September 23, 2024. And expert discovery is to be completed by October 28, 2024. Judge Gilstrap typically does not stay litigation pending IPR if the case has reached an advanced stage (*e.g.*, such as claim construction being completed, discovery nearing an end, and a trial date being set earlier than the expected date of the final written decision on IPR). *Solas OLED Ltd. v. Samsung Display Co.*, No. 2:19-CV-00152-JRG, 2020 WL 4040716, at *2 (E.D. Tex. July 17, 2020) (concluding that granting a stay would prejudice the plaintiff given discovery is completed and trial is only a few months away); *see also* Ex. 2011, J. Gilstrap's E.D. Tex. Stay Statics (as of June 25, 2024) (Grant, 25%; Denial, 60%).

In sum, Patent Owner has not sought a stay and, regardless, it is unlikely a stay would be granted. This factor, therefore, weighs heavily against institution.

⁹ The '426 and '823 patents were added to the case in November 2023, but J. Gilstrap did not modify the trial date.

B. Factor 2 - Proximity of the court's trial date to the board's projected statutory deadline for a final written decision.

This factor weighs heavily against institution. Numerous cases find delays of five to seven months between the trial and the expected final written decision to warrant denial of institution. *See e.g., Cisco Systems, Inc. v. Oyster Optics, LLC*, IPR2021-00238, Paper 10 at 11-13 (P.T.A.B. June 1, 2021) (institution denied under *Fintiv* where final written decision would occur 7 months after trial); *Cisco Systems, Inc. v. Ramot at Teel Aviv Univ. Ltd.*, IPR2020-001233, Paper 14 at 7-8 (P.T.A.B. May 15, 2020) (institution denied under *Fintiv* where final written decision would occur six months after trial); *Kiosoft Tech., LLC v. Payrange, Inc.*, IPR2021-00086, Paper 12 (P.T.A.B. Mar. 2021) (institution denied under *Fintiv* where final written decision would occur five months after trial).

Petitioner concedes that the currently scheduled February 10, 2025, trial date would occur around *seven months* before a final written decision, projected September 2025, but argues that this factor is outweighed by both compelling merits (factor 6) and Petitioner's stipulation (factor 4). *See* Pet. at 18. These arguments are flat wrong as discussed below in connection with those factors.

The district court's decision will issue long before the final written decision on this IPR. And there is no indication that that trial date will be delayed. Judge

Gilstrap recently entered a Third Docket Control Order (Ex. 2015) setting September 23, 2024 (in three months) as the deadline for completing fact discovery; October 28, 2024 (in four months), as the deadline for completing expert discovery, and February 10, 2025, for jury selection and trial. *See* Ex. 2015 at 1–3. The scheduled trial date reflects the median time-to-trial statistics of 21.4 months for the Eastern District of Texas. Ex. 1013 at 35. And, as the guidance on *Fintiv* Factor 2 in Director Vidal's memo dictates (Ex. 2004), "the PTAB will consider the median time from filing to disposition of the civil trial for the district in which the parallel litigation resides." Ex. 2004 at 3. The May 2023 complaint filing date aligns with the trial date set for 21.4 months later, and the timing precedes the statutory deadline for the Final Written Decision by seven months.

C. Factor 3 - Investment in the parallel proceeding by the court and the parties.

This factor also strongly favors denial of institution. First, contrary to Petitioner's arguments (Pet. at 18-19), this case is no longer in its early stages. This case has been ongoing for **13 months**. During that time, Patent Owner has responded to 48 categories requesting documents yielding 14,621 pages, and Petitioner has produced 100,867 pages in response to discovery requests; 26 interrogatories between the parties and five depositions; Petitioner served Letters of Rogatory in

Canada on 4 entities receiving almost 12,000 pages in response; exchanged 3 sets each of infringement and invalidity contentions; claim construction is ongoing (opening brief is due July 2, 2024), the claim construction hearing is scheduled for August 13, 2024, fact discovery closes September 23, 2024, and trial is set for February 10, 2025.

Second, Patent Owner has invested significant resources in this case. For example, Patent Owner's experts have spent more than 15 days reviewing Petitioner's source code, and Patent Owner has itself spent significant resources analyzing at least twenty anticipation and obviousness prior art invalidity grounds for the '426 patent alone, and taking and defending the aforementioned depositions).¹⁰ These are not trivial expenditures, but significant investments that tilt this factor strongly towards denying institution.

¹⁰ Petitioner also argues that regardless of whether this factor favors denial, it is outweighed by the alleged compelling merits and Petitioner's stipulation. Pet. at 19. These arguments are addressed below with respect to these factors.

D. Factor 4 - Overlap between issues raised in the petition and in the parallel proceeding.

This factor also strongly favors denial of institution. First, contrary to the Petition, there is absolutely overlap of prior art issues with the district court litigation. Petitioner's statement otherwise is incorrect.

Petitioner's Second (and Third) Amended Invalidity Contentions, served both before and after Patent Owner filed this Petition, identify both Perlman and Oguz as prior art references. *See* Ex. 2008 (Third Amended Invalidity Contentions) at 10 (E-12 is Oguz (Ex. 2010) and E-15 is Perlman (Ex. 2009)); *see also* Ex. 2005 (Second Amended Invalidity Contentions); Ex. 2006 (Perlman Chart) and Ex. 2007 (Oguz Chart).¹¹ Petitioner designates Perlman a "primary reference" and Oguz as a secondary reference. Petitioner further indicates an obviousness combination for Perlman and Oguz in its broad description that the primary references can be combined with any one of the other references. *See, e.g.*, Ex. 2008 (Third Amended Invalidity Contentions) at 106. Petitioner also identifies both Perlman and Oguz as

¹¹ Video Solutions filed its Amended Complaint on November 27, 2023, and Petitioner served its Second Amended Invalidity Contentions on February 29, 2024. Petitioner's IPR was filed March 15, 2024, (after the service of its Second Amended Contentions which contained the Perlman and Oguz charts).

teaching numerous limitations of the claim. *See generally* Ex. 2008, at 106-142. Contrary to Petitioner's representation, there is significant overlap regarding the prior art at issue in this Petition and in the district court litigation.

Petitioner's so-called "stipulation" (*i.e.*, that "it will not pursue the same grounds in the district court litigation" (Pet. at 19)) does little to cure the overlap. In fact, such a stipulation is contrary to the law. *See Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 at 18 (P.T.A.B. Dec. 1, 2020) (precedential as to § II.A); *California Inst. of Tech. v. Broadcom Ltd.*, 25 F.4th 976, 991 (2022) *cert. denied sub nom. Apple Inc. v. California Inst. of Tech.*, 143 S. Ct. 2658, 216 L. Ed. 2d 1236 (2023). Under Director Vidal's Guidance Memo on applying the *Fintiv* framework, the Board should consider the estoppel offered by the Petitioner and the standard estoppel stipulation should be a broad *Sotera* stipulation, "any ground that [it] raised or reasonably could have raised" during the IPR, if instituted. Petitioner's stipulation falls far short of this standard. Ex. 2004 at 3; *See Roku, Inc. v. IOENGINE, LLC*, IPR2022-01551, Paper 11 (May 5, 2023) (PTAB discretionarily denying the petition under *Fintiv* when the district court trial would likely precede the PTAB's final written decision by six months and the petitioner only stipulated to not raising the same invalidity grounds in district court that it raised in the IPR petition.).

Indeed, Petitioner's grounds-based stipulation does virtually nothing to mitigate the overlapping issues. For example, Petitioner states that its primary references (*e.g.* Perlman)¹² can be combined with the other primary or secondary references. Ex. 2008 at 106. Under Petitioner's stipulation, it can continue to use Perlman and Oguz as a prior art combination with another reference, for example Perlman + Oguz + third reference, which it does repeatedly in its invalidity contentions. *See* Ex. 2008, at 106-142. Put simply, Petitioner's stipulation ***eliminates none*** of the twenty references it has put forth in the litigation. Petitioner should not get two bites at the apple—to litigate essentially the same grounds and use the same art in the IPR proceeding and the parallel district court proceeding. *See California Inst. of Tech.*, 25 F.4th at 976 (“Accordingly, we take this opportunity to overrule *Shaw* and clarify that estoppel applies not just to claims and grounds asserted in the petition and instituted for consideration by the Board, but to all grounds not stated in the petition but which reasonably could have been asserted against the claims included in the petition. In a regime in which the Board must institute on all challenged claims and the petition defines the IPR litigation, this

¹² Ex. 2008 at 106 (“Cisco hereby identifies the following ’426 Patent Primary References: Lerner, Perlman, Rovati, Schreier, Wang ’673.”).

interpretation is the only plausible reading of “reasonably could have been raised” and “in the IPR” that gives any meaning to those words.”).

Nor should Petitioner be permitted to submit a *delayed (or revised) Sotera* stipulation in response to this POPR.¹³ A delayed or revised stipulation is not appropriate because: (1) Petitioner was not silent on its grounds-based stipulation; (2) Patent Owner will be prejudiced because it has spent its resources and arguments focused on a *Fintiv* denial due to Petitioner's exceedingly narrow position on estoppel; and (3) this is an invalidity case, not strictly infringement. Petitioner's strategic decision to proffer a narrow grounds-based stipulation instead of a stronger *Sotera*-style stipulation favors denial of institution because it does nothing to alleviate the significant overlapping issues between the district court trial and the IPR proceeding or concerns of potentially conflicting decisions.

Petitioner's behavior in IPR2024-00194 regarding the '099 patent further supports denial. There, Petitioner provided essentially the same stipulation as it provides here: “Petitioner sates that, if the Board institutes trial, Petitioner will cease

¹³ See *BMW of North America, LLC v. NorthStar Systems LLC*, IPR2023-01017, Paper No. 12 (P.T.A.B. Dec. 8, 2023). Here, the *Fintiv* analysis is distinguishable because it is based on a parallel invalidity action.

asserting in the co-pending litigation the combination of references on which trial is instituted for the claims, to the extent Petitioner even asserts the same combination in the district court.” Ex. 2012 at 79-80. ('099 Petition). Even though the Board instituted IPR2024-00194 in March 2024, Petitioner continues to move forward with a myriad of invalidity grounds for the '099 patent in the district court litigation, including combinations of the instituted grounds, stipulation notwithstanding. *Compare* Ex. 2012 ('194 Petition relying on combinations Setton/Baker, Setton/Baker/Wong, Apostolopoulos/Baker, and Apostolopoulos/Baker/Wong) with Ex. 2008 Third Amended Invalidity Contentions, at 53-54 relying on Setton (B-18), Baker (B-21), and Apostolopoulos (B-15) as primary references in combination with one another and with secondary reference Wong (B-03)). Given Petitioner's history with the stipulation in the '194 IPR, the Board should give little-to-no weight to Petitioner's proposed stipulation here.

Finally, a stay would not simplify the case. This is a four patent case where each patent shares the same schedule and trial date. Ex. 2015. There is substantial overlap between the claims asserted in the litigation (1-5, 7, 10, and 11) and the challenged claims 1-13. Moreover, as discussed above, Petitioner asserts the Perlman and Oguz references in the district court litigation, and Petitioner's proposed stipulation does not eliminate these references from consideration by the

district court. At bottom, Petitioner will have an opportunity to present a full invalidity case in district court, where the parties have already committed significant resources. The district court will be in the better position to efficiently evaluate invalidity given the stage of the case.

E. Factor 5 - Whether the petitioner is the defendant.

This factor is neutral because the Petitioner is a defendant.

F. Factor 6 - Other circumstances that impact the Board's exercise of discretion, including the merits.

Petitioner argues that this factor is “particularly compelling” because Perlman renders obvious most of the claims. Pet. at 20. Not true.

As demonstrated above, Petitioner fails to demonstrate that Perlman discloses or renders obvious to a POSITA at least two limitations of each of independent claims 1 and 12. This failure warrants denial under any standard, and certainly under the higher “compelling merits” standard, and demonstrates that Petitioner is *not likely*, let alone “highly likely [to] ... prevail with respect to at least one challenged claim.” *Commscope Tech., LLC v. Dali Wireless, Inc.*, IPR2022-01242, Paper 23 at 4 (P.T.A.B. Feb. 27, 2023) (citing 35 U.S.C. § 314(a)) (quoting *OpenSky Indus., LLC et al. v. VLSI Tech. LLC*, IPR2021-01064, Paper 102 at 49–50 (P.T.A.B. Oct. 4, 2022) (precedential)).

In sum, there are four asserted patents in the district court litigation. One patent is IPR time-barred. Trial is *a little over seven months* away. A new IPR was recently filed (June 2024) on another patent. The written decision on this IPR would not issue until *seven months after trial*. And an IPR on the '099 patent was recently instituted. Here, Petitioner offers no indication it intends to seek to stay the district court litigation and, regardless, a stay is unlikely. Petitioner's stipulation falls far short of the legal standard and does essentially nothing to alleviate the substantial overlap between this IPR and the invalidity grounds before the district court. Moreover, Petitioner fails to demonstrate that Perlman teaches or renders obvious at least two limitations from each of the independent claims. Five of the six *Fintiv* factors favor or strongly favor denial and the other factor is neutral. Discretionary denial is warranted.

VIII. CONCLUSION

For at least the reasons articulated above, the Board should deny institution of the Petition in IPR2024-00695. Petitioner fails to establish a reasonable likelihood the prior art references render unpatentable any challenged claim of the '426 patent. Each *Fintiv* factor, moreover, weighs in favor of discretionary denial or is neutral.

Patent Owner does not concede any issues not addressed or raised in this Preliminary Response.

IPR2024-00695 (Patent 8,649,426)
Patent Owner's Preliminary Response

Respectfully submitted,

Date: June 27, 2024

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CERTIFICATE OF WORD COUNT

Under 37 C.F.R. § 42.24(d), the undersigned certifies that the foregoing PATENT OWNER'S PRELIMINARY RESPONSE TO PETITION has 7,976 words, which is less than the 14,000 word limit, as determined by the word count feature of the word-processing system used to prepare this paper.

/Christopher C. Hoff, Reg. No. 67,738/
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CERTIFICATE OF SERVICE

Under 37 C.F.R. § 42.6(e), the undersigned certifies that on June 27, 2024, I caused a copy of the foregoing PATENT OWNER VIDEO SOLUTIONS PTE. LTD.'S PRELIMINARY RESPONSE TO PETITION, together with all exhibits filed therewith, to be served via e-mail on the following counsel of record for Petitioners:

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